

CHECKLINE II

SAFETY BY DESIGN

MAINTENANCE MANUAL



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1 CHECKLINE II MAINTENANCE INFORMATION

1.1 Overview

The Checkmate CheckLine II system requires maintenance at least annually by a Checkmate trained competent person working for a Checkmate approved authorised service agent. This manual provides details of the maintenance requirements

1.2 Function of the CheckLine II System

The CheckLine II system provides a continuous anchor point for a harness connection, via a lanyard, where there is a risk of a fall from height.

Permanently fixed lifelines are categorised into two types, see below. A fall restraint system is much safer than fall arrest, which must only be used when a fall restraint system cannot be configured.

- **Fall Restraint** – This tethers the user and prevents him from reaching a position from which he may fall. This provides the best protection and eliminates the need for a rescue, by removing the possibility of a fall occurring while the user is attached to the system.
- **Fall Arrest** – This also tethers the user but does not limit movement to a fall restraint. It provides a safe working environment where it is not possible to configure a fall restraint system. The user is not prevented from falling, but is protected in the event of a fall. If a fall occurs the system will absorb energy and bring the user to rest suspended from the system. When a fall occurs a rescue must be undertaken by trained personnel using full safety equipment. It is imperative to the health of the user that a rescue is performed as soon as possible.

1.3 Cable Tension

The tension in the cable is important to ensure the correct operation of the system. If the tension is too little, the cable will sag excessively, possibly lay on the floor, and may also cause problems with the trolley passing over the brackets smoothly. If the tension is too great the system will not offer the required energy absorption properties to minimise injury if a fall occurs. It may also damage the system or the surface to which the system is attached. Systems of greater than 20 metres, or those which have more than two corners, must be fitted with an adjuster at each end. For a simple system under this length it may be sufficient to have an adjuster at one end only. Different types of adjuster are explained in section **Error! Reference source not found.**, along with procedures for applying the correct level of tension in the system.

The correct tension must take into account the span between fixing points and the weight of the cable. Refer to 1.4 for examples of allowable sag in the cable when the system is fully tensioned.

Under no circumstances can the system be used if the cable tension is in the **Red zone.**

1.3.1 Correct Tension for TopFix Installations

On TopFix installations refer to 1.4 for examples of allowable sag in the cable. This is to be used as a guide to the minimum tension in the system. When using TopFix posts, lower tensions are recommended than structural systems. This is controlled by the top scale on the loadcell, marked "TopFix systems", and is indicated by the pin sitting entirely within the green zone. As a rule, tension the system until the pin just sits fully in the green zone, and provided the sag is within the limits set out in 1.4, do not tension further. Allow at least 30 minutes for the system to stabilise and equalise across its entirety. Check tensions again and adjust if necessary.

1.3.2 Correct Tension for Wall Installations

When installing a system directly onto a wall, the cable can be tensioned more than in the case of the TopFix system. The bottom scale labelled "IDS systems" is to set the tension on wall installations. The green zone is extended to allow for more tension to be applied to the system.

1.4 Sag Allowance in Wire.

With no deflection (sag) the cable lays 200mm above the ground (measured to the centre line of the cable). Figure 1 and Figure 2 demonstrate example sag values for 5 and 10m spans. These are based on a system which has been correctly tensioned, and should be used as a guide to the expected amount of sag in a system. Cable sag should not be a cause for concern unless the amount of sag exceeds these levels.

1.4.1 5m span

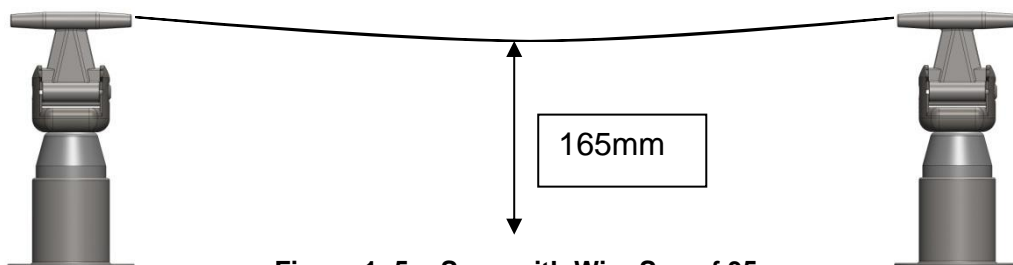


Figure 1: 5m Span with Wire Sag of 35mm

1.4.2 10m span

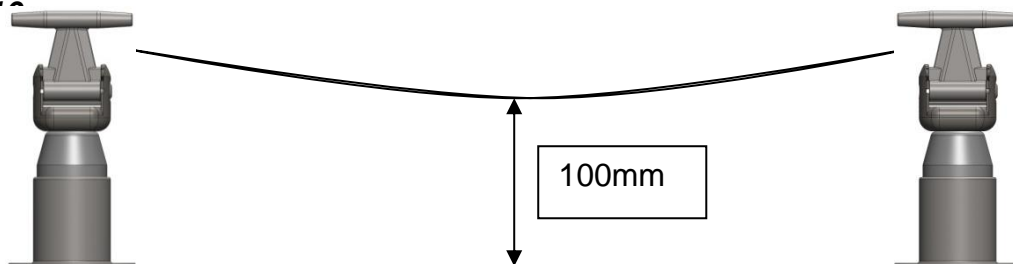


Figure 2: 10m Span with Wire Sag of 100mm

1.5 Parts List for CheckLine II System





Posts-Ends-Corners-Brackets

Part Code	Description	
	Please note prices below are Nett	
PPESLL-501	Topfix intermediate post	
PPESLL-502	Topfix post end	
PPESLL-504	End bracket c/w gasket	
PPESLL-505	Intermediate bracket	
PPESLL-507	Topfix stand alone post	
PPESLL-514	Crossover post on TF post	
PPESLL-516	T-Junction on ITM post	
PPESLL-518	Wall corner Internal	
PPESLL-532	Overhead bracket Trolley not included	

Part Code	Description	
PPESLL-110	Toggle end swageless	
PPESLL-111	Toggle end swage adjuster	
PPESLL-112	Toggle ends adjuster	
PPESLL-113	Toggle end swage	
PPESLL-114	Load cell	
PPESLL-115	Damper	
PPESLL-365	Splicer-tube (rope joiner)	

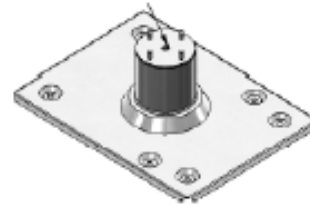
Part Code	Description	
		Please note prices below are Nett
PPESLL-503	Topfix corner adjustable bracket Plus 2 off Tubes, type to be advised	
PPESLL-509	Corner bracket assembly Plus 2 off Tubes, type to be advised	
PPESLL-511	Corner bracket Plus 2 off Tubes, type to be advised	
PPESLL-307	Corner tube 45°	
PPESLL-328	Straight tube	
PPESLL-345	Corner tube 15°	

Part Code	Description	
Please note prices below are Nett		
PPESLL-119C	333x250 mm Topfix base plate	
PPESLL-120C	300x305 mm Topfix base plate	
PPESLL-121C	333x225 mm Topfix base plate	
PPESLL-122C	333x400 mm Topfix base plate	
PPESLL-123C	333x500 mm Topfix base plate	

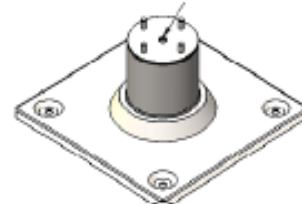
Part Code	Description		Pri
Please note prices below are Nett			
PPESLL-527	Adjustable rolled seam roof plate Stainless steel power coated		
PPESLL-528	Adjustable rolled seam roof plate c/w feet Stainless steel powder coated		
PPESLL-530	Adjustable rolled seam roof plate Galvanised steel power coated		
PPESLL-531	Adjustable rolled seam roof plate c/w feet Galvanised steel powder coated		
PPESLL-392	Foot - Stainless steel		
PPESLL-402	Foot - Powder coated		
PPESLL-131	SS mini Standing seam clamp		
PPE-CRIPPER			
PPE-HIRE	Min 1 Week hire		2

Part Code	Description
Please note prices below are Nett	

PPESLL-387 Green Roof Plate with fixed post & 6 fixing holes



PPESLL-384 Green Roof Plate with fixed post & 6 fixing holes



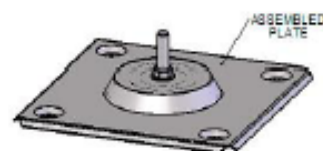
PPESLL-124 250X370mm Topfix base plate for concrete roof c/w rubber gasket



PPESLL-124SQ 340X340mm Topfix base plate for concrete roof c/w rubber gasket



PPESLL-388 255x255 Standard Rise Post Plate c/w rubber gasket



PPESLL-323 250mm Rise r Post for PPESLL-388 plate
(Available in other lengths)



Part Code	Description	
	Please note prices below are Nett	
PPEC-8MM 7X7	8mm 7x7 stainless steel wire rope	
PPESLL-131	SS mini standing seam clamp	
PPELAB-03	Checkline system install plate	
PPESLL-512	Checkball trolley non-removable	
PPESLL-515	Checkline trolley removable	
PPESLL-513	Mid span gateway	  <div> <div>Open</div> <div>Closed</div> </div>
PPESLL-517	End Gate way	
PPESLL-395	Crossover plate	
PPESLL-519	Overhead trolley	
	Fixings	
TEK-SCREWS	6.3 x 25 mm stainless steel Tek screws c/w seal washer	
PPESLL-398	Toggle M8x300	

2 MAINTENANCE

2.1 Regular Maintenance

Regular maintenance checks must be carried out at least once every twelve months, and include the following checks.

- Visual check on the condition of:
 - 1) The cable for corrosion or damage.
 - 2) The brackets and corner assemblies.
 - 3) The structure the CheckLine II is attached to.
- The operation of the trolley.

2.2 After a Fall Arrest

If a fall occurs the system must undergo a complete examination, as explained fully in section 2.3. This must include the following points.

- Replacement of all damaged or suspected damaged parts.
- Complete check that the system is restored to safe working condition.
- Record all work carried out using the supplied record sheets.

2.3 Examination

The complete system should be examined and possible causes of corrosion or deterioration in both the system and the structure it is attached to must be reported.

- If there is any reason to doubt the safety of the system being examined, then the technician examining it must ensure that alternative safety equipment is used whilst conducting the inspection.
- Attention should be paid to any signs of corrosion or damage as a result of scuffing or misuse of the system. Damage from attack by acids should also be checked. Any abnormal wear requires the cable to be replaced. Any signs of discolouration or variations of colour in the cable should be taken as a sign of possible corrosion. Particular attention should be paid to the condition of swaged attachments and they should be checked for cracking, or movement. Points where the cable enters the brackets should also be checked for cracking, bending or distortion, and signs of corrosion from within the guide tubes.
- Brackets must be checked for cracks or damage and mounting bushes, rivets or bolts should all be checked for tightness and condition.
- Ensure that the trolleys are in good condition and that the attachment mechanisms operate freely.
- Ensure the Loadcell and Damper are functioning properly. Test by pulling on the cable and check locking nuts are tightened.
- Where entry/exit gates are installed, check that the mechanism works freely and that there are no cracks or bent components.

- Where necessary clean the system and lubricate with PTFE aerosol.
- Check all user equipment on site.
- While moving along the system checking the components and the cable, a check should also be made to the structure the system is attached to. Any signs of deterioration of the building fabric should be reported as it could comprise the safety of the system.

2.4 Replacement of Damaged Parts

- Slacken the cable.
- Cut away swaged components from the cable as close to the item as possible.
- Replace the swaged component and add an additional cable connector to compensate for the reduced length.
- Reconnect the system to the end anchor points and re-tension the cable.

2.5 Examination Report

A full report of the examination should be made (using the official report sheet which lists all parts of the system with appropriate 'tick' boxes, see 3) and signed and dated by the competent person making the examination. The recommendations for repairs or replacement of parts should be included and the system should under no circumstances be used until any repair work has been completed and the system fully tested. If a system after inspection is deemed unsafe by the competent person, a "Red unsafe to use" tag must be attached to the exit/entry points.

Report sheet format:

- 1 Complete list of all parts of system with tick boxes indicating:
A) Good condition
b) Unserviceable
- 2 List of all recommendations for repair or replacement of parts
- 3 List of all work carried out
- 4 Test result
- 5 Signed and dated by a competent person

3 EXAMINATION REPORTS

3.1 Cable System - Periodic Examination Report

Issue:2

Site Address:	Building owner or main contractor:
System type:	Job No:
	System Serial No:
	Location:

Cable systems manufactured to EN 795 : 1997 Class C
Inspected in accordance with the code of practice BS7883:2005 (12)

Inspect:

Load indicating devices for signs of deployment	<input type="checkbox"/>
Cable tension and quality, corrosion or damage	<input type="checkbox"/>
Swages correctly terminated and no visible signs of damage	<input type="checkbox"/>
All nuts, bolts and securing pins are tight and secure	<input type="checkbox"/>
All fixings to the sub-structure for integrity, pay particular attention to resin sockets	<input type="checkbox"/>
Area around fixings for cracks or damage	<input type="checkbox"/>
All system parts that are welded for weld integrity	<input type="checkbox"/>
Trolley's travel ok, pass ITM's freely and any gateways if fitted	<input type="checkbox"/>
Trolley gateways are measured and calibrated	<input type="checkbox"/>
System install plate is fitted and filled out & update with new inspection date	<input type="checkbox"/>

Clean and lubricate:

Any moving parts in accordance with manufactures guidance	<input type="checkbox"/>
All cables and fittings	<input type="checkbox"/>

System overview:

Check the system for general layout, deviation from original design, modification, obstruction or misuse.	<input type="checkbox"/>
---	--------------------------

Recommendations: (please specify)

Any actions taken:

DATE:

SIGNED:

NEXT DUE DATE:

PRINT NAME:



CHECKMATE
LIFTING & SAFETY

For and on behalf of:

CHECKMATE LIFTING & SAFETY LLP

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Periodic Examination

3.2 Anchorage Device- Periodic Examination Report

Issue: 1

Site Address: <div style="border: 1px solid black; height: 40px; margin-top: 5px;"></div>	Building owner or main contractor: <div style="border: 1px solid black; height: 30px; margin-top: 5px;"></div>
Device type: <div style="border: 1px solid black; height: 20px; margin-top: 5px;"></div>	Job No: <div style="border: 1px solid black; height: 20px; margin-top: 5px;"></div>
Device Location: <div style="border: 1px solid black; height: 20px; margin-top: 5px;"></div>	

Anchors Devices manufactured to EN 795 : 1997 Class A (Class A1 & A2)
Inspected in accordance with the code of practice BS7883:2005 (12)

Inspect:

Visually and remove all components for signs of damage and corrosion (12.2.3) ☐

Compression washer (if applicable) is in place and fitted correctly ☐

And identify for through fixed devices in accordance with (12.3.4) ☐

All nuts, bolts are secure, replace and Nyloc nuts and re-torqued all ☐

All fixings to the sub-structure for integrity, pay particular attention to resin sockets ☐

Area around fixings for cracks or damage ☐

All system parts that are welded for weld integrity ☐

Replace system ID Warning disc ☐

Frequency of retest (if LOLER 6 monthly) all others 12 months or Prior to Use ☐

Retest:

In accordance with 12.2.3 (Clause 11) apply a 6kN load for 15 sec ☐

Observe for any signs of deformation or damage ☐

System overview:

Check the system for general layout, deviation from original design, modification, obstruction or misuse. ☐

Recommendations: (please specify)

Any actions taken:

DATE:


SIGNED:

NEXT DUE DATE:

PRINT NAME:

for and on behalf of;


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Periodic Examination




3.3 Installation Plate

 CHECKMATE LIFTING & SAFETY CheckLine Horizontal Lifeline System	
a) Always read manufacturers instructions before use. b) System should NOT be used after a fall and MUST be inspected by a competent person or service company. c) The system should NOT be used if the system inspection dates differ by more than 12 months or the system fails to meet the visual inspections.	
Location	<input type="text"/>
No of systems	<input type="text"/>
Max No users	<input type="text"/>
Shock absorber required	<input type="text"/>
Ground clearance	<input type="text"/>
Year of manufacture	<input type="text"/>
Serial No.	<input type="text"/>
Date of Install	<input type="text"/>
Inspection date	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
Manufactured in the UK by Checkmate Lifting & Safety LLP, Sheerness, Kent. ME12 1PZ Tel: +44 (0) 1795 580 333 Fax: +44 (0) 1795 668280. www.checkmateuk.com	

4 RISK ASSESSMENTS

4.1 H & S Risk Assessment Example

Before the commencement of the installation of the Checkline II system there should be a Risk Assessment and a Method Statement produced, examples of these are shown below.

HEALTH & SAFETY RISK ASSESSMENT		
FIRM / COMPANY;	CHECKMATE LIFTING & SAFETY LLP	
CONTACT NAME;		
TELEPHONE NUMBER;		
NATURE OF BUSINESS;	Manufacturers of Height Safety Equipment	
<p style="text-align: center;">FALLS FROM HEIGHT</p>		
<p>DESCRIPTION OF UNDERTAKING;</p>		
<p>PRINCIPLE HAZARDS;</p>		
<p>SIGNIFICANT RISKS</p>		
<p>PERSONS AT RISK</p>		
<p>CONSEQUENCES IF HAZARDS NOT CONTROLLED;</p>		
<p>SCALE FACTORS</p>		
<p>CONTROL MEASURES</p>		
<p>INJURY / SEVERITY SCALE</p>		
<p>RISK LIKELIHOOD SCALE</p>		
<p>Before Control</p>		
<p>After Control</p>		
<p>CONTROLS WILL REDUCE;</p>		
<p>THE LIKELIHOOD OF AN ACCIDENT OCCURRING</p>		
<p>BEFORE CONTROLS AFTER CONTROLS</p>		
<p>SEVERITY 4 SEVERITY 1</p>		
<p>LIKELIHOOD 3 LIKELIHOOD 1</p>		
<p>RISK FACTOR 12 RISK FACTOR 1</p>		
<p>RISK ASSESSOR</p>		<p>MANAGING DIRECTOR</p>
<p>SIGNED _____ DATE _____</p>		<p>SIGNED _____ DATE _____</p>
<p>REVIEW DATE: (AT LEAST) EVERY 6 MONTHS</p>		

4.2 Method Statement Example

METHOD STATEMENT

FIRM / COMPANY;	CHECKMATE LIFTING & SAFETY LLP
CONTACT NAME;	
TELEPHONE NUMBER;	
NATURE OF BUSINESS;	Manufacturers of Height Safety Equipment

FALLS FROM HEIGHT	

DESCRIPTION OF UNDERTAKING;	

PRINCIPLE HAZARDS;	
	3
	5
	2

SIGNIFICANT RISKS	
	4
	1
	3
	3

PERSONS AT RISK	

CONSEQUENCES IF HAZARDS NOT CONTROLLED;	

CONTROL MEASURES	

DESCRIPTION OF UNDERTAKING:

RISK ASSESSOR	MANAGING DIRECTOR
SIGNED _____ DATE _____	SIGNED _____ DATE _____
REVIEW DATE: (AT LEAST) EVERY 6 MONTHS	

6 ADDITIONAL INFORMATION

This manual is written to comply with the relevant British and European Standards and Codes of Practice Systems specified. Installations outside of the guidance of these standards and Codes of Practice are the responsibility of the installer.

Systems installed in countries elsewhere must be specified in accordance with the recognised Standards of that country at that time.

All parts of the system are either stainless steel or zinc coated with a powder coated paint finish.

Stainless steel can mark by handling resulting in staining of the surface later. All parts must be left in a clean condition by wiping with a bio-degradable cleaner.

Parts not supplied by Checkmate Lifting & Safety Ltd such as anchor bolts must be of a construction grade stainless steel.

To avoid bi – metallic corrosion, dissimilar metals must be isolated from each other using a non conductive barrier such as nylon or rubber.

Stainless Steel wire rope must be 7x7x8mm and have a certification of minimum breaking load 38kN. Wire rope must be **NO** smaller than 7.9mm and No bigger than 8.2mm. (Nominal 8mm.)

CHECKLINE II


SAFETY BY DESIGN

MAINTENANCE MANUAL



LET'S INNOVATE

Award Winning Lifting & Height Safety Equipment Since 1979
Designed and Built in Great Britain by Great Britons

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