

# DE-FENCE



AOV Systems

# DE-FENCE

## Vertical Access Ladder Systems

AOV Systems wide range of Roof Access and Walkway Equipment. Designed with safety and functionality in mind.

# DE-FENCE

The AOV Systems **DE-FENCE** Range of Roof Access and Walkway Equipment consists of the following products. Each of these products has been developed with safety and functionality in mind.

Our Vertical Access Ladder System is a safety compliant and easy to assemble product.

## Purpose of this document

This document is designed to show the range of products available and act as a guide to installation and specification. It will not exactly replicate your project, a general arrangement drawing is supplied for that purpose, but it will demonstrate the key issues in putting the ladder system together.

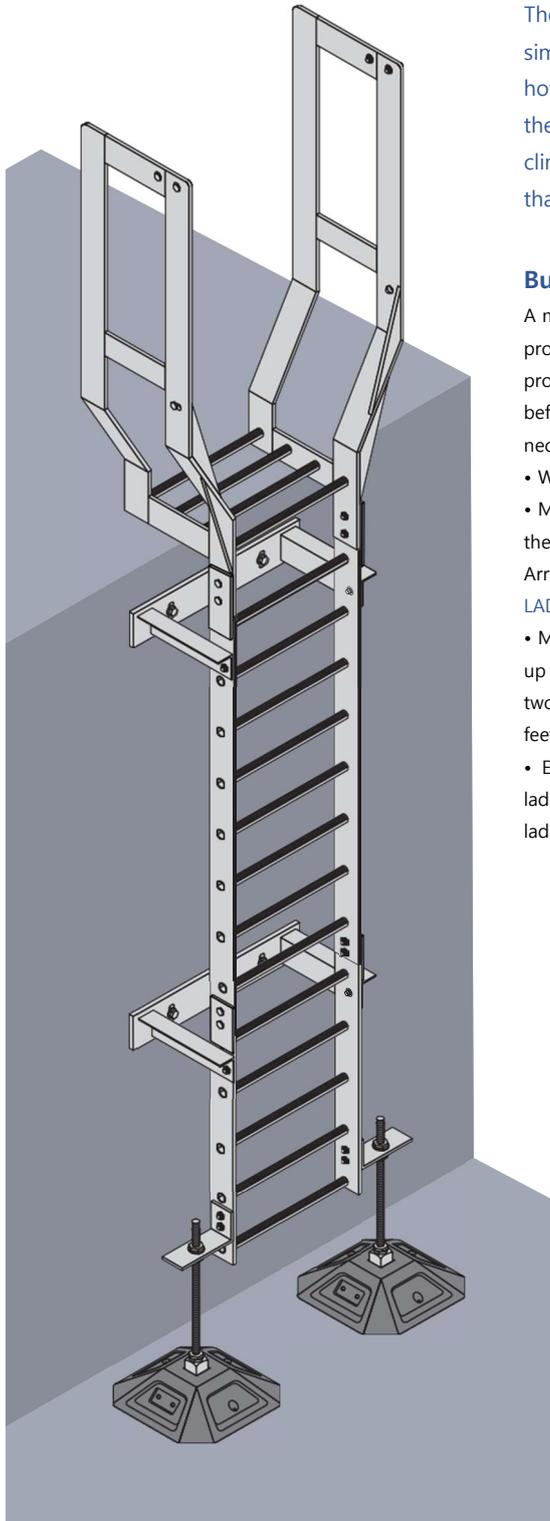
## Key Consideration in System Design:

### What we need to know

- What the base fixing is – free standing feet, spreader plate or wall fixings (*fixings to structure not included*).
- Ladder height and material (*mild steel or aluminium which is 60% lighter*) – 10 m is standard, higher will require a platform.
- The head layout – is the ladder exit onto a flat roof or is there a parapet that needs bridging requiring a step down to the roof surface.

### What you need to know

- Designed to BS 4211:2005 + A1:2011 & 2:2008.
- Manufactured in accordance with BS EN ISO 3834-2:2005 & BS EN 1090-1:2009 + A1: 2011 & 2:2008 and CE marked.
- Supplied flat packed.
- Design incorporates onsite levelling adjustment.



## WALL & BASE FIXINGS

The illustration shows one of the simplest ladder configurations detailing how all ladder systems are fixed to the wall and at the base. Where the climbing height of the ladder is greater than 2m, fall protection is required.

## Build Advice

A method statement detailing the installation process is required. Ensure one has been provided

before starting the installation along with the necessary access and fall protection equipment

- We recommend building from the top down
- Make sure the ladder sections are fitted in the same order as specified on the General Arrangement Drawing.

## LADDER ORIENTATION & POSITIONING

- Make sure you have the ladder the right way up – the bottom of the ladder is identified by two holes between rungs one and two for the feet brackets.
- Ensure the 'Fish-Plates', which connect the ladder to the step-thru, are at the top of the ladder.

- Ensure bottom rung is no more than 300 mm from the floor.

- Bracket fixing holes on stringers dictate where wall fixings are to be made.

## BASE FIXING

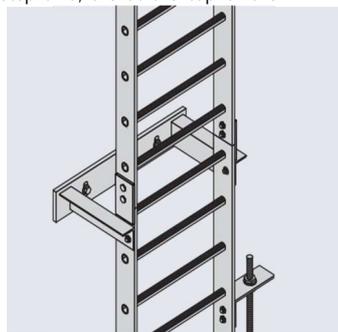
- The ladder offer foot connection brackets to leave loose for adjustment once against the wall.
- Level feet to surface and ensure weight supporting before fixing ladder to the wall.
- Spreader plate – cut to length and drill on site depending on height required and fix to base.

## COMPONENT NOTES

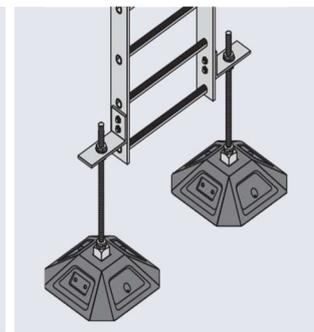
- All fixings use M12 CE Hex bolts.

## SPECIFIC PARTS TO CHECK

- Rubber feet – make sure the nuts are tightened once in position.
- If it is a mild steel ladder use BZP washers supplied, if aluminium then Nylon washers required.



Spreader Plate wall fixing



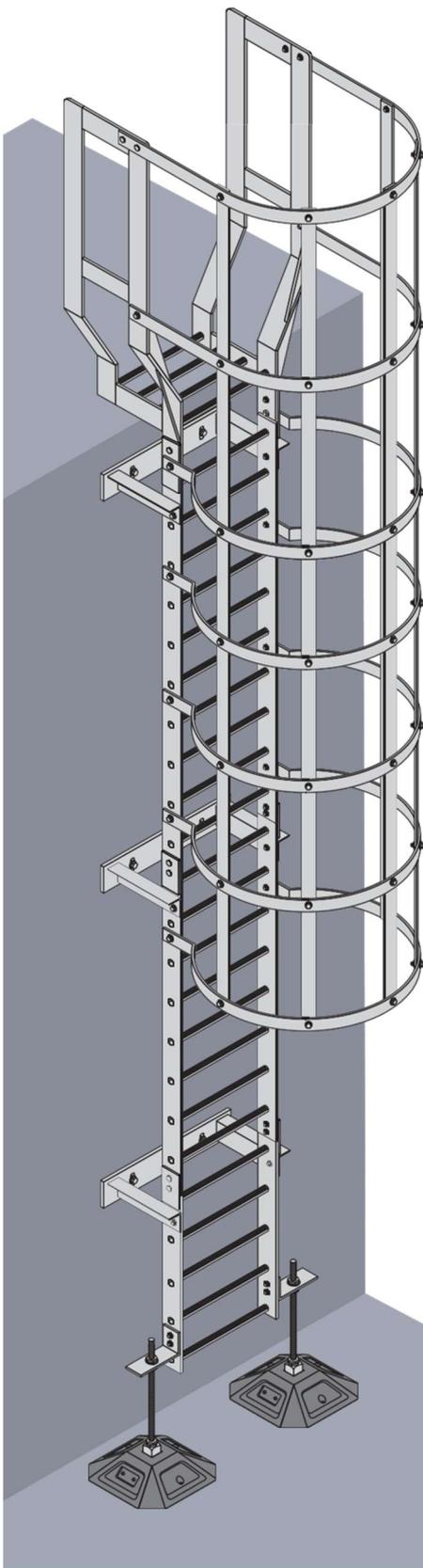
Rubber Feet base fixing



Wall Bracket fixing



Spreader Plate Feet base fixing



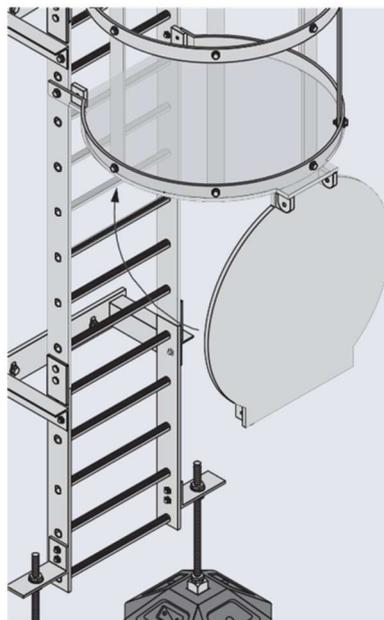
## FALL PROTECTION HOOPS, BOTTOM HOOP COVER & ANTI-CLIMB COVER

Where the climbing height of the ladder is greater than 2 m, fall protection is required. The industry standard fall protection procedure is to fit hoops to the ladder. Hoops are fixed from a height of approx. 2.2 m to 3 m above ground. To guard against ladders being climbed without the appropriate accreditation, access can be denied by either using a bottom hoop cover or anti-climb cage cover.

### Build Advice

#### FIXING HOOPS

- If possible fix the hoops to the ladder before fixing to the wall.
- Ensure the spine is inside the hoops, not outside.
- Make sure the spine connectors are fitted in the correct location with M12 x 50 Bolts.
- Hoops fit to the outside of the ladder.
- The third hoop down from the top (*the first bottom hoop*) will need to be fixed with M12 x 50 Bolts.



#### WALL BRACKET FIXING

- Make sure that the wall brackets are fixed to the correct location as per the drawing provided.

#### FIXING BOTTOM HOOP COVER

- Make sure the bottom hoop with lugs/fins is the bottom hoop on the ladder.

#### FIXING ANTI-CLIMB COVER

- Make sure when hooking on the anti-climb cover, that it covers all of the rungs at the bottom of the ladder.
- To fit the padlock fit the 'C Bracket' over a ladder rung, insert through the appropriate slot in the ladder guard & secure with the padlock.

#### COMPONENT NOTES

- All padlocks supplied for hoop covers and ladder guards are lock & key.



## STEP THROUGH AND PLATFORMS WITH CLIMB DOWN OPTION

To ensure safe access onto the roof using the De-Fence ladder range there are three key exit systems:

- Step through platform
- Up and over platform
- Up and over platform with climb down

The selection of the type of exit platform will be determined by the nature of the roof configuration the platform has to bridge. Anything longer than 1 m will require support. If the step down off the platform is more than 250 mm a ladder down with support will be required. The feet fixings are as detailed on page 2.

### Build Advice

#### STEP THROUGH PLATFORM

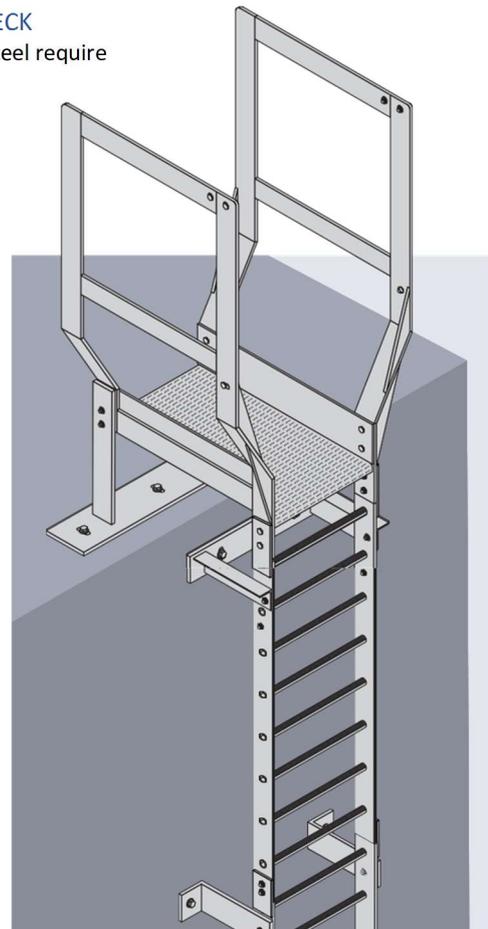
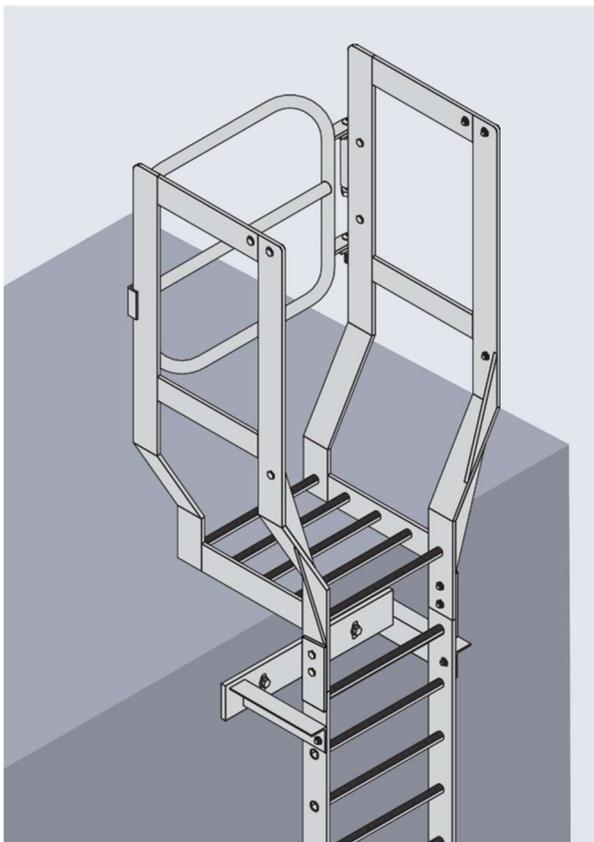
- Ensure the 'Fish-Plates' which connect the ladder to the step-thru are at the top of the ladder.

#### PLATFORMS

- Fully assemble platform before attaching to the ladder. Ensure the Fish-Plates at the top of the ladder affix to the built platform handrail.
- The base fixing is connected to the platform sides not to the handrail.

#### SPECIFIC PARTS TO CHECK

- All platforms 1 m plus in mild steel require grillage clips.



## SUPPORTED PLATFORM WITH CLIMB DOWN

- Both ladder sections join to the platform by ensuring the 'Fish-Plates' which connect the ladder to the platform are at the top of the ladder.

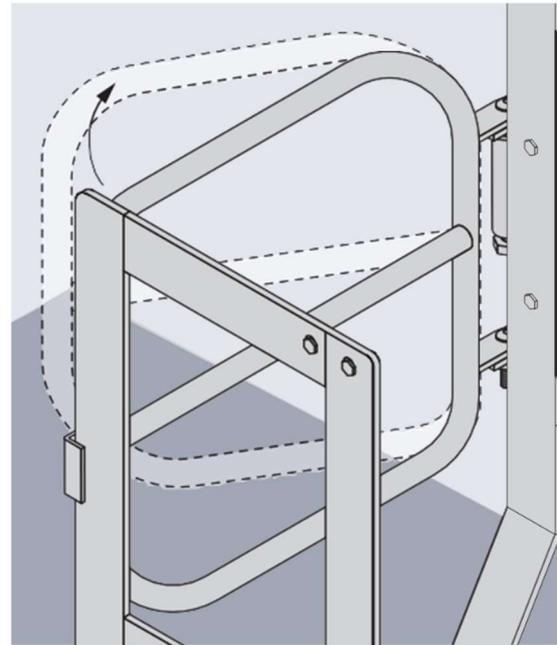
## SELF-CLOSING GATES

### Build Advice

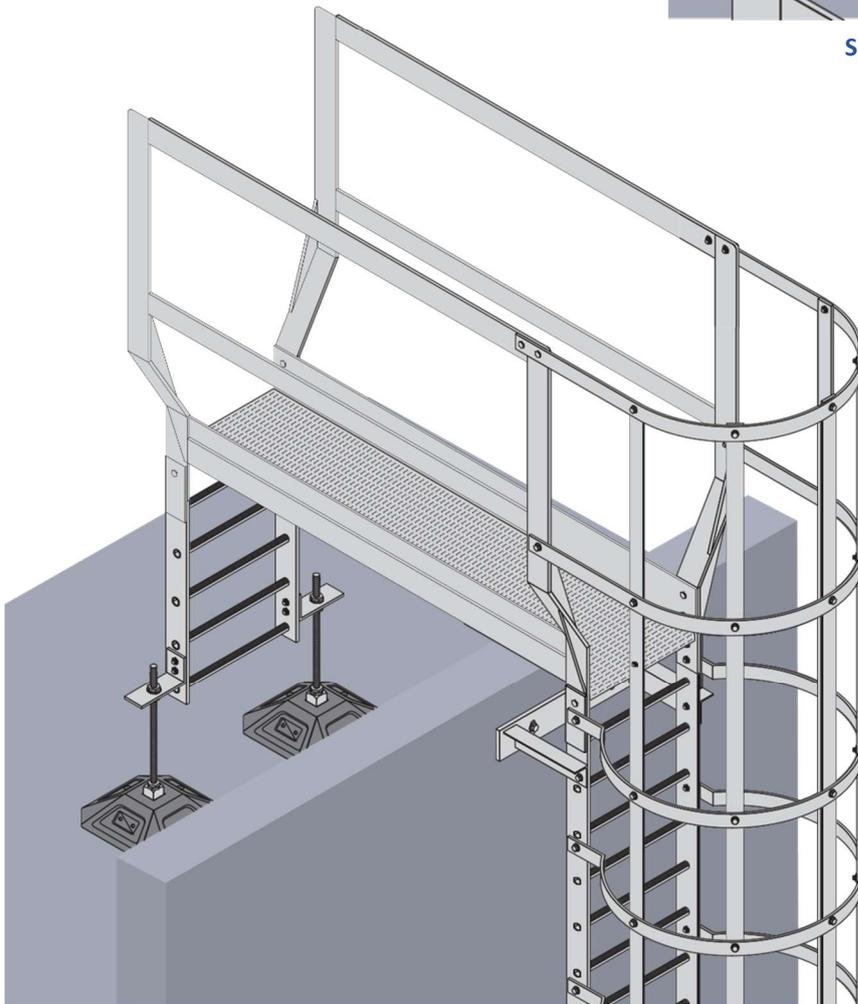
- Make sure the self-closing gate opens away from the fall hazard.
- Torque the spring to a suitable strength so that it self closes.

### SPECIFIC PARTS TO CHECK:

- Ensure catch plate engages with handrail upright & does not 'swing through'.



Self-closing Gates



Up and over Platform with Climb Down

## TRANSITION PLATFORM & ALL RELEVANT FIXINGS

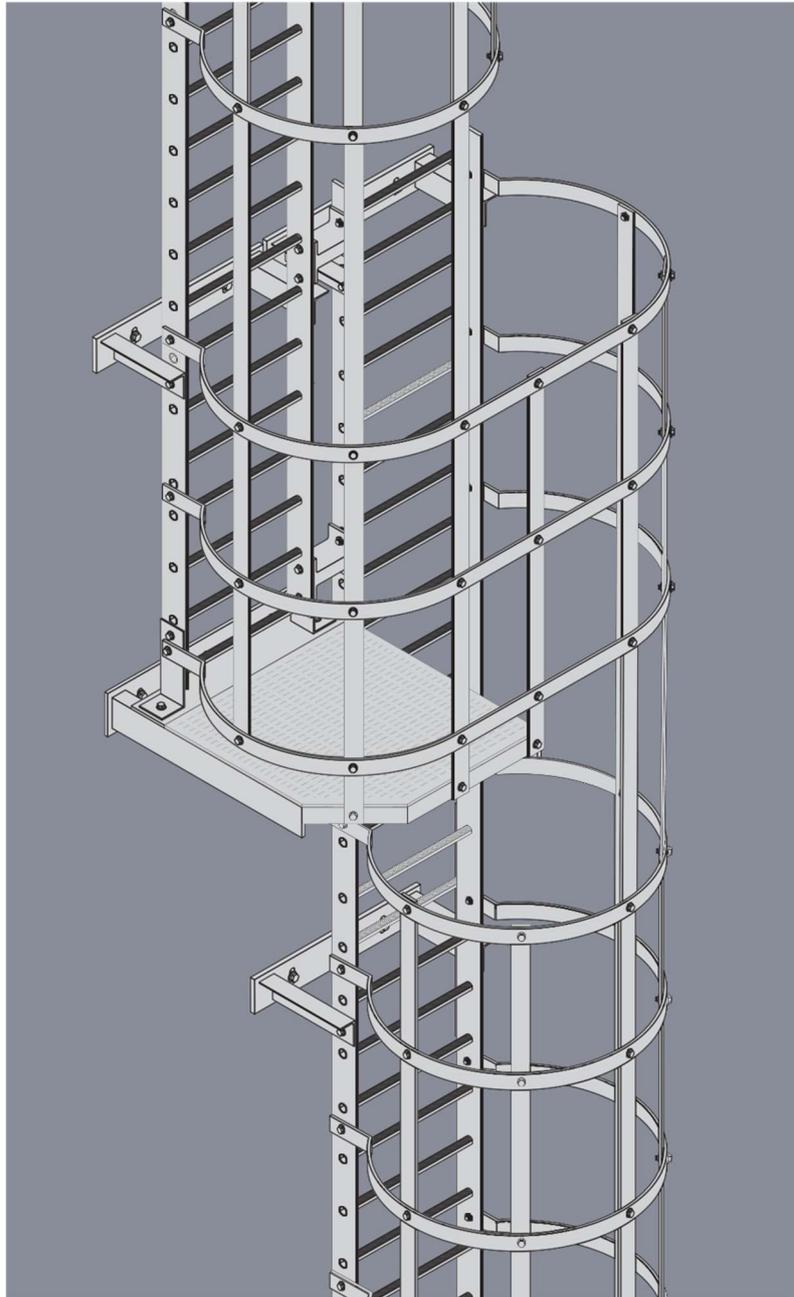
Where there is a requirement for access to a building necessitating a ladder over 10 m, a transition platform is required.

### Build Advice

- Install the two ladders, ensuring they are joined.
- Then fit the transition platform/s to the base of the upper ladder.
- Then install the “double hoops” and spines to the transition platform. Continue working down the ladder installing hoops and spines as you progress.

### SPECIFIC PARTS TO CHECK:

- Once the two ladders are joined (*action 1*) – ensure the “double hoop” connection holes are level.



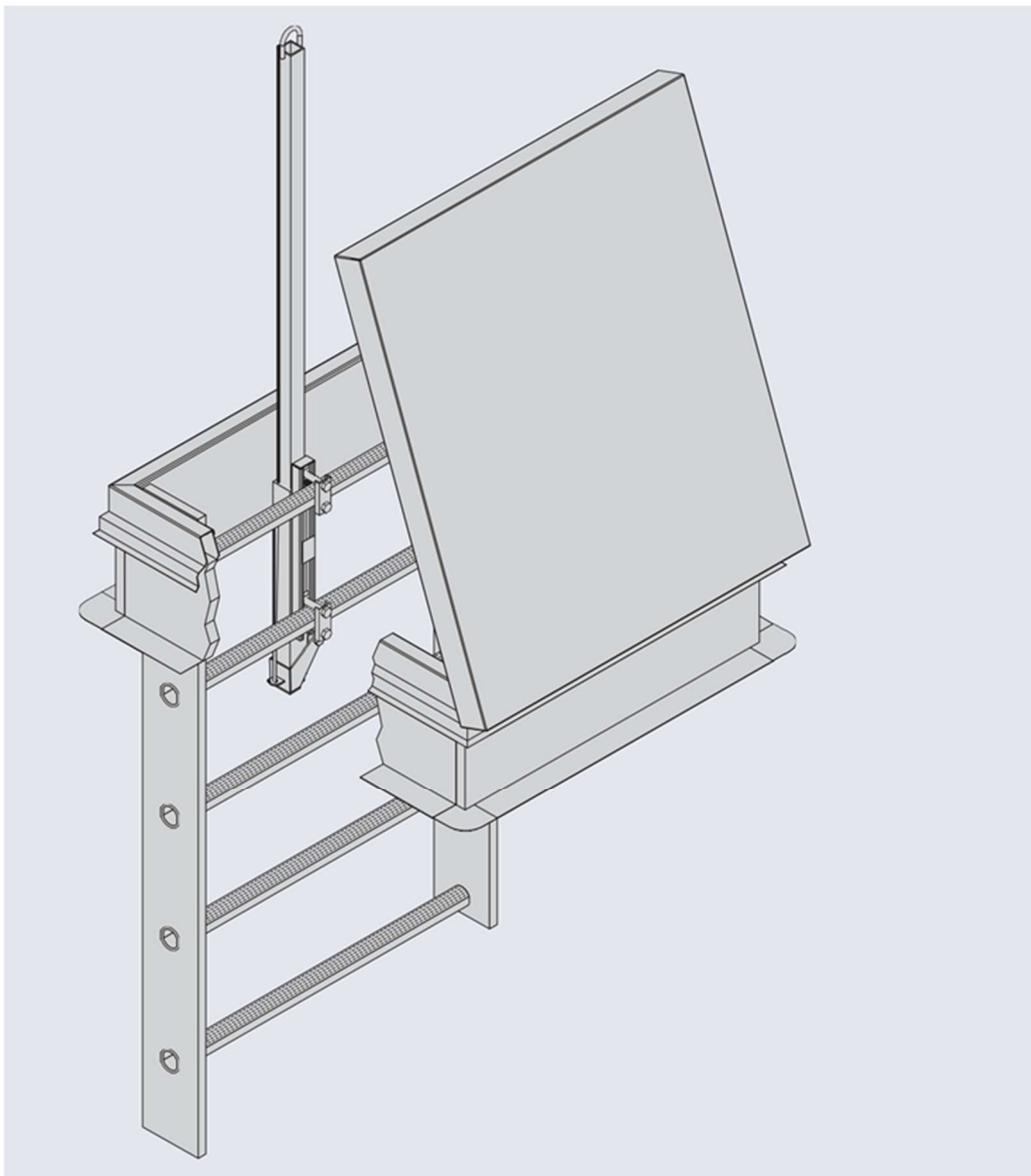
Transition Platform System

## LADDER UP POST FOR INTERNAL HATCHES

The fixed position of a ladder to a hatch is usually dictated by the fixing position at the head. Where the fixing at the head is to the hatch trimming steel/beam ensure that a minimum gap of 150mm is left between the rung and the trimming steel/beam. Fit the ladder as detailed in the previous pages.

### Build Advice

- Fit the ladder up post to the back of the ladder rungs following the installation guide provided.



Ladder up post for Internal Hatches

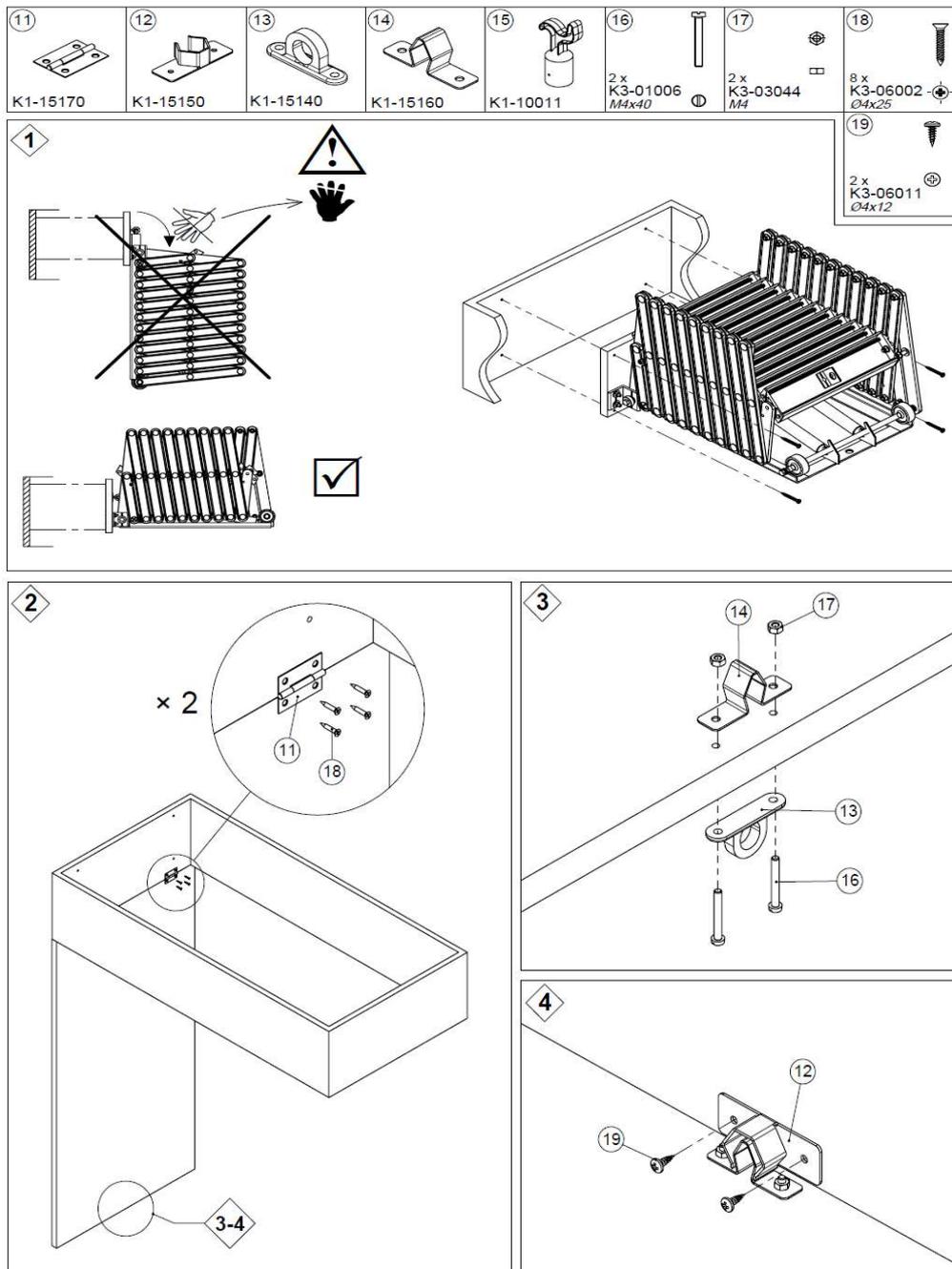
## Concertina Loft Ladder

### Size Options.

CTL01 9 TREAD UP TO 2.41M

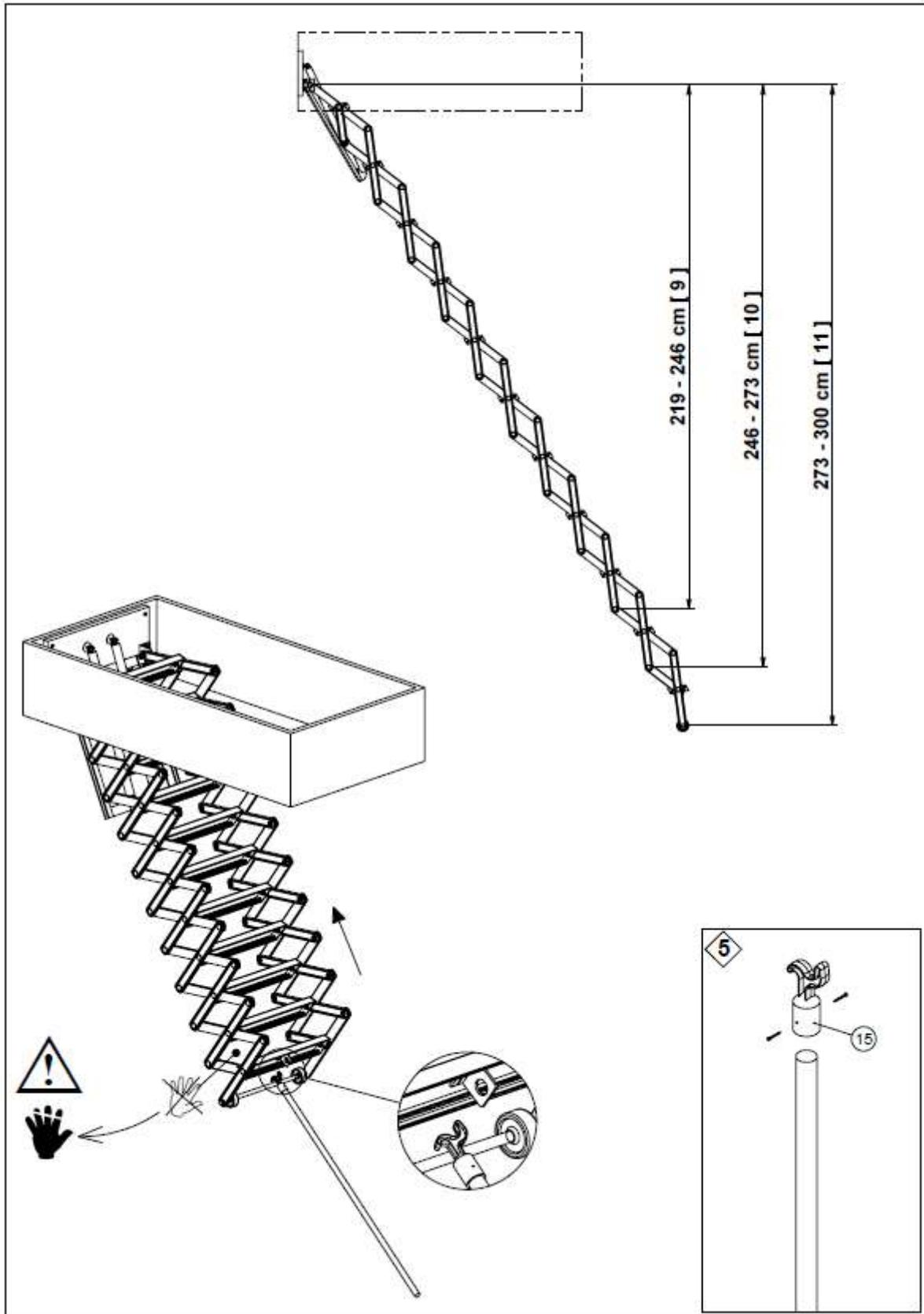
CTL02 10 TREAD 2.44-2.67M

CTL03 11 TREAD 2.69-2.92M



R1-99410-01 / 26-06-2009 / Rev. 22-11-2012

# DE-FENCE



# DE-FENCE



# DE-FENCE

## About Us

AOV Systems covers the entirety of the UK. We offer an exciting range of Smoke Ventilation, Natural Ventilation, Control Panels, Roof Access Hatches, Gated Handrails, Louvres and Rooflights. Offering supply only as well as supply and installation packages.

## Contact

AOV Systems Ltd

Unit G11

Woodroyd Mills

Cleckheaton

WF15 6PS

Tel: 01494 266652

Email: [info@AOV-Systems.com](mailto:info@AOV-Systems.com)

Web: [www.AOV-Systems.com](http://www.AOV-Systems.com)

