SAFETYLINK
A DELTA PLUS GROUP COMPANY

V-Line

Vertical Lifeline

Installation and Use

Figure 1

	PRODUCT CODE	SHUTTLE MATERIAL	KARABINER MATERIAL	KARABINER ACTION	KARABINER SWIVEL
	**VLINESHUT001**	Stainless steel	Steel	Double action	No
	**VLINESHUT002**	Stainless steel	Steel	Double action	Yes

SCAN ME

Safety Centre Online Training

SCAN ME

Catalogue

SCAN ME

Handbook

SCAN ME

Website

CONTENTS

1 Warning 4

2 Specification 4

2.1 Description 4
2.2 Standard 4
2.3 User Rating 4
2.4 Material Specification and Components 5

3 Installation 12

3.1 System Design 12
3.1.1 General 12
3.1.2 System Selection 12
3.1.3 Structure Capacity 12
3.1.4 Cable Guide Spacing 13
3.2 Fixings 13
3.2.1 General 13
3.2.2 Concrete - DonutLink 13
3.2.3 Concrete 3rd Party 15
3.2.4 Steel 15
3.2.5 Timber 15
3.3.1 Weld on Plates (top and bottom) 16
3.3.2 Bolt on Plates (top and bottom) 16
3.3.3 Bolt on Plates with 100mm Extension (top and bottom) 17
3.3.4 Bolt on Tube (top and bottom) 17
3.3.5 Top Bolt on Tube no extension above top rung two rung 18
3.3.6 Top Bolt on Tube no extension above top rung three rung fixing 18
3.3.7 Top Bolt on Tube up to 900mm extension above top rung 19
3.3.8 Top Bolt on Tube up to 1300mm extension above top rung 20
3.3.9 Bottom Bolt on Tube 20
3.3.10 Custom Structure 21
3.9 Cable Guide Pole Supports 24

4 Limitations of Use 26

4.1 Fall Clearance 26
4.2 Swing Fall 26
4.3 Hazards 27
4.4 Training 27
4.5 Rescue 27

5 Connections 27

5.1 Making Connection ... 27
5.2 Compatibility of Connections ... 27

6 Use 28

6.1 Planning ... 28
6.2 Connection to the V-Line Shuttle to the User ... 28
6.3 Connecting the V-Line Shuttle to the System ... 29
6.4 Connecting to the V-Line System ... 30

7 Storage, Transport and Maintenance 30

7.1 Storage and transport ... 30
7.2 Maintenance ... 30
7.3 Cleaning ... 30

8 Inspection 30

8.1 Before and After Use ... 30
8.2 Competent Person ... 30
8.3 Procedure ... 30

1 Warning

⚠ ***Improper Use, Installation or Maintenance may result in serious injury or death.***

⚠ ***The structure or anchorage to which SafetyLink products are to be installed shall be assessed by a professional engineer to ensure it has adequate strength to support the product.***

⚠ ***SafetyLink products shall be installed, used and maintained in accordance with the applicable SafetyLink installation and use manual.***

⚠ ***SafetyLink's product shall be used in accordance with the current working at height standards, codes of practice, regulation or legislation in the region of use.***

⚠ ***During installation, use and maintenance, personnel shall not be exposed to a fall hazard.***

⚠ ***Installation is to be carried out by, or under the supervision of, a competent person.***

⚠ ***The installer shall complete the applicable SafetyLink online training modules before installing this product.***

⚠ ***Connection systems used with SafetyLink Anchor, Lifelines and Rigid Rail Systems shall contain a personal energy absorber.***

⚠ ***Do not carry out any modifications to this product without written permission from SafetyLink.***

2 Specification

2.1 Description

The SafetyLink V-Line is a Vertical Lifeline suitable for use as part of a personal fall protection system. The V-Line offers a Vertical Lifeline with one or multiple shuttles for users to attach with. The V-Line allows users to climb a vertical structure or ladder along a permanently mounted safety cable system.

2.2 Standard

The V-Line Vertical Lifeline System is compliant with AS/NZS 1891.3, EN353.1.

Refer to AS/NZS1891.4 for selection, use and maintenance of anchors and more information on the following topics.

I the traceability of the anchor;
II multiple anchor system design;
III anchor installation location;
IV visual inspection before use;
V compatibility of connectors;
VI inspection frequency; and
VII removal from service.

2.3 User Rating

The V-Line Vertical Lifeline is rated for up to 4 users per system with a maximum user weight of 150kg and a minimum of 50kg.

2.4 Material Specification and Components

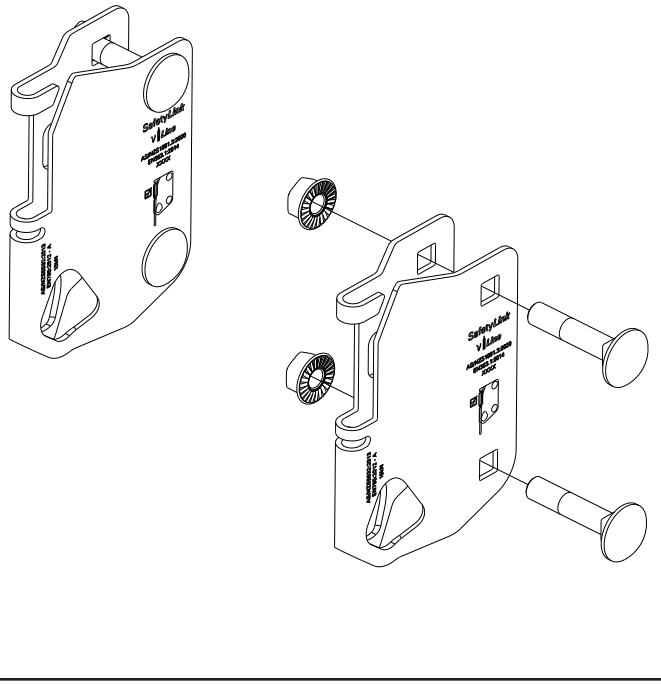
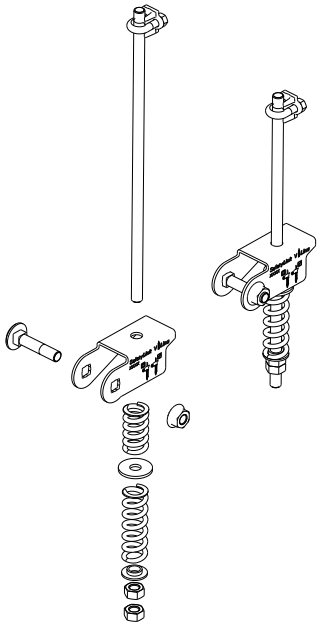
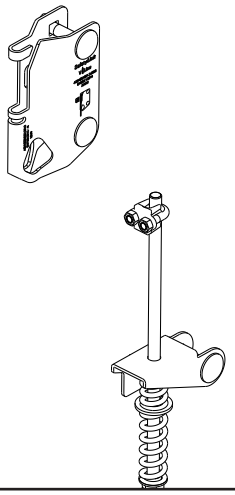
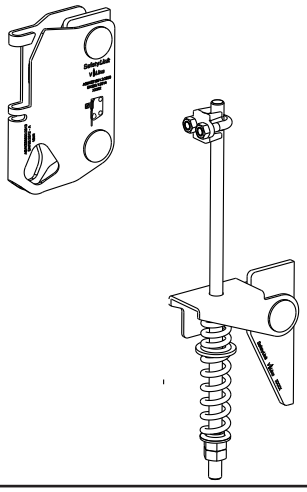
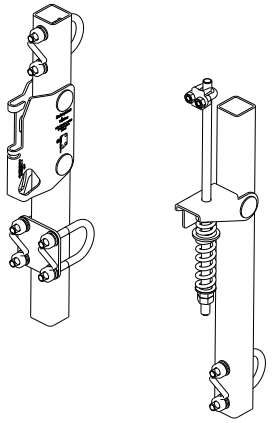
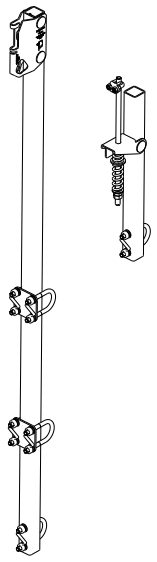
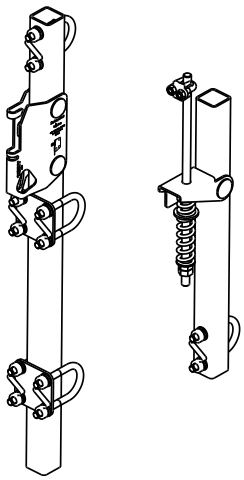
Figure 2	
TOP BRACKET	**BOTTOM BRACKET**
	
VLINE.TOP.PM	**VLINE.BTM.PM**

Figure 3		
PRODUCT CODE	VLINE002	
MATERIAL	Stainless Steel 316	
DESCRIPTION	Top and Bottom bracket without structural fixing brackets	
PRODUCT CODE	VLINE003	
MATERIAL	Stainless Steel 316	
DESCRIPTION	Top and Bottom bracket with structural fixing brackets for welding to structure	

PRODUCT CODE	VLINE004	
MATERIAL	Stainless Steel 316 and Galvanised Steel	
PRODUCT CODE	VLINE004-SS	
MATERIAL	Stainless Steel 316	
DESCRIPTION	Top and Bottom bracket with structural fixing brackets for bolting to the top rung of a ladder. Fixes to 2 rungs.	
PRODUCT CODE	VLINE005	
MATERIAL	Stainless Steel 316 and Galvanised Steel	
PRODUCT CODE	VLINE005-SS	
MATERIAL	Stainless Steel 316	
DESCRIPTION	Top and Bottom bracket with structural fixing brackets for bolting to a ladder with 900mm extension above the top rung. Fixes to 3 rungs.	
PRODUCT CODE	VLINE011	
MATERIAL	Stainless Steel 316 and Galvanised Steel	
DESCRIPTION	Top and Bottom bracket with structural fixing brackets for bolting to the top rung of a ladder. Fixes to 3 rungs.	

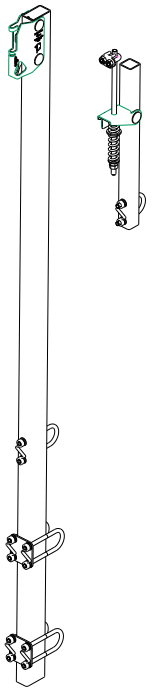
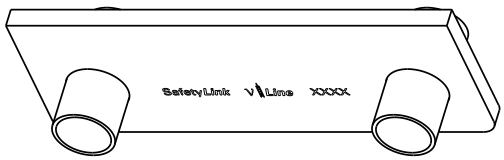
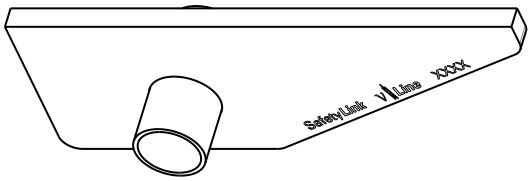
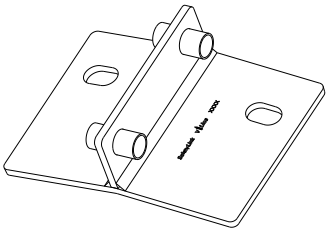
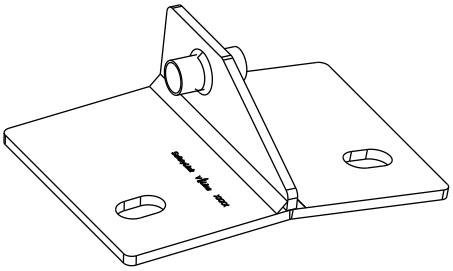
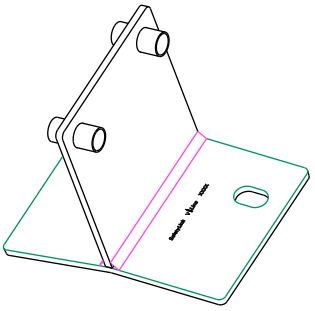
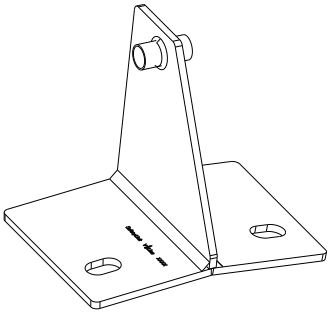
PRODUCT CODE	VLINE012	
MATERIAL	Stainless Steel 316 and Galvanised Steel	
DESCRIPTION	Top and Bottom bracket with structural fixing brackets for bolting to a ladder with 1300mm extension above the top rung. Total length 2m. Fixes to 3 rungs.	

Figure 4		
PRODUCT CODE	VLINE.PLT.TOP	
MATERIAL	Stainless Steel 316	
DESCRIPTION	Top Weld On support fixing bracket	
PRODUCT CODE	VLINE.PLT.BTM	
MATERIAL	Stainless Steel 316	
DESCRIPTION	Bottom Weld On support fixing bracket	
PRODUCT CODE	VLINE.PLT.TOP.POLE	
MATERIAL	Stainless Steel 316	
DESCRIPTION	Top Mono Pole Bolt On support fixing bracket	
PRODUCT CODE	VLINE.PLT.BTM.POLE	
MATERIAL	Stainless Steel 316	
DESCRIPTION	Bottom Mono Pole Bolt On support fixing bracket	
PRODUCT CODE	VLINE.PLT.TOP.POLE.EXT	
MATERIAL	Stainless Steel 316	
DESCRIPTION	Top Mono Pole Bolt On support fixing bracket with 100mm extension	
PRODUCT CODE	VLINE.PLT.BTM.POLE.EXT	
MATERIAL	Stainless Steel 316	
DESCRIPTION	Bottom Mono Pole Bolt On support fixing bracket with 100mm extension	

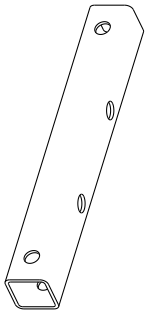
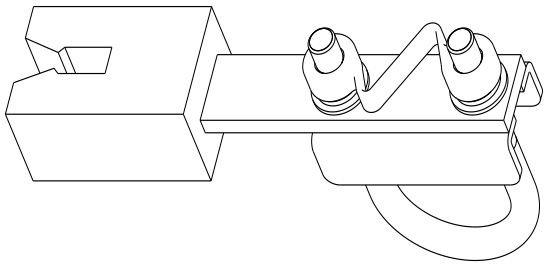
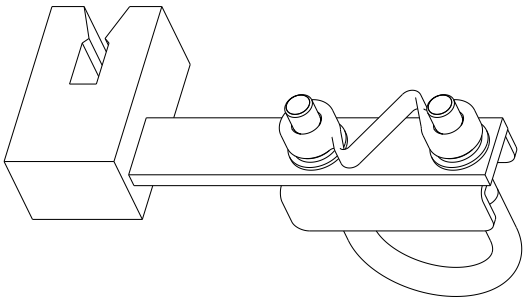
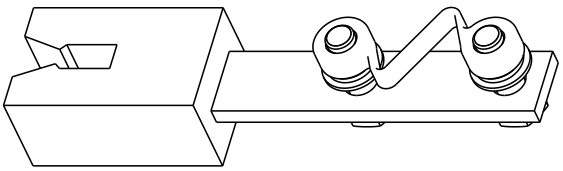
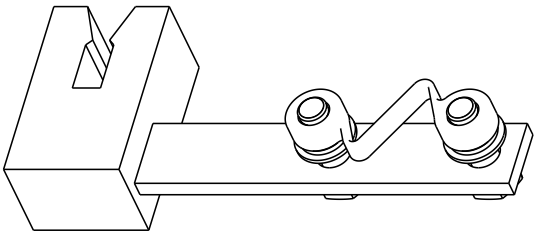
PRODUCT CODE	VLINE.POST.300	
MATERIAL	Galvanised Steel	
DESCRIPTION	Top or Bottom Timber or Steel Pole Bolt On support fixing bracket	

Figure 5		
PRODUCT CODE	VLINEGDE004	
MATERIAL	Galvanised Steel and Rubber	
DESCRIPTION	Straight ladder rung mounted cable guide	
PRODUCT CODE	VLINEGDE003	
MATERIAL	Galvanised Steel and Rubber	
DESCRIPTION	90 Degree ladder rung mounted cable guide	
PRODUCT CODE	VLINEGDE002	
MATERIAL	Galvanised Steel and Rubber	
DESCRIPTION	Straight bolt on cable guide	
PRODUCT CODE	VLINEGDE001	
MATERIAL	Galvanised Steel and Rubber	
DESCRIPTION	90 Degree bolt on cable guide	

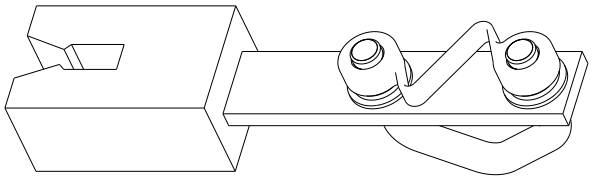
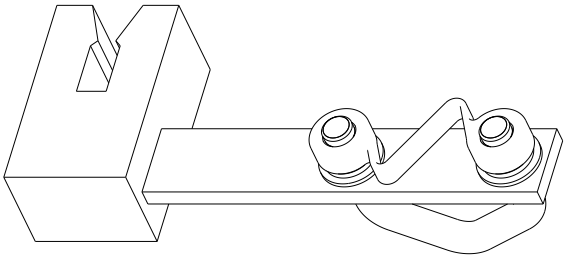
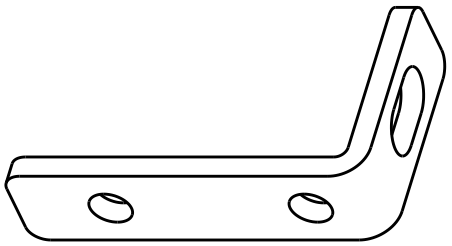
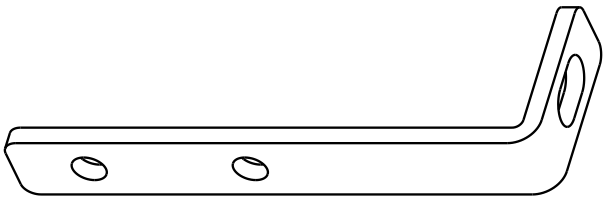
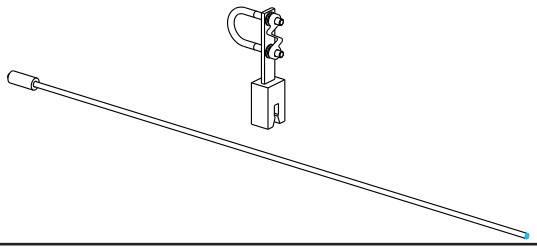
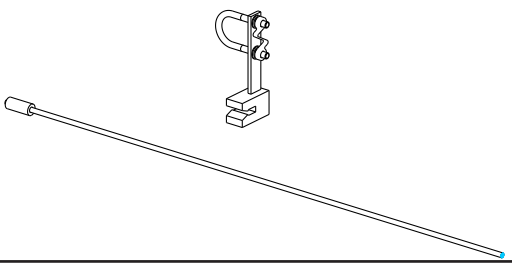
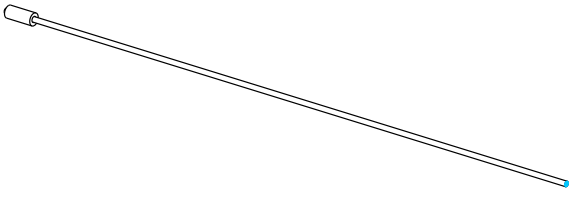
PRODUCT CODE	VLINEGDE008	
MATERIAL	Galvanised Steel and Rubber	
DESCRIPTION	Straight ladder rung mounted cable guide. Maximum Ø25mm rung.	
PRODUCT CODE	VLINEGDE007	
MATERIAL	Galvanised Steel and Rubber	
DESCRIPTION	90 Degree ladder rung mounted cable guide. Maximum Ø25mm rung.	
PRODUCT CODE	VLINE.PLT.CG	
MATERIAL	Galvanised Steel	
DESCRIPTION	Bolt on cable guide pole mounting bracket	
PRODUCT CODE	VLINE.PLT.CG.EXT	
MATERIAL	Galvanised Steel	
DESCRIPTION	Bolt on cable guide pole mounting bracket for 100mm extension	

Figure 6		
PRODUCT CODE	VLINE.CABLE.SG.XXX	
MATERIAL	Stainless Steel 316	
DESCRIPTION	Swaged cable with straight cable guides (XXX = length in metres)	
PRODUCT CODE	VLINE.CABLE.AG.XXX	
MATERIAL	Stainless Steel 316	
DESCRIPTION	Swaged cable with 90 degree cable guides (XXX = length in metres)	
PRODUCT CODE	VLINE.CABLE.XXX	
MATERIAL	Stainless Steel 316	
DESCRIPTION	Swaged cable without cable guides (XXX = length in metres)	

3 Installation

3.1 System Design

3.1.1 General

Systems shall be designed to limit free fall, swing fall and maximise fall clearance. Where possible, systems should be installed as close to the centre of the ladder or climbing zone as possible.

The V-Line Vertical Lifeline shall be installed on an angle no greater than 15º off vertical.

3.1.2 System Selection

To install a V-Line Vertical Lifeline , top and bottom brackets, support fixings, cable guides and cables need to be selected from Figure 2 to Figure 6.

3.1.3 Structure Capacity

The supporting structure and fixings used shall be capable of sustaining the load cases in Figure 7 and Figure 8 where applicable.

⚠ ***All load cases shall be considered by a trained engineer.***

⚠ ***The below cases represent the standard installation configurations, specific installations may require additional load case investigation.***

Figure 7

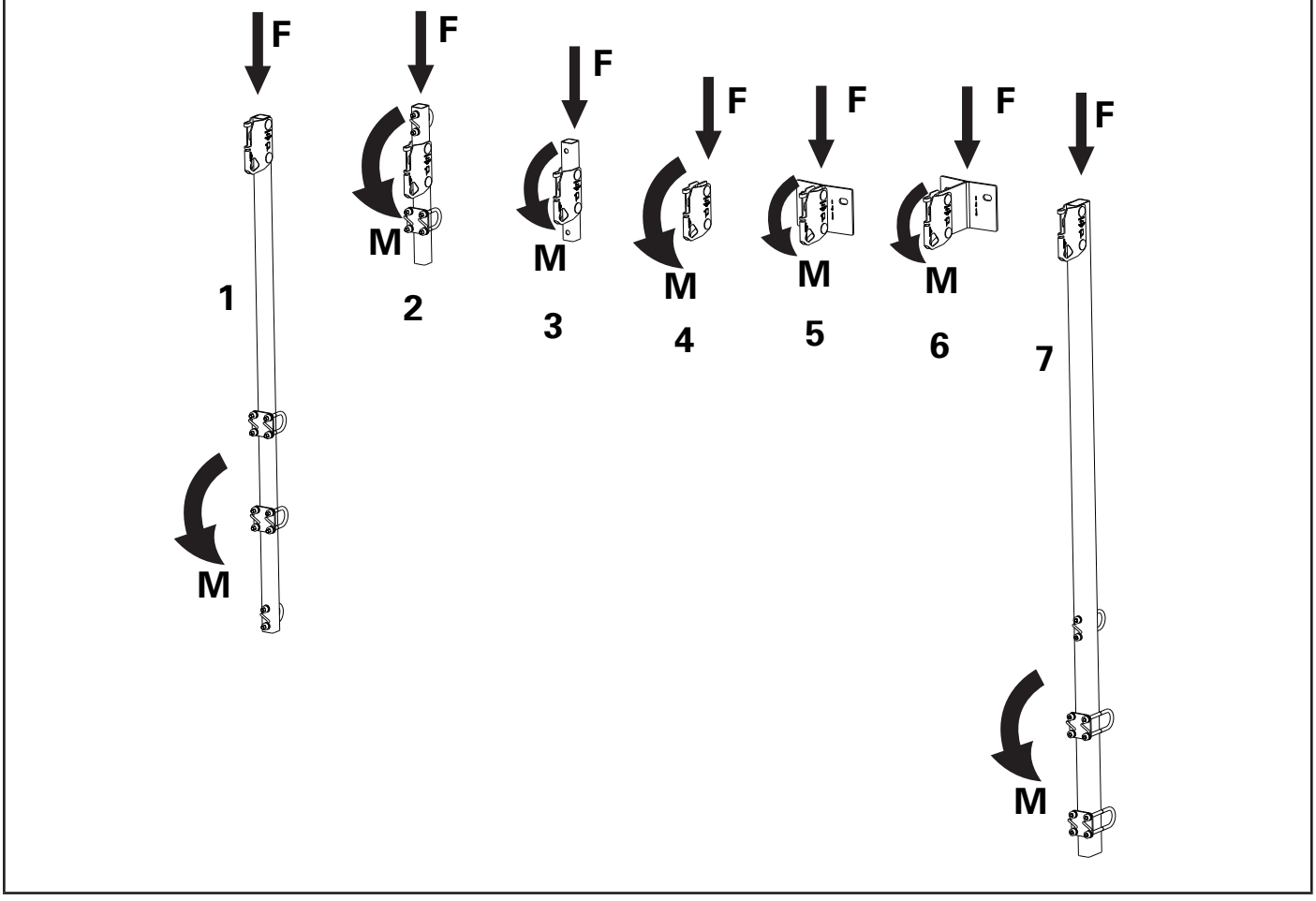


Figure 8								
SYSTEM	**1 USER**		**2 USERS**		**3 USERS**		**4 USERS**	
	F (kN)	M (kNm)	F (kN)	M (kNm)	F (kN)	M (kNm)	F (kN)	M (kNm)
1	15	1.125	15	1.125	18	1.35	22	1.65
2	15	1.125	15	1.125	18	1.35	22	1.65
3	15	1.125	15	1.125	18	1.35	22	1.65
4	15	1.125	15	1.125	18	1.35	22	1.65
5	15	1.125	15	1.125	18	1.35	22	1.65
6	15	2.25	15	2.25	18	2.7	22	3.3
7	15	1.575	15	1.575	18	1.89	22	2.31

3.1.4 Cable Guide Spacing

Cable guides shall be space no greater than 8m apart.

3.2 Fixings

3.2.1 General

All fixing used to attached the V-Line system to the substrate that were not supplied by SafetyLink shall be M12 (1/2") or M16 (5/8") in diameter. Fixing shall be stainless steel grade 316 or 304 or hot dip galvanised or zinc plated steel grades 8.8 or 8. Fixing shall be installed with spring washers, lock nuts or thread lock adhesive to prevent loosening.

⚠ ***SafetyLink does not recommended the use of zinc plated fasteners in a corrosive or outdoor environment.***

3.2.2 Concrete - DonutLink

SafetyLink's DonutLink M12 Concrete Stud con-m12x160-donut or M16 Concrete Stud con-m16x160-donut are to be installed with chemical adhesive CON-CHEM-FISV.300.

1 Mark the location for the hole.

⚠ ***The location shall be no less than 150mm from any edge.***

⚠ ***Minimum concrete thickness shall be no less than 150mm.***

⚠ ***The stud shall only be installed in concrete 32MPa or greater.***

⚠ ***Consult a structural engineer if there is any doubt of the suitability of the structure.***

2 Set the drill depth and diameter hole for the desired stud.

3 Clean the hole, ensuring it is free of moisture and dust.

4 Inject the adhesive in to the hole as per the manufacturer's instruction.

5 Insert the stud to full depth, 35mm of the stud should remain above the surface. Wipe away any adhesive expelled from the hole.

⚠ ***Ensure enough adhesive was used, the adhesive should finish flush with the concrete.***

6 Once the adhesive is cured, install the spring washer and tighten the Donut to 70Nm.

The DonutLink can be proof loaded with the Pull Test Adaptor (DONUTLINK-ADP) and a Hydrajaws portable tension tester.

3.2.3 Concrete 3rd Party

In addition to the part numbers specified in Section 3.2.2, SafetyLink recommends the use of the following chemical and mechanical fixings for installation of the V-Line Vertical Lifeline into concrete. Refer to the manufacturer's instruction for proper preparation, installation and edge distance.

⚠ ***All fixing shall meet the load requirements specified in Section 3.1.3. Consult the manufacturer for limitations to assess suitability.***

a Fischer FISH.300 (chemical)

b Hilti RE 200 (chemical)

c Hilti RE 500 (chemical)

d Fischer FAZ II (mechanical)

e Hilti HST3 (mechanical)

⚠ ***All chemical and mechanical fixing shall be proof loaded after install as per AS/NZS 1891.4 or the appropriate local regulation.***

3.2.4 Steel

For installation on a steel structure, SafetyLink recommends the use of appropriate hex head screws or bolts meeting the requirements of section 3.2.1. Fixing shall be tightened to 70Nm and once tight, a minimum of 2 threads shall extend past the end of the nut.

3.2.5 Timber

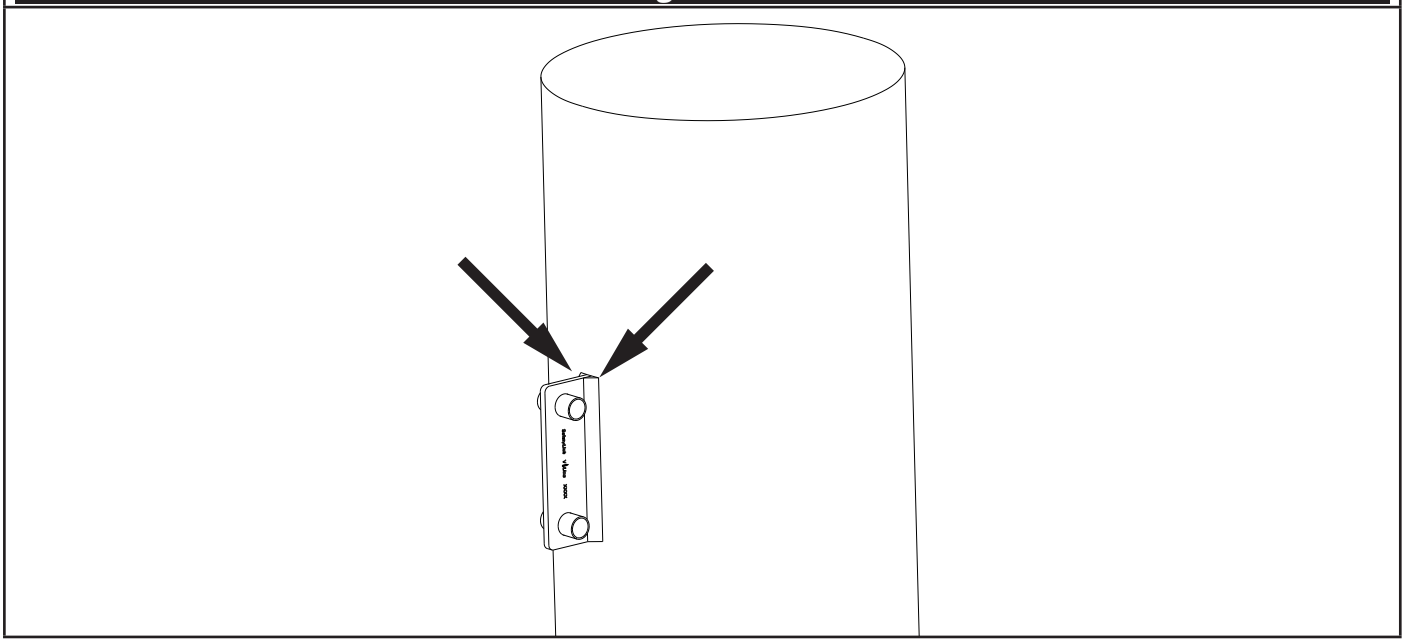
For installation on a timber structure, SafetyLink recommends the use of appropriate hex head screws or bolts meeting the requirements of section 3.2.1. Alternatively, for bolting through larger timbers, threaded rod and nuts may be used. Fixing shall be tightened to 70Nm and once tight, a minimum of 2 threads shall extend past the end of the nut.

3.3 Support Bracket Installation

3.3.1 Weld on Plates (top and bottom)

The weld on plates shall be installed with a 6mm fillet weld down each side of the plate (300mm weld per plate). The weld on plates are made from stainless steel 316, an appropriate filler material shall be used depending on the substrate to which the plate is being welded. All welding shall be done in accordance with AS 1554.

Figure 9



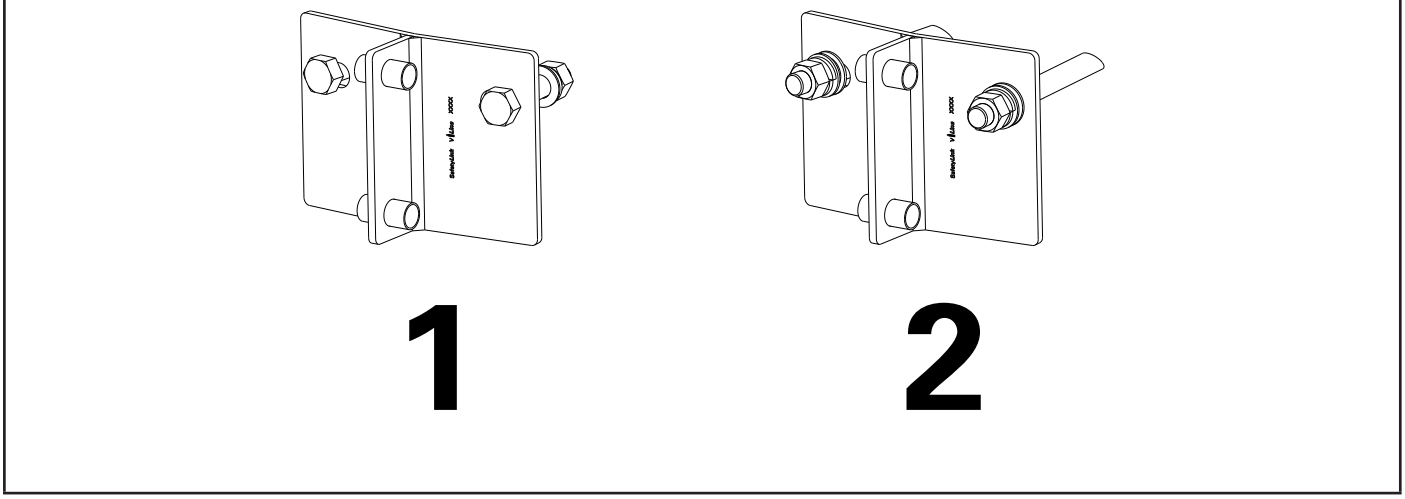
3.3.2 Bolt on Plates (top and bottom)

The bolt on plate top and bottom brackets are each fixed with 2x fastener specified below.

1 Steel - M12 or M16 as per Section 3.2.4.

2 Concrete - M16 fastener as per Section 3.2.2 (Drill size 18, embedment depth 95mm)or 3.2.3.

Figure 10



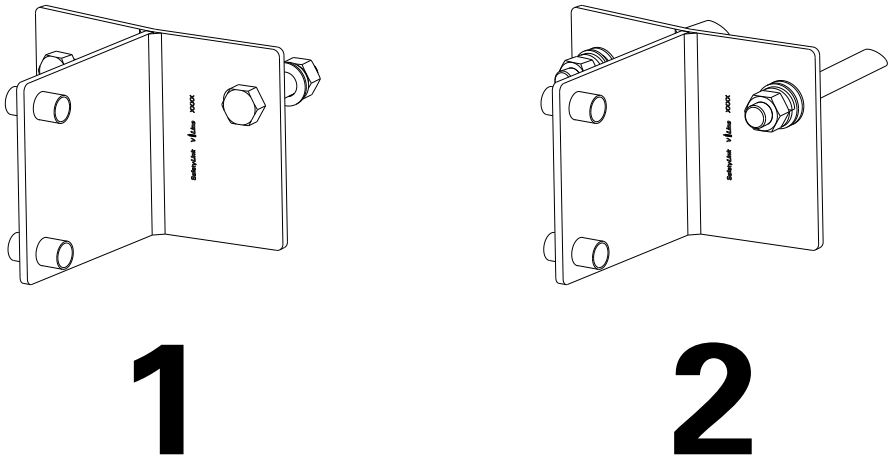
3.3.3 Bolt on Plates with 100mm Extension (top and bottom)

The bolt on plate top and bottom brackets are each fixed with 2x fastener specified below.

1 Steel - M16 as per Section 3.2.4.

2 Concrete - M16 fastener as per Section 3.2.2 (Drill size 18, embedment depth 120mm)or 3.2.3.

Figure 11



3.3.4 Bolt on Tube (top and bottom)

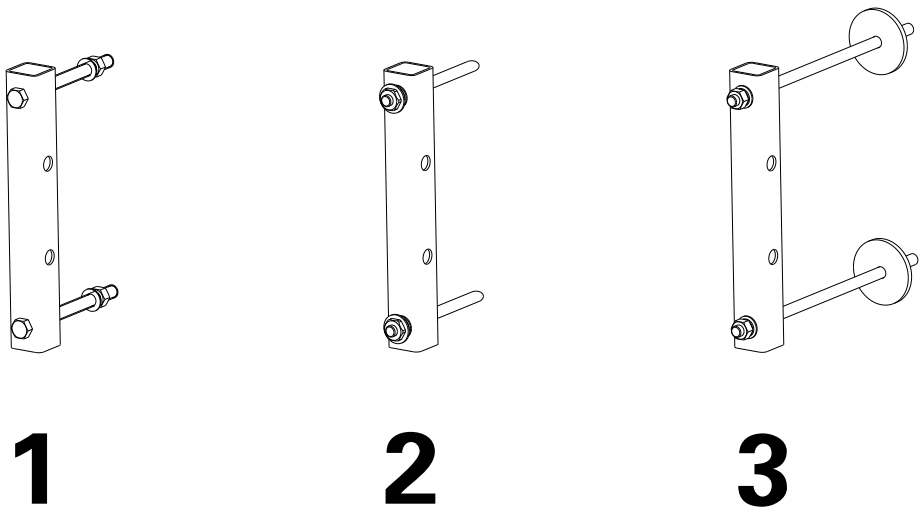
The bolt on plate top and bottom brackets are each fixed with 2x fastener specified below.

1 Steel - M12 as per Section 3.2.4.

2 Concrete - M12 fastener as per Section 3.2.2 (Drill size 14, embedment depth 120mm)or 3.2.3.

3 Timber - M12 as per Section 3.2.5.

Figure 12

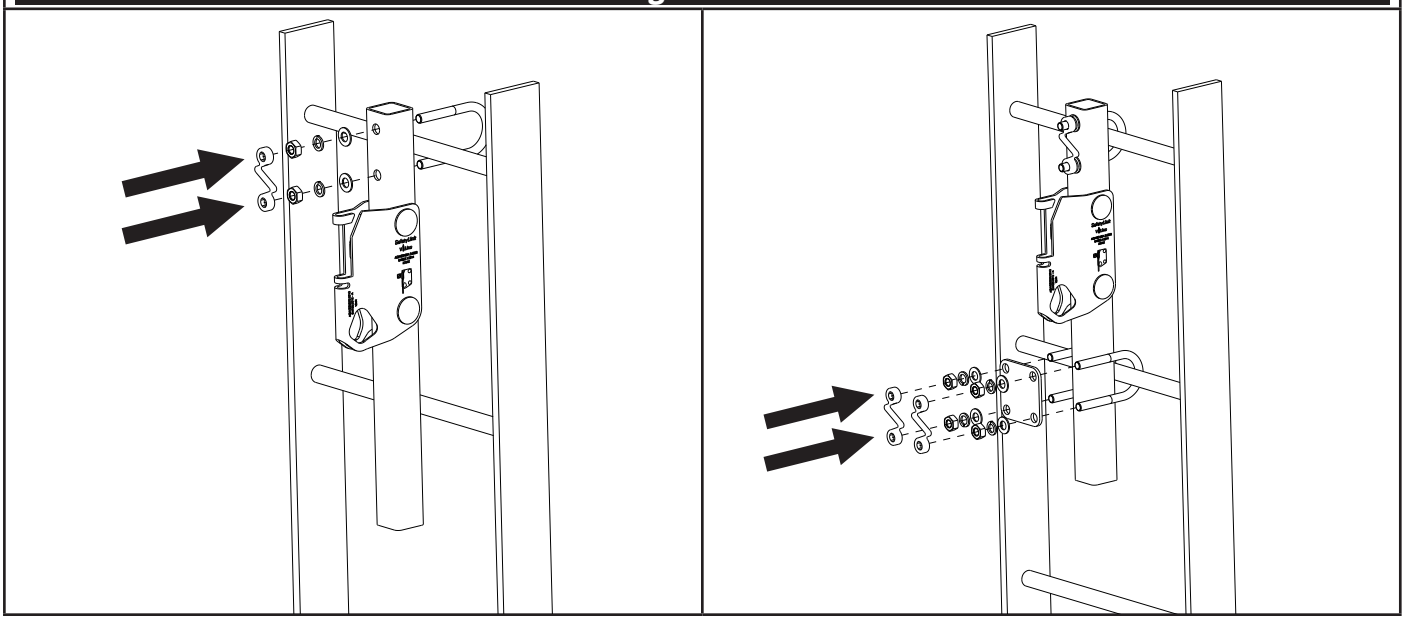


3.3.5 Top Bolt on Tube no extension above top rung two rung

1 Position the tube with the top rung of the ladder between the top 2 holes. Install the supplied U-bolt with washers, spring washers and nuts and tighten to 35Nm and install nut tension indicators.

2 Align the support plate with the next appropriate run and fasten with 2x U-bolt with washers, spring washers and nuts and tighten to 35Nm and install nut tension indicators.

Figure 13

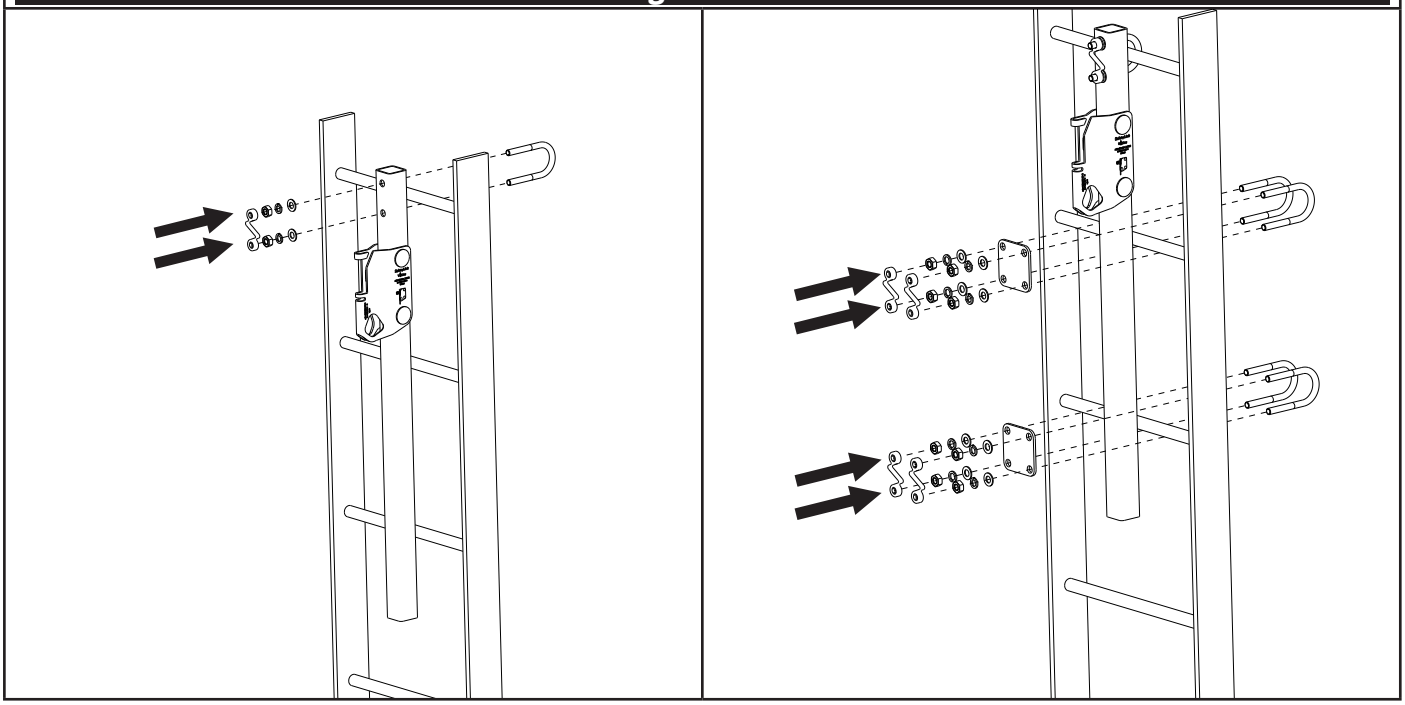


3.3.6 Top Bolt on Tube no extension above top rung three rung fixing

1 Position the tube with the top rung of the ladder between the top 2 holes. Install the supplied U-bolt with washers, spring washers and nuts and tighten to 35Nm and install nut tension indicators.

2 Align the support plates with the second and third rungs and fasten each with 2x U-bolt with washers, spring washers and nuts and tighten to 35Nm and install nut tension indicators.

Figure 14

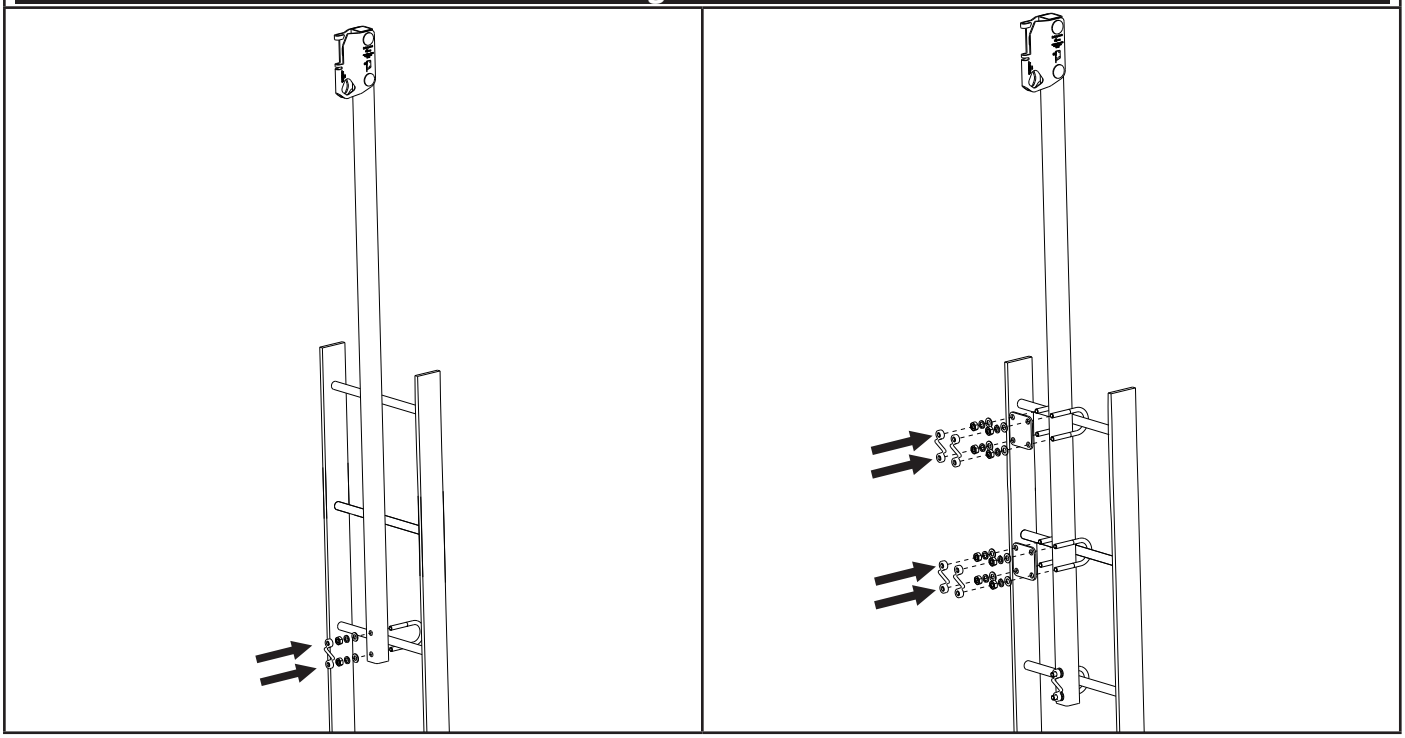


3.3.7 Top Bolt on Tube up to 900mm extension above top rung

1 Position the tube with the third rung of the ladder between the bottom 2 holes. Install the supplied U-bolt with washers, spring washers and nuts and tighten to 35Nm and nut tension indicators.

2 Align the support plates with the first and second rungs and fasten each with 2x U-bolt with washers, spring washers and nuts and tighten to 35Nm and install nut tension indicators.

Figure 15

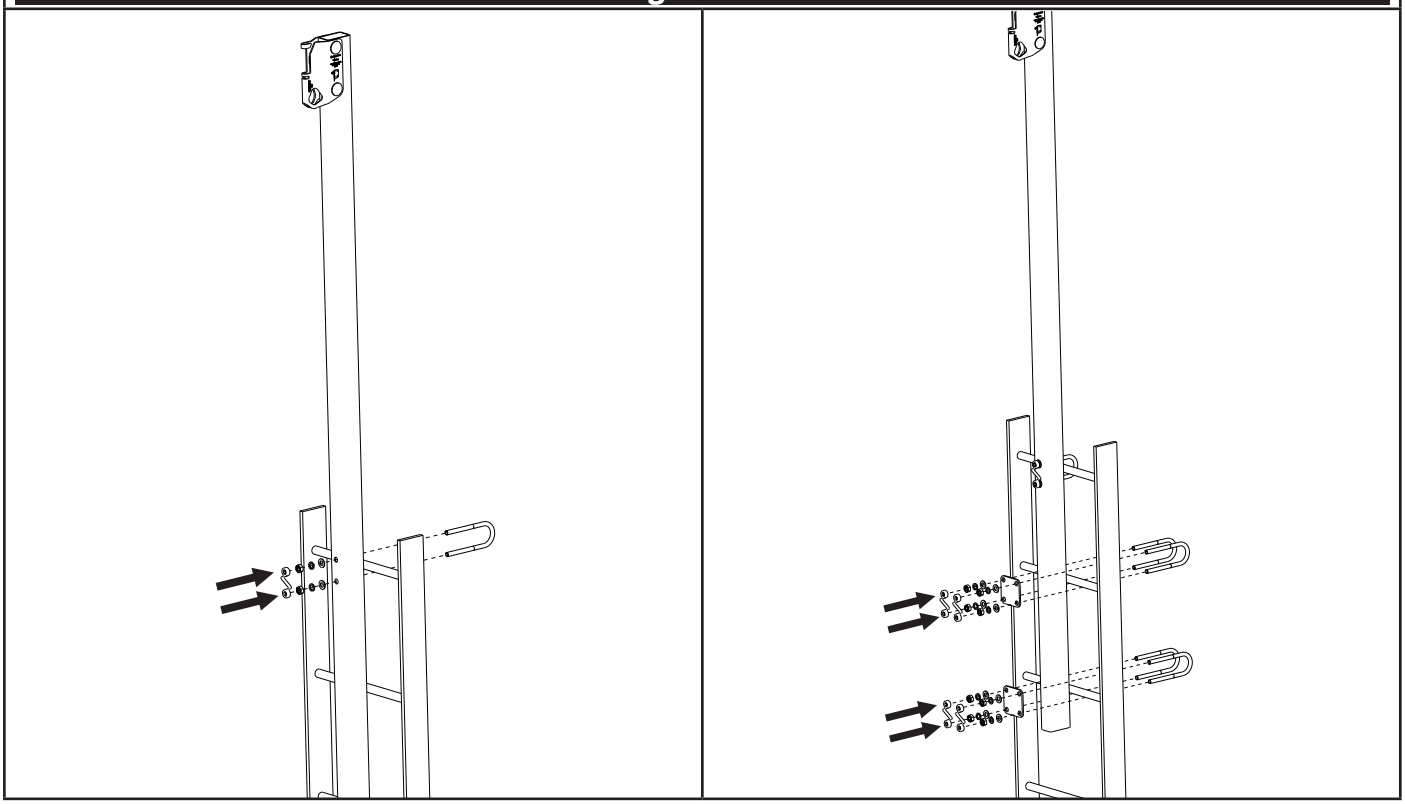


3.3.8 Top Bolt on Tube up to 1300mm extension above top rung

1 Position the tube with the top rung of the ladder between the top 2 holes. Install the supplied U-bolt with washers, spring washers and nuts and tighten to 35Nm and install nut tension indicators.

2 Align the support plates with the second and third rungs and fasten each with 2x U-bolt with washers, spring washers and nuts and tighten to 35Nm and install nut tension indicators.

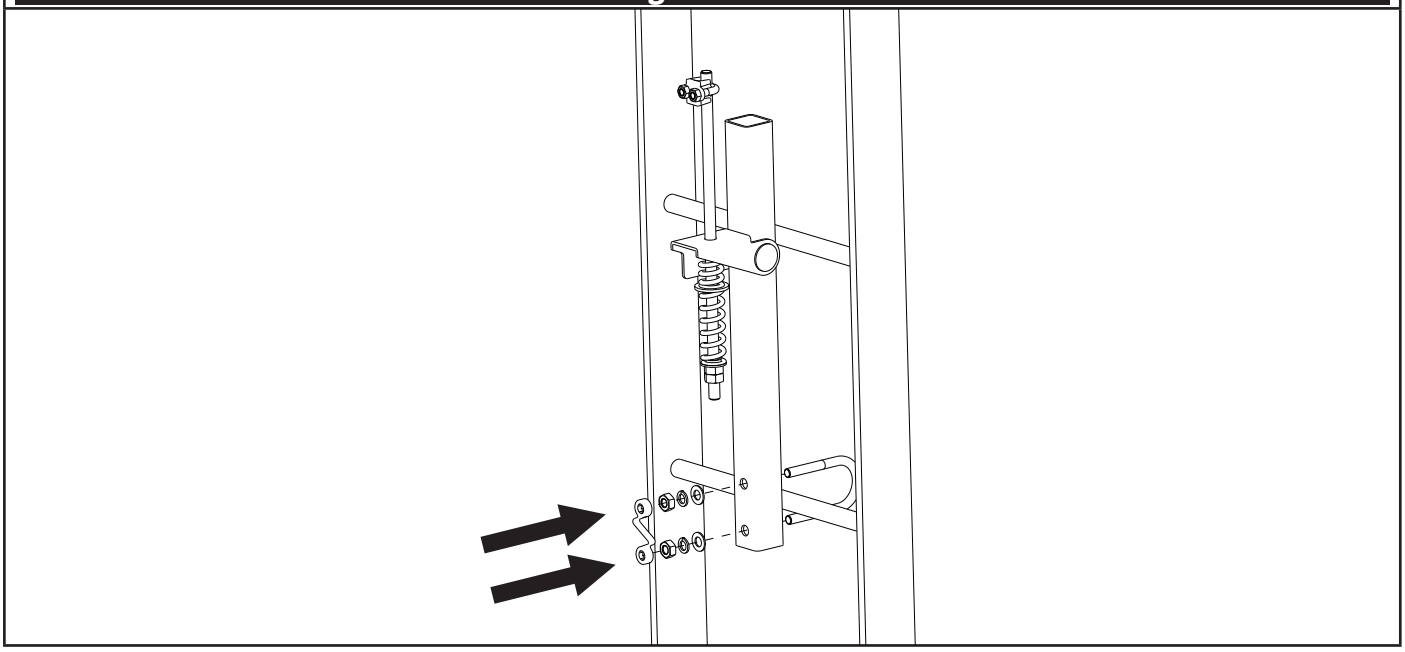
Figure 16



3.3.9 Bottom Bolt on Tube

1 Position the tube with the bottom rung of the ladder between the bottom 2 holes. Install the supplied U-bolt with washers, spring washers and nuts and tighten to 35Nm and install nut tension indicators.

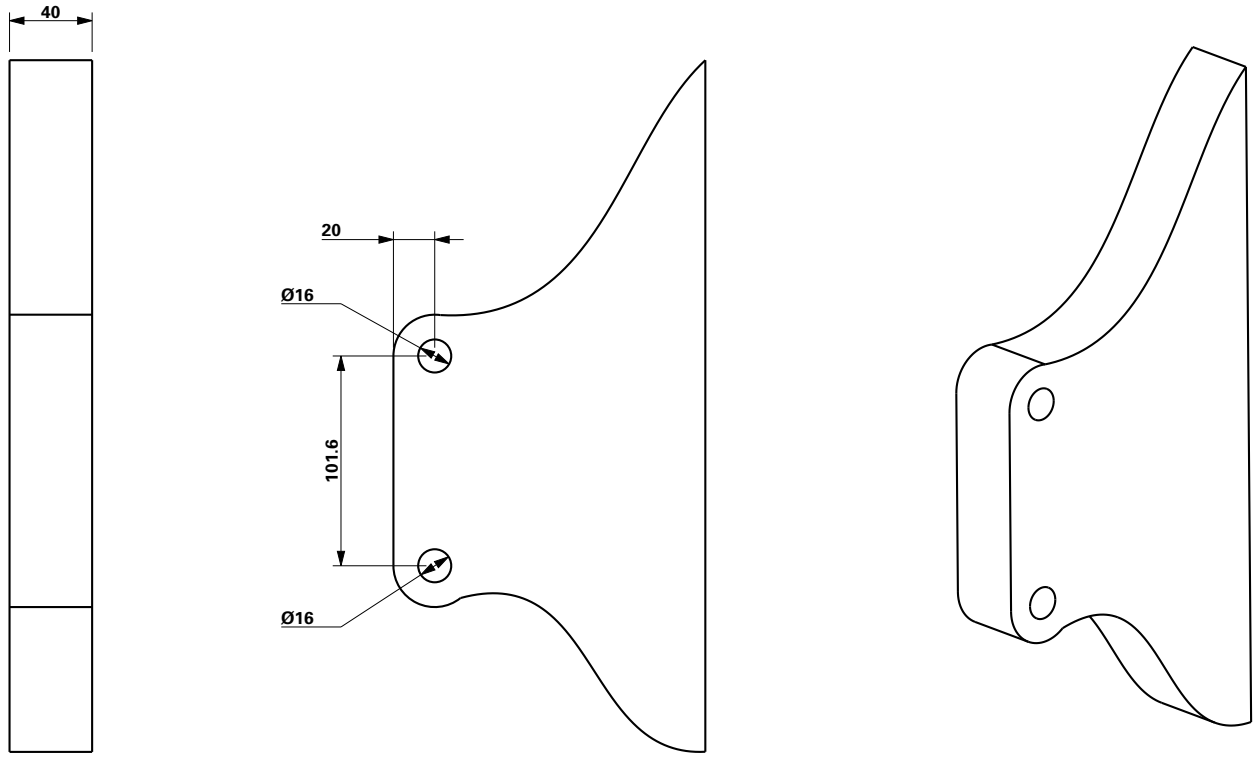
Figure 17



3.3.10 Custom Structure

For structures being fabricated or installer manufactured brackets, hole spacings should be set at 101.6mm with a hole size of 16mm. The thickness the top and bottom brackets can span is 40±1mm. Centreline edge distance to the front of the structure shall not exceed 20mm.

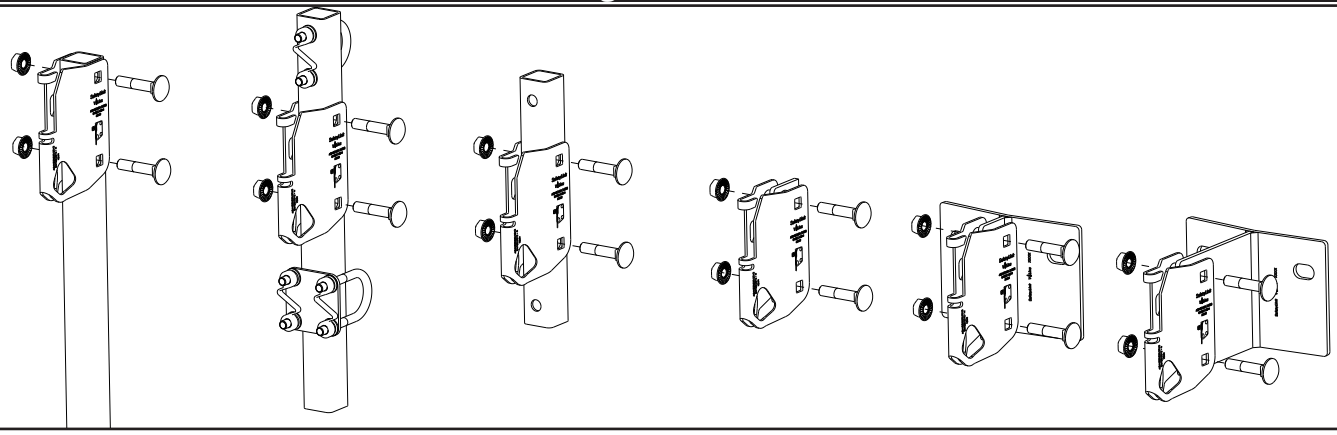
Figure 18



3.4 Top Bracket

The top bracket is installed with 2x M12 bolts supplied with the bracket. The supplied bolts are stainless steel and suitable for securing the top bracket to any of the support brackets above. The fixings shall be tightened to 40Nm (30ftlb) and once tight, a minimum of 2 thread shall extend past the end of the nut.

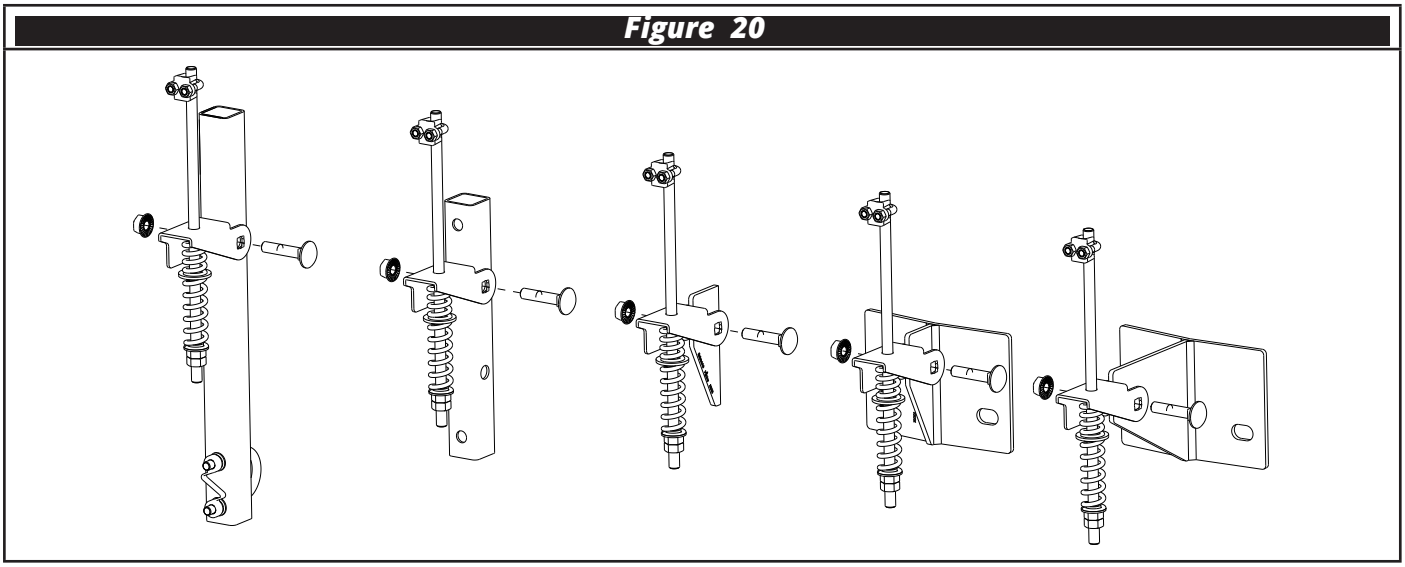
Figure 19



3.5 Bottom Bracket

The Bottom bracket is installed with 1x M12 bolts supplied with the bracket. The supplied bolts are stainless steel and suitable for securing the top bracket to any of the support brackets. The fixing shall be tightened to 40Nm and once tight, a minimum of 2 thread shall extend past the end of the nut.

Figure 20



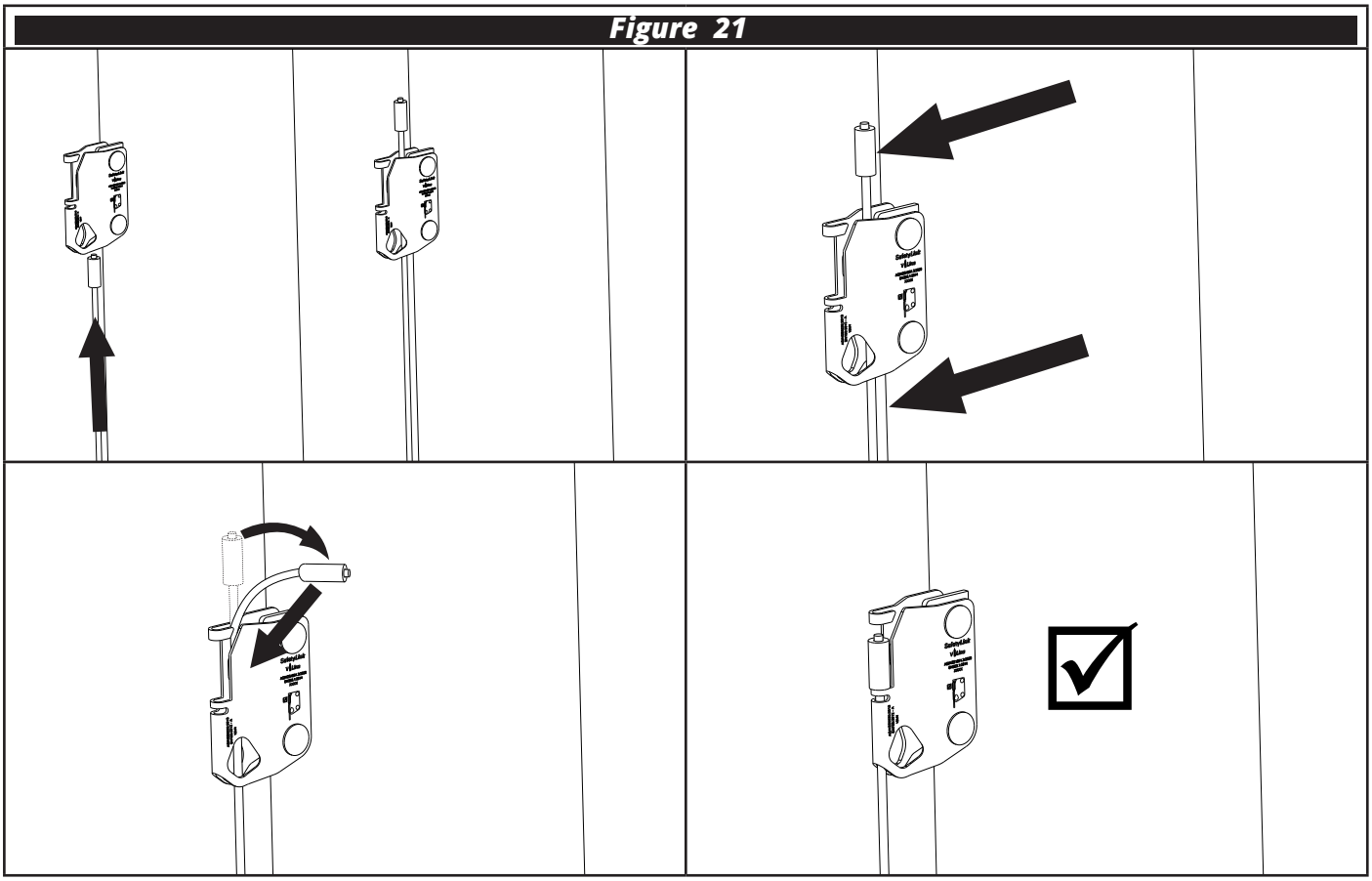
3.6 Cable

1 From the bottom of the top bracket, slide the cable up through the top bracket until the lug extends above the top bracket.

2 Pull the cable forward until it clips past the spring gate.

3 Feed the cable down through the cable path until the lug sits on the lug seat.

Figure 21



3.7 Tensioner

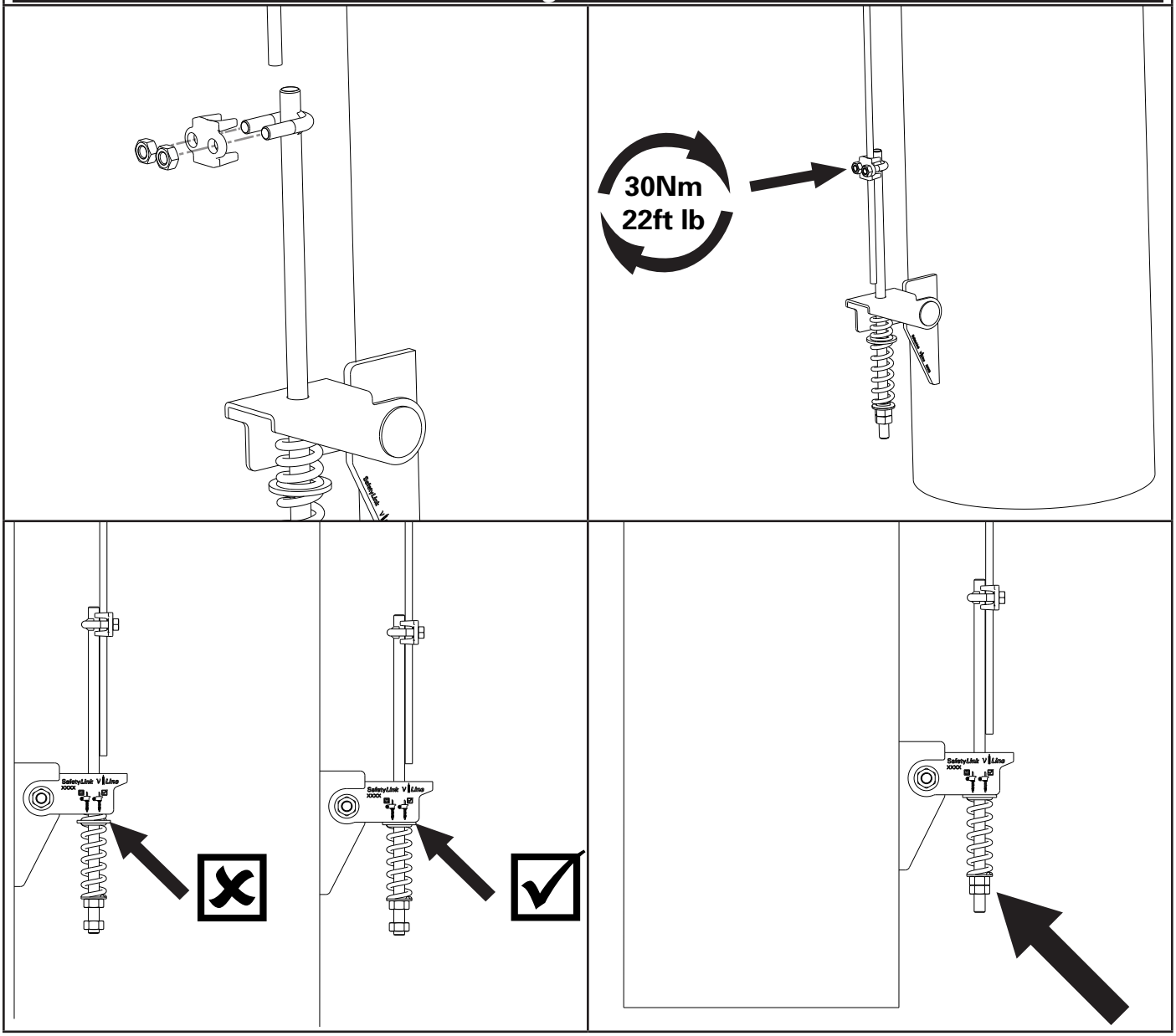
1 Loosen the top nuts enough to insert the cable.

2 Pull the cable down through the assembly and tighten the nuts to 30Nm.

3 Tension the cable by tightening the first nut until the washer is level with the lower edge of the bottom bracket.

4 Lock the tension by tightening the lock nut.

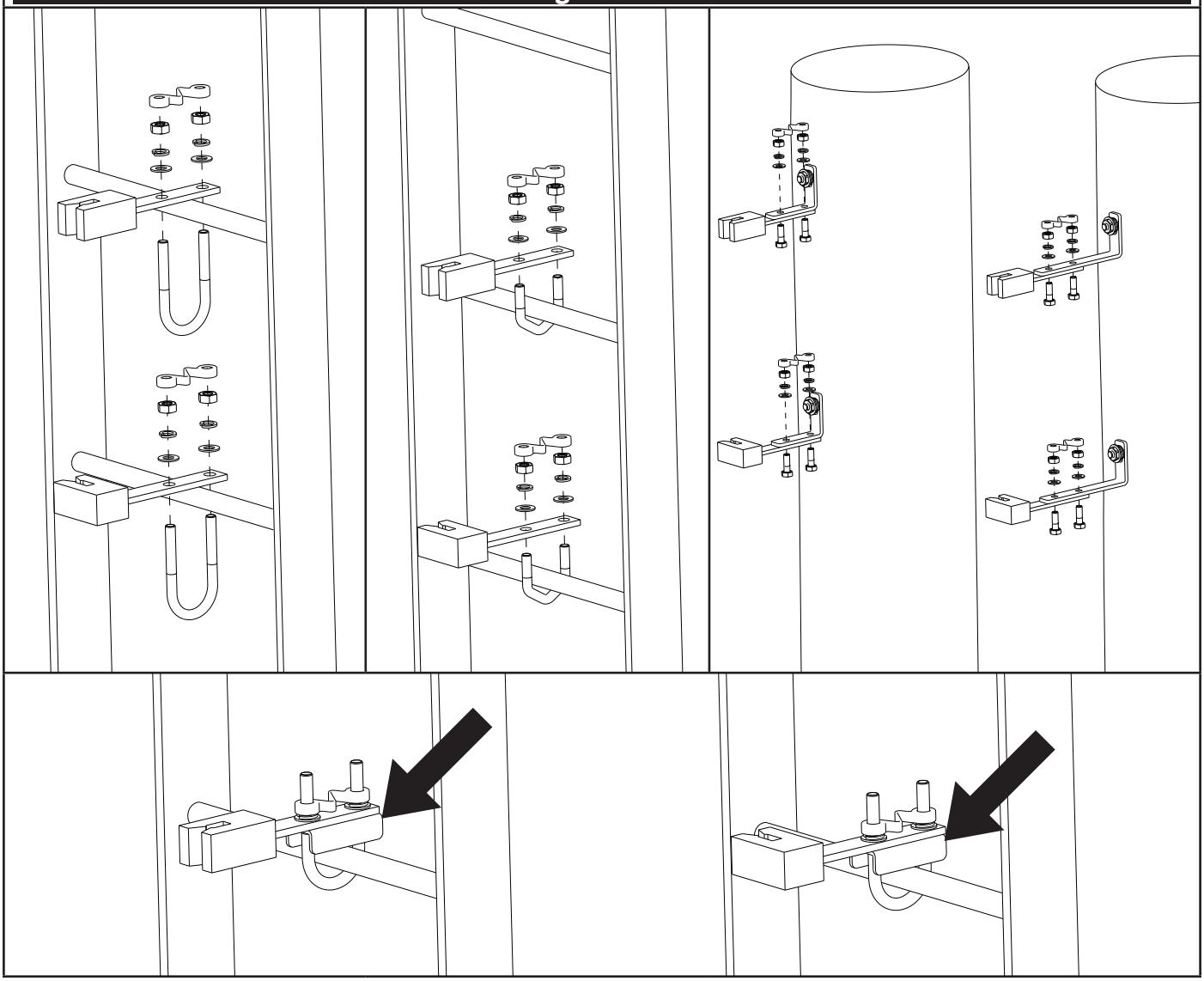
Figure 22



3.8 Cable Guides

1 Position the cable guide with the appropriate rung of the ladder. Install the supplied U-bolt/ Hex Bolts with washers, spring washers and nuts and tighten to 35Nm and install nut tension indicators.

Figure 23



⚠ ***On systems greater than 20m or installed in high wind areas, every other cable guide should be installed in the alternate direction (ie left facing, right facing left facing, etc.).***

⚠ ***Cable guides should be installed at irregular intervals no greater than 8m to prevent cable harmonic vibration.***

⚠ ***Cable guides VLINEGDE003 AND VLINEGDE004 installed on small diameter rungs shall be installed with the supplied spacer to ensure they can be tightened correctly.***

3.9 Cable Guide Pole Supports

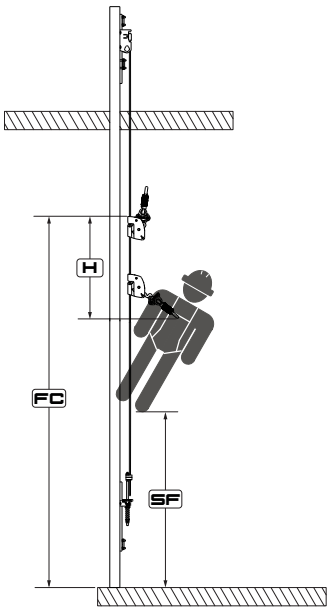
The cable support brackets for pole installation can be fastened with any M12 fastener capable of supporting 200kg. Alternatively, the brackets may be welded to metal poles. Any welds shall be suitably protected from corrosion with a minimum 75um coat of zinc rich primer.

4 Limitations of Use

4.1 Fall Clearance

When planning your fall protection system, it is important to accurately assess all components of your system in order to avoid injury. Figure 24 provides guidance on how to calculate fall clearance. In Figure 5, (H) represents free fall for the shuttle (0.3m), energy absorber deployment (0.4m), as well as the estimated D-ring side of the harness (Refer the manufacturer's information), (SF) represents the recommended safety factor of 1m, (FC) represents the total allowable fall clearance. For safe use (FC) shall always be greater than H + SF.

Figure 24

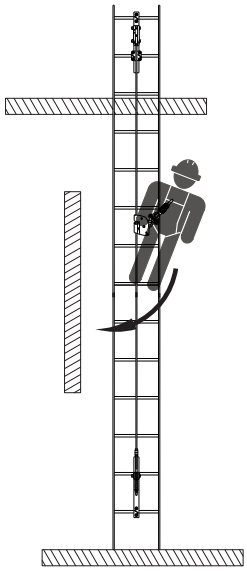


4.2 Swing Fall

Working off centre of a Vertical Lifeline may cause a swing fall. See Figure 25. Fall protection systems shall be setup in such a way to limit swing fall.

⚠ ***The force of striking an object during a swing fall may result in serious injury or death.***

Figure 25



4.3 Hazards

Use of this equipment in the presence of hazards may cause damage to the equipment and/ or result in the function of the equipment being impeded. These hazards include but are not limited to; extreme temperature, sharp edges, chemical reagents, electrical conductivity, abrasion, cutting, climatic exposure and rotating or moving machinery.

4.4 Training

It is essential that all users are trained in the proper inspection, setup and use of this equipment. It's the responsibility of the user to ensure they are trained in the correct use of this equipment and understand the limitations of its use.

⚠ ***Incorrect use of this equipment may result in serious injury of death.***

4.5 Rescue

It is the responsibility of the user of this equipment and their employer to have a suitable rescue plan and the ability to implement it at any time during setup and use of this equipment.

5 Connections

5.1 Making Connection

Only make compatible connections. Always ensure connectors close and lock correctly before use. Below and Figure 26 are examples of unsuitable connections;

1 To an anchor or D-ring which has another connector attached.

2 In a position that will apply load to the gate mechanism.

3 By passing the connection through the attachment.

4 Connecting a connector to another connector.

5 Around a structure and back to the lifeline.

6 To an attachment that will limit the function of the gate.

7 To a location that will not load the connector as designed.

5.2 Compatibility of Connections

Connection made to and with this equipment shall be compatible. Connector shall be compatible shape, size and equivalent rating in order to ensure a compatible connection is made. Incompatible connections may cause loading of the gate mechanism leading to unintentional disengagement. See Figure 27. Connectors shall be compliant with EN362 and auto closing and locking.

⚠ ***Making incompatible or unsuitable connection may result in unintentional disengagement of the connector resulting in serious injury or death.***

Figure 26

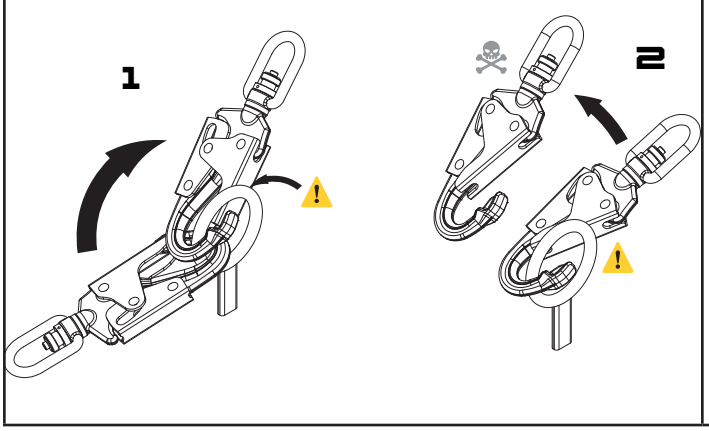
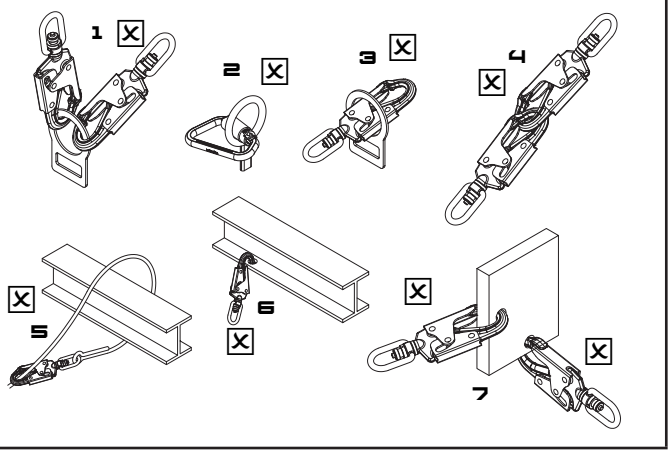


Figure 27



6 Use

6.1 Planning

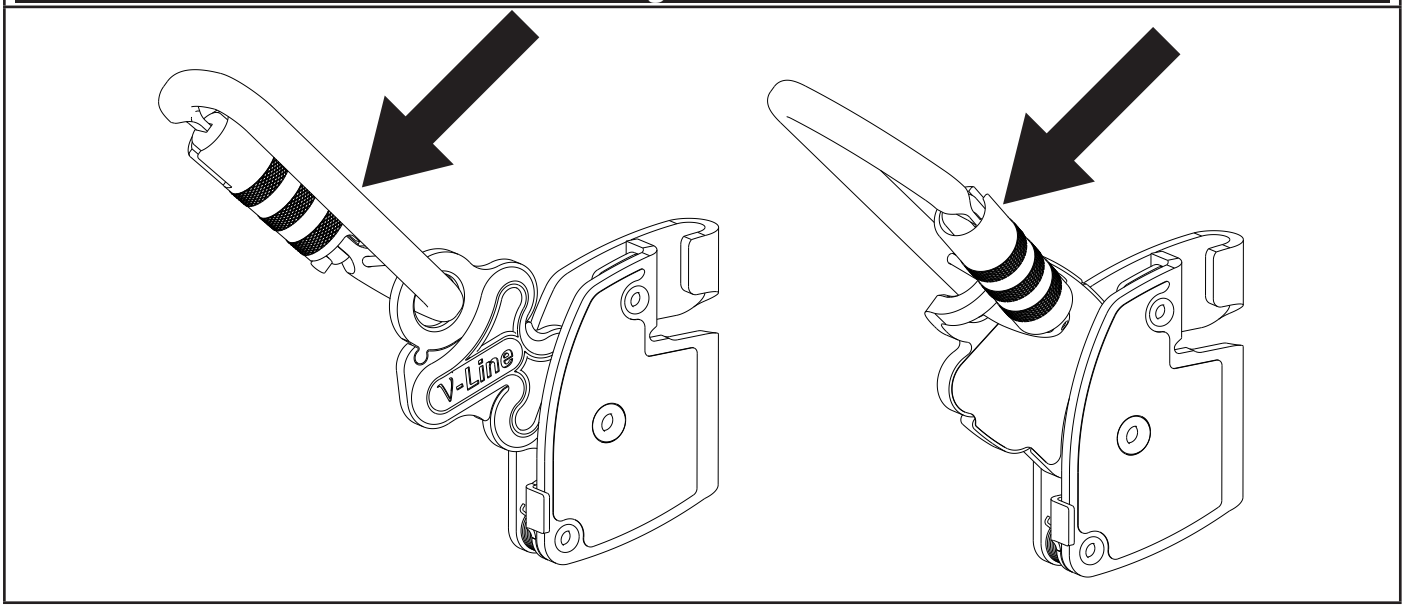
Before starting work, plan your working at heights and rescue systems by accounting for all hazards present in the work place and allowing for the available fall clearance. Ensure all users are fit, healthy and capable of safely operating this equipment as well as implementing the rescue plan.

⚠ ***During use always allow for the required fall clearance, swing fall and hazards present in the work place.***

6.2 Connection to the V-Line Shuttle to the User

The V-Line is supplied with an integral connector for connection to the users harness. See Figure 28.

Figure 28



⚠ ***Each shuttle is for a single user. Do not attach multiple users to a single shuttle.***

⚠ ***Do not attach to any other point on the V-Line Shuttle or Vertical Lifeline.***

⚠ ***Do not extend the V-Line shuttle with additional connectors or lanyards.***

6.3 Connecting the V-Line Shuttle to the System

1 Lift the attachment lever to the top position.

2 Rotate the latch to fully open.

3 Tilt the device 45 degrees till the slot in the front aligns with the cable.

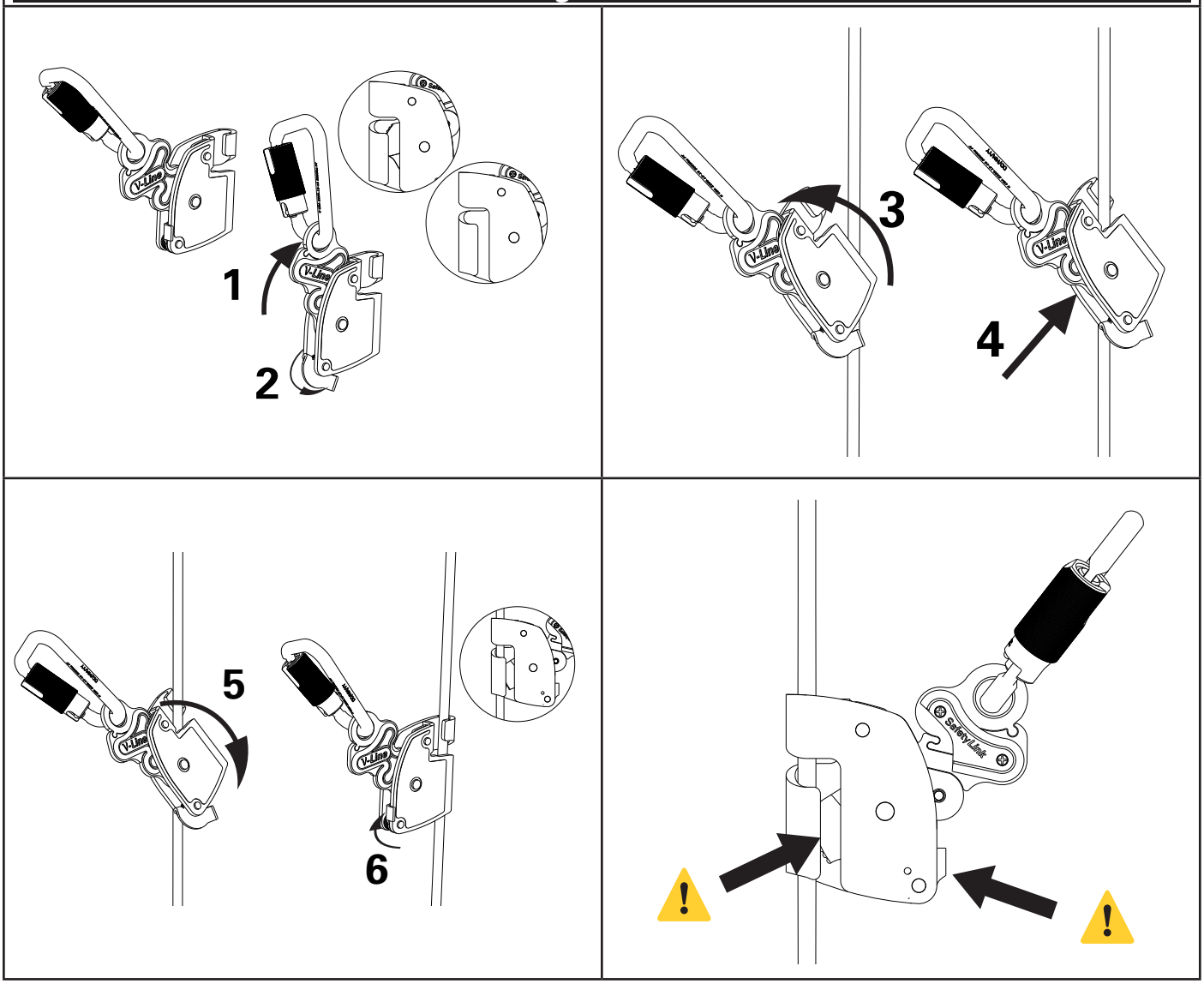
4 Push the device on to the cable.

5 Rotate the device back in to the vertical plan.

6 Release the latch.

⚠ ***Ensure the latch completely closes automatically and the cam covers the cable entry slot.***

Figure 29

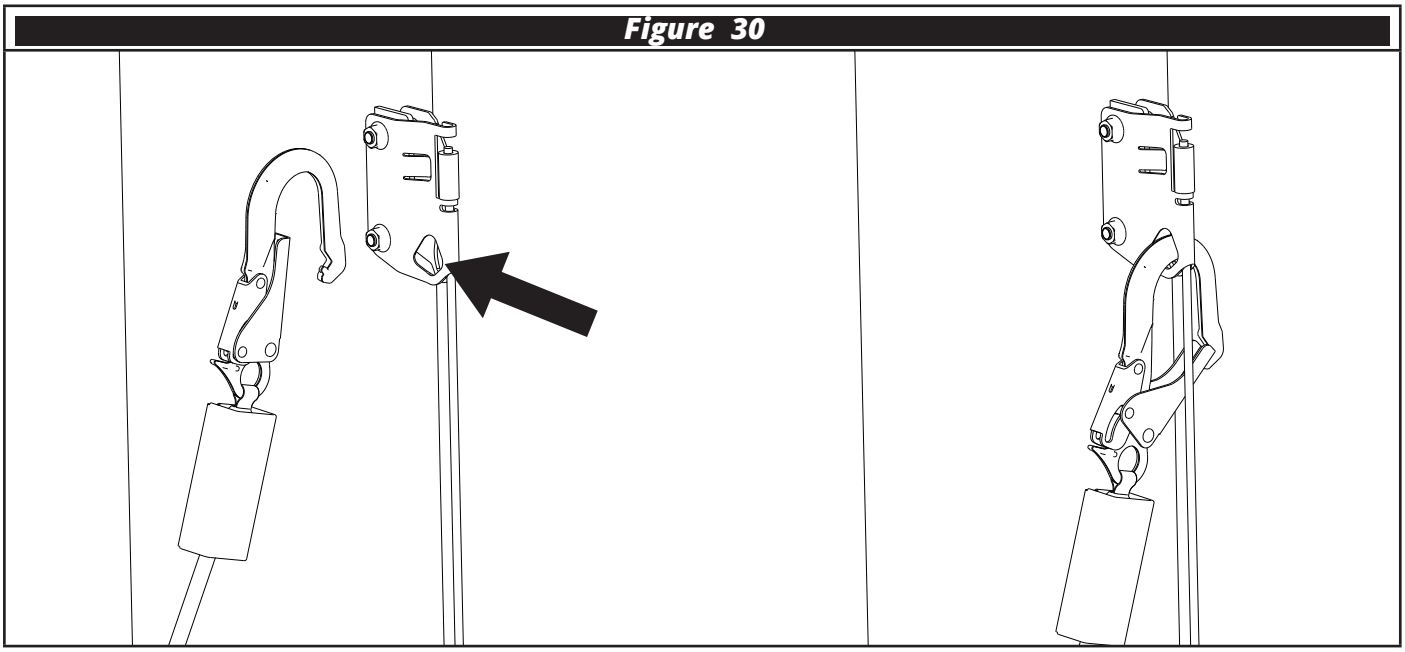


6.4 Connecting to the V-Line System

The V-Line top bracket has a single point anchor to assist the transition from the V-Line system to another fall protection system. See Figure 30.

⚠ ***Do not connect to any other part of the system.***

Figure 30



7 Storage, Transport and Maintenance

7.1 Storage and transport

This equipment shall be stored and transported in a cool, dry environment, away from any hazards and out of direct sunlight.

7.2 Maintenance

7.2.1 The V-Line system is serviceable only by trained and authorised installers. Contact SafetyLink to find your nearest available installer. The service interval will be determined by the condition in which it is used. Harsher conditions will require more frequent servicing. The equipment may remain in service until it fails an inspection or is involved in a fall.

7.2.2 The V-Line Shuttle is non serviceable. The equipment may remain in service until it fails an inspection or is involved in a fall.

⚠ ***Do not attempt to modify or disassemble this product.***

7.3 Cleaning

The V-Line Vertical Lifeline may be cleaned by the end user periodically to increase service life. After cleaning, the product shall undergo the pre-use inspection.

Cable and Brackets - Clean with a rag and warm water to remove dirt and grit. A mild detergent may be used to remove grease or oils from the product.

Shuttle - Clean Shuttle with a rag and warm water to remove dirt and grit. A mild detergent may be used to remove grease or oils from the product.

⚠ ***Do not store this product when wet. Allow the product to dry and conduct a pre-use inspection prior to return the item to service.***

8 Inspection

8.1 Before and After Use

The V-Line Vertical Lifeline shall be inspected before and after each use by the user.

8.2 Competent Person

A competent person shall inspect the shuttle at least every 6 months.

A competent person shall inspect the system every 12 months. Systems installed in harsher conditions will require more frequent inspection. Installations in marine, coastal or other extreme corrosive environments should be inspected at least every 6 months.

As per AS/NZS1891.4, the inspection can be postponed if the component is not expected to be used within the time period given. If the inspection period has expired, then the component shall be inspected prior to use by a competent person, in accordance with this manual.

8.3 Procedure

8.3.1 Cable - inspect the cable for damage, deformation, broken wires or strands, or debris that may affect the strength of the cable or impede the Shuttle.

8.3.2 Top Bracket - inspect all fasteners are present and tight. Inspect the stainless steel for chips, cracks, discolouration, damage to the protective coating, bending or warping. Inspect any welds for corrosion, discolouration or damage. Inspect any steel tubes for damage of the galvanising, deformation or corrosion.

8.3.3 Bottom Bracket - inspect all fasteners are present and tight. Inspect the stainless steel for chips, cracks, discolouration, damage to the protective coating, bending or warping. Inspect any welds for corrosion, discolouration or damage. Inspect any steel tubes for damage of the galvanising, deformation or corrosion.

8.3.4 Tension - inspect all fixings are present and tight. Inspect fixings are free of damage, debris, cracks, and corrosion.

8.3.5 Cable Guides - inspect all fixings are present and tight. Inspect the galvanised coat is free of chips, cracks, corrosion or damage. Inspect the rubber end accepts and holds the cable, is free of cracks and missing piece.

8.3.6 Shuttle - inspect the housing is free of cracks, damage or deformation. Inspect the energy absorber is not deployed. Inspect the connector is free of cracks, damage or deformation and functions correctly. Ensure all screws are present and not loose. Inspect the latch opens freely and closes automatically.

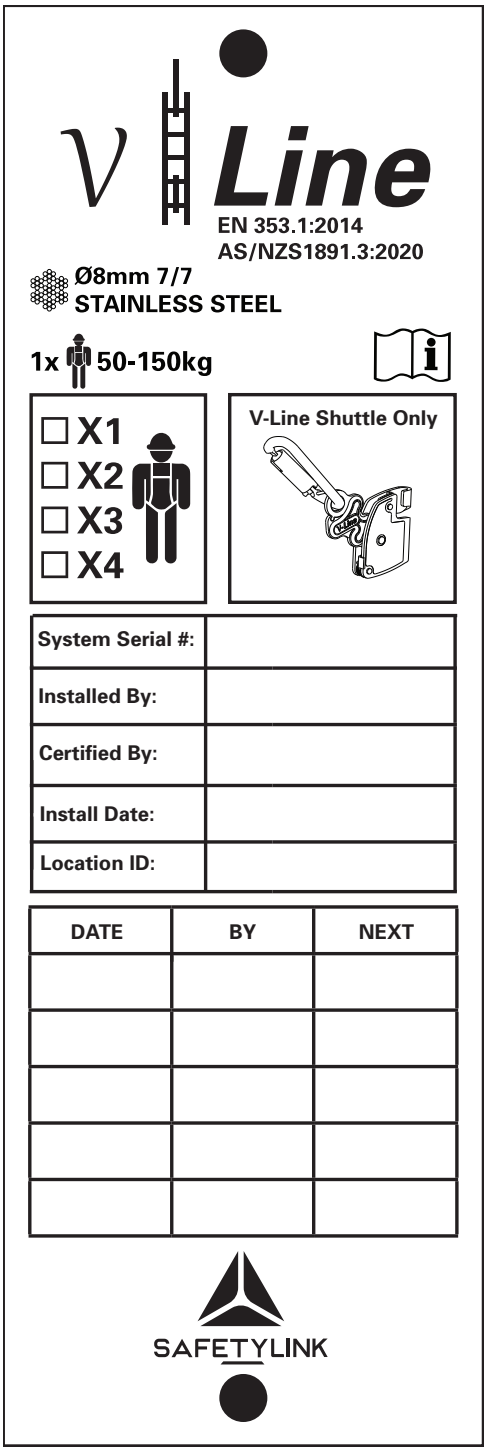
8.3.7 Proof Load - for competent person inspections only, concrete fixings that do not extend through the concrete shall be proof loaded to 50% of the design load and held for 30 seconds.

8.3.8 Label - inspect the system label is present and legible as per Figure 31.

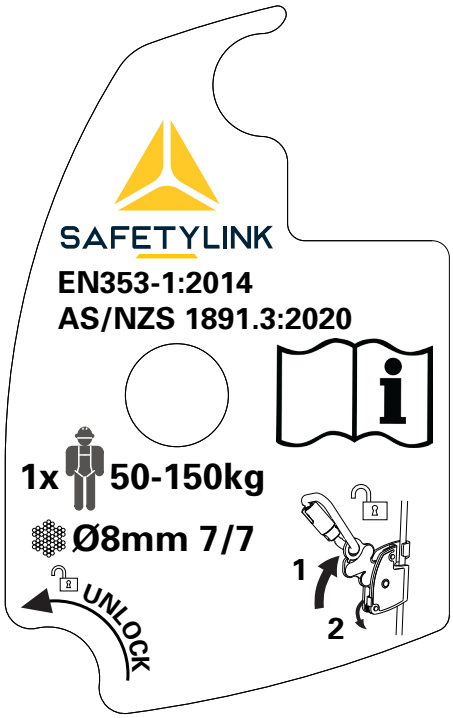
INSPECTION RECORD			
Product Code		Date of Manufacture	
Serial or Batch No.		Date of Install	
Inspector		Date of Inspection	

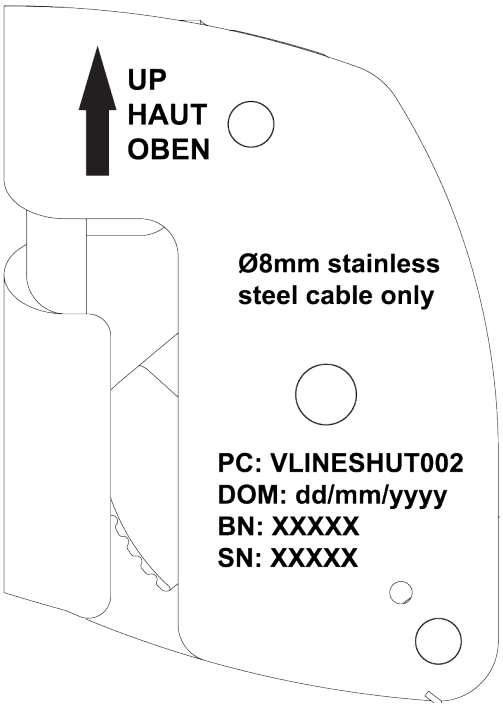
PROCEDURE	INSPECTION	USER	COMPETENT PERSON
8.3.1	Cable - inspect the cable for damage, deformation, broken wires or strands, or debris that may affect the strength of the cable or impede the Shuttle.	☐	☐
	Comments:		
8.3.2	Top Bracket - inspect all fasteners are present and tight. Inspect the stainless steel for chips, cracks, discolouration, damage to the protective coating, bending or warping. Inspect any welds for corrosion, discolouration or damage. Inspect any steel tubes for damage of the galvanising, deformation or corrosion.	☐	☐
	Comments:		
8.3.3	Bottom Bracket - inspect all fasteners are present and tight. Inspect the stainless steel for chips, cracks, discolouration, damage to the protective coating, bending or warping. Inspect any welds for corrosion, discolouration or damage. Inspect any steel tubes for damage of the galvanising, deformation or corrosion.	☐	☐
	Comments:		
8.3.4	Tension - inspect all fixings are present and tight. Inspect fixings are free of damage, debris, cracks, and corrosion.	☐	☐
	Comments:		
8.3.5	Cable Guides - inspect all fixings are present and tight. Inspect the galvanised coat is free of chips, cracks, corrosion or damage. Inspect the rubber end accepts and holds the cable, is free of cracks and missing piece.	☐	☐
	Comments:		
8.3.6	Shuttle - inspect the housing is free of cracks, damage or deformation. Inspect the energy absorber is not deployed. Inspect the connector is free of cracks, damage or deformation and functions correctly. Ensure all screws are present and not loose. Inspect the latch opens freely and closes automatically.	☐	☐
	Comments:		
8.3.7	Proof Load - for competent person inspections only, concrete fixings that do not extend through the concrete shall be proof loaded to 50% of the design load and held for 30 seconds.	**N/A**	☐
	Comments:		
8.3.8	Label - inspect the system label is present and legible as per Figure 31.	☐	☐
	Comments:		

Figure 31



SYSTEM LABEL





SHUTTLE MARKINGS

WARRANTIES

EXTRACT: SAFETYLINK PTY LTD STANDARD TERMS AND CONDITIONS

1.1 To the extent permitted by law all implied conditions, warranties and undertakings are expressly excluded.
1.2 Except as provided in this clause the Company shall not be liable for any loss or damage, whether direct or indirect (including consequential losses or damage) arising out of any breach of contract by the Company or any negligence of the Company, its employees or agents.
1.3 Should the Company be liable for a breach of a guarantee, condition or warranty implied by the Australian Consumer Law (not being a guarantee, condition or warranty implied by sections 51, 52 and 53 of that Law) then its liability for a breach of any such condition or warranty express or implied shall be limited, at its option, to any one or more of the following.

A in case of Goods
- I the replacement of the Goods or the supply of equivalent Goods.
- II the repair of the goods,
- III the payment of the cost of replacing the Goods or acquiring equivalent Goods.
- IV the payment of the cost of having the Goods repaired. Provided that any such Goods are returned to the Company by the Purchaser at the Purchaser's expense.

B in the case of services
- I the supply of the services again,
- II the payment of the cost of having the services supplies again.

1.4 The Company is not liable for the costs of recovery of the Goods from the field, loss of use of the Goods, loss of time, inconvenience, incidental or consequential loss or damage, nor for any other loss or damage other than as stated above, whether ordinary or exemplary, caused either directly or indirectly by use of the Goods.
1.5 The Company warrants that at the time of shipment, Products manufactured by it will be free from defects in material and workmanship. In the absence of a modified written warranty, the Company agrees to making good any such defects by repairing the same or at the Company's option by replacement, for a period of (1) one year from the date of shipment. This limited warranty applies provided that:

a defects have arising solely from faulty materials or workmanship;
b the Products have not received maltreatment, inattention or interference;
c the Products have been installed in accordance with the Company's Installation Handbooks using only products supplied by the Company;
d accessories used with the Products are manufactured by or approved by the Company
e the Products are maintained in accordance with Australian Standard 1891.4 (section 9).
f you notify any claim under this warranty to SafetyLink in writing to the address below no later than 14 days after the event or occurrence concerning the produce giving rise to the claim and you pay all costs related to your claim.

This warranty does not apply to any defects or other malfunctions caused to the Goods by accident, neglect, vandalism, misuse, alteration, modification or unusual physical, environment or electrical stress.

Please note that the benefits to the purchaser (as a consumer) given by this warranty are in addition to your other rights and remedies under the Australian Consumer Law. Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

1.6 If any goods are not manufactured by the Company, the guarantee of the manufacturer thereof shall be accepted by the Purchaser as the only express warranty given in respect of the goods.
1.7 Except as provided in this clause 11, all express and implied warranties, guarantees and conditions under statute or general law as the merchantability, description, quality, suitability or fitness of the Products for any purpose or as to design, assembly, installation, materials or workmanship or otherwise are hereby expressly excluded (to the extent to which they may be excluded by law).

PLEASE SEE SAFETYLINK PTY LTD FULL STANDARD TERMS OF CONDITIONS OF SALE FOR FURTHER REFERENCE.

bsi ISO 9001 Quality Management Systems CERTIFIED
FS 707792

SAFETYLINK
A DELTA PLUS GROUP COMPANY

SafetyLink Pty Ltd | ABN 83 081 777 371 | www.safetylink.com
Head Office: 54 Bonville Ave, Thornton, 2322, NSW, Australia
+64 2 4964 1068 | 1300 789 545
Asia-Pacific/The Americas | info@safetylink.com
Europe/Africa/Middle East | europe.sales@safetylink.com
Northern Europe | uk.sales@safetylink.com