

**FABA**<sup>TM</sup>

# Fall protection system

AL2 MOBIL-F system

## Installation and Operating Manual



This manual must always be available to the personnel authorised to use the system.

Other copies can be ordered.

 **Tractel**<sup>®</sup>

[www.tractel.com](http://www.tractel.com)



# Information about this manual

## Date of issue

2<sup>nd</sup> Edition: 03.2013

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# 1. Definitions and symbols used in the manual

## 1.1 Definitions

The significances of the following terms used in this manual:

“Climbing protection system”: Safety device including all of the necessary parts

„technical expert“: „**A person** who, in view of his or her expert training and experience, has sufficient knowledge in the field of personal safety equipment as a protection against inadvertent falling and who is familiar with the current and valid government safety at works regulations to the extent that he or she can evaluate the safe working conditions and correct application of personal safety equipment dsigned to protect against inadvertent falling.

“Operator”: Person or company in charge of operating the product for the job it is intended for. Do not confuse with “User”.

“Technician”: Qualified person in charge of the maintenance operations, competent in the use of the product and conversant with it as assigned to the user by the manual.







“User”: Person or company responsible for the management and the safety of use of the product described in this manual.

„PPE“: personal protective equipment, e.g. safety shoes, gloves

„PPE against falls from a height“: Personal protective equipment against falls from a height, e.g. safety harness, fastener

## 1.2 Symbols in use

The significances of the following symbols used in this manual:

Symbol	Signal word	Meaning	Possible damages if not observed
<b>SAFETY INSTRUCTIONS</b>			
	<b>Danger</b>	possible threatening <b>danger</b> :	<b>Death, severe or light injury!</b>
	<b>Important</b>	possible dangerous <b>situation</b> :	<b>Failure or damage to the product</b>
<b>Commandments</b>			
	None	Information about written documentation	None
	None	Instruction for the use of PPE agianst falls from a height	<b>Death, severe or light injury!</b>
	None	Instruction for reading the documentation	<b>Death, severe or light injury!</b>
<b>Additional Information</b>			
	<b>Note</b>	Important: Useful Information for best use of the product	None

## 1.3 Safety information



# Danger!

### Death, severe or light injuries, caused by improper use

- follow all instructions as stipulated in this manual



- a) Installation and/or operation of the climbing protection system must only be performed by persons who are fully trained. They must be authorised by their employer to carry out the relevant tasks.
- b) The authorised installation and operating personnel must be in good health and at least 18 years old. They must know the relevant accident prevention regulations and be trained accordingly. They must have read and understood this installation and operating manual. They must have been trained in how to use "Personal safety harnesses against falling". 
- c) A copy of this installation and operating manual must always be kept close to hand and readily available to the authorised personnel.
- d) In case more than one person is entrusted with the above mentioned tasks, the employer must appoint a supervisor who is authorised to issue instructions.
- e) **All of the personnel who will be using the climbing protection system must always wear personal protective equipment against falls from a height** whilst working and this must be secured to a slider. 
- f) Communication devices, e.g. mobile telephones, must be carried in case an emergency arises.
- g) Only climbing protection systems, sliders and fasteners must be used.
- h) All of the parts must be inspected to verify that they are complete and working correctly.
- i) The user must be mentally and physically suited for working at heights.
- j) You must ensure that the support structure has an adequate load bearing capability prior to installing the climbing protection system.
- k) If a fault or damage is detected **during use**, or circumstances arise that will **endanger your safety**: **you must stop work immediately** and inform the supervisor or the contractor!
- l) Damaged parts must never be used and they must be replaced immediately.
- m) If any of the **load bearing parts** are repaired or replaced, **an expert must check the system to ensure that it works safely**.
- n) The use of non-original parts will invalidate the manufacturer's warranty as well as the CE approval.
- o) You are forbidden to make modifications, conversions or to remove parts of the climbing protection system.
- p) The manufacturer does not accept liability for any damage caused by converting or modifying the equipment or using non-original spare parts unless written approval was obtained from the manufacturer beforehand.
- q) Do not use the system or install it if the wind is very strong or gusting.
- r) We recommend that the climbing protection system is only used up to a maximum height of 12 m. Handling is restricted at heights above this.
- s) Do not install or use if ice is present.

Fig. 1 Bottom ladder

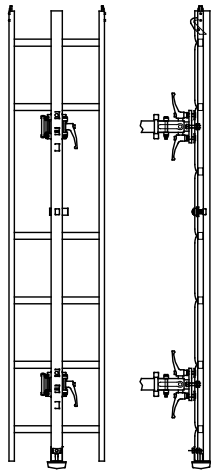


Fig. 2 Middle ladder

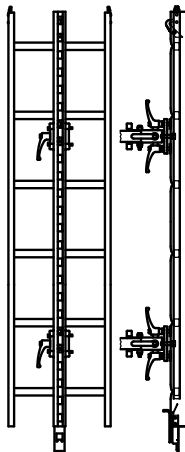


Fig. 3 Top ladder

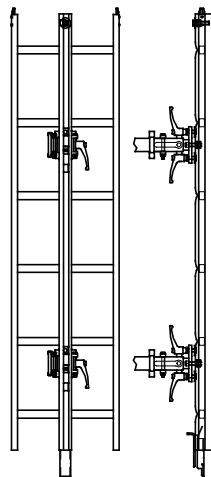
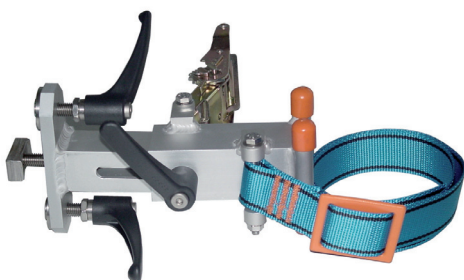


Fig. 4 securing device



## 2. Presentation

### 2.1 Delivery conditions and format

#### 2.1.1 Delivery conditions

The safety catches, slider, support feet and detachable catches are prefitted to the ladder sections. The securing devices are supplied as preassembled units and must be fitted to the ladder sections before being used.

#### 2.1.2 Scope of delivery

The package (depending on the ladder configuration ordered) consists of:

- Bottom ladder section (Fig. 1)
- Middle ladder section (Fig. 2)
- Top ladder section (Fig. 3)
- securing device (two for each ladder section) (Fig. 4)

#### 2.1.3 Documentation

The following documents are supplied with the climbing protection system:

- Installation and operating manual including checklist
- Declaration of Conformity

## 2.2 Product description

### 2.2.1 Definition and purpose of use

The FABATM AL2 MOBIL-F climbing protection system has been developed to ensure that you do not fall when climbing on vertical masts. It is transportable and is attached to the mast on site.

### 2.2.2 Mode of operation

Our AL2 MOBIL-F system consists of separate ladder sections, which are identical in construction to our AL2 system ladder sections. The ladder sections are equipped with fixed securing devices, which are also fitted with safety belt and pawls. This ensures flexible use on different masts, without fixed securing devices having to be used with them. Each ladder section is also fitted with a safety catch or a fixed catch at the top as well as a support foot or a push-in joint, depending on the version (top, middle or bottom).

The ladder section is placed on the mast on site and secured to the mast by the lashings, i.e. the safety belt and pawls.

### 2.2.3 Limits

Our FABA™ AL2 MOBIL-F climbing protection system is used solely to protect the user against falling when climbing vertical masts.

You are forbidden to use the climbing protection system for transporting or lifting loads.

It can be used on masts with diameters of 88 mm or more, even if the mast diameter changes over its length. The difference between the maximum and minimum diameters must not exceed 130 mm (maximum) in a climbing way. We recommend that our FABA™ AL2 MOBIL-F climbing protection system is only used up to a maximum height of about 12 m. Handling is restricted at heights above this.

## 2.3 Regulations and Standards

### 2.3.1 Implementation

The FABA™ AL2 MOBIL-F climbing protection system must be inspected and released for use after it has been assembled correctly. The inspection result must be documented in the checklist in the Appendix.

Furthermore, the regulations and legal instructions listed in Section 2.3.3 are also applicable. Other national regulations must also be taken into account.

### 2.3.2 Maintenance and inspections

Maintenance and repair work is only to be undertaken by technicians from Tractel Group. The repeat inspections must be undertaken by an expert. The inspection result must be documented in the checklist in the Appendix (see Definitions and Chapter 12).

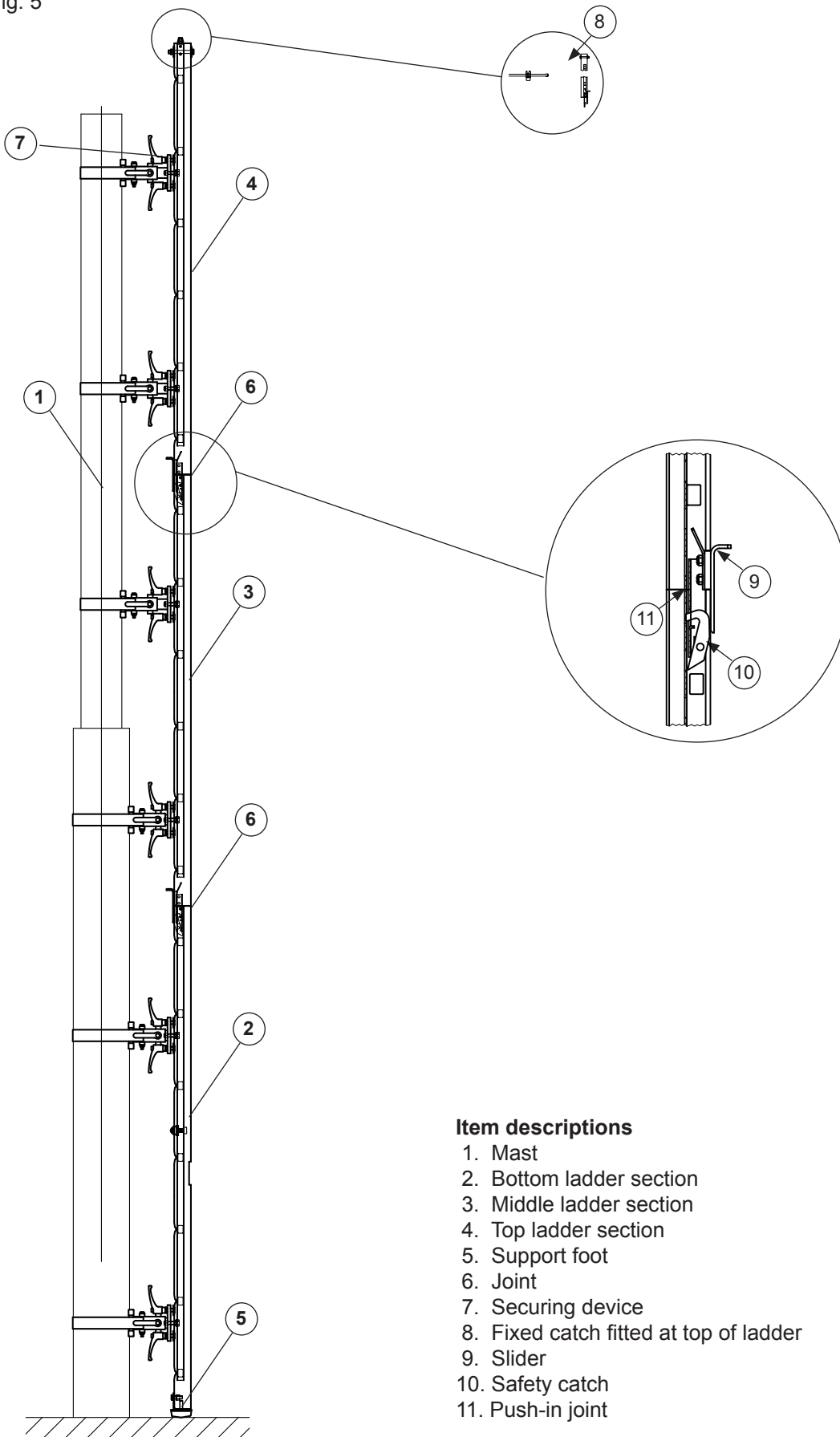
### 2.3.3 Statutory provisions

EEC 89/686	Directive covering personal protective equipment ratings
EN 353-1	Personal protective equipment used against falls from a height, climbing protection system fall arresters including a rigid anchor line
EN 354	Lanyards
EN 355	Energy absorbers
EN 358	Belts for work positioning and restraint and work positioning lanyards
EN 361	Full body harness
EN 362	Connectors
EN 363	Arrest systems
EN 364	Testing Procedures
EN 365	Instructions for use and marking

### 3. System components – Parts

#### 3.1. System overview – ladder mounted on a mast

Fig. 5



#### Item descriptions

1. Mast
2. Bottom ladder section
3. Middle ladder section
4. Top ladder section
5. Support foot
6. Joint
7. Securing device
8. Fixed catch fitted at top of ladder
9. Slider
10. Safety catch
11. Push-in joint

Fig. 6

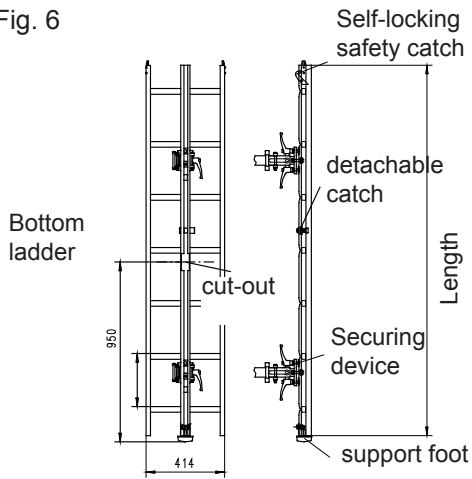


Fig. 7

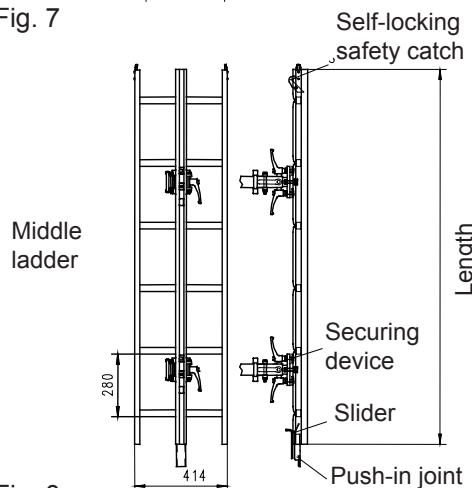


Fig. 8

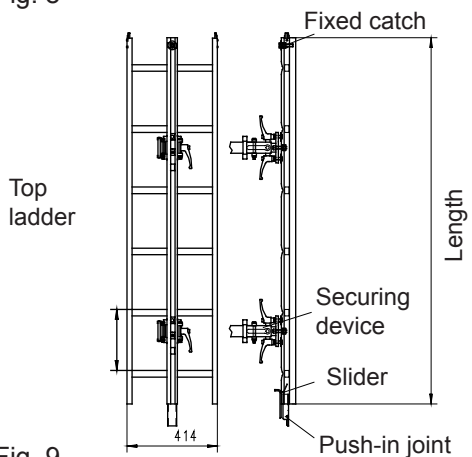
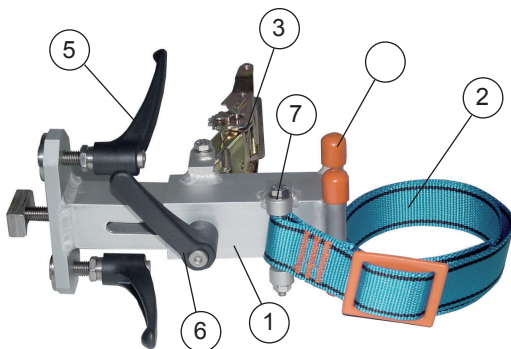


Fig. 9



## 3.2 Elements

### 3.2.1 Ladder parts

a) bottom section (Fig. 6):

- Length 1,960 mm
- Bottom fitted with support foot for positioning the ladder
- With cut-outs and detachable catch for installing and removing an AL-D or Grip slider
- Top fitted with self-locking safety catch

Material: Aluminium

Weight: 11.5 kg

b) Middle section (Fig. 7):

- Length 1,680 mm or 1,960 mm
- Bottom fitted with push-in joint, which the safety catch locks into
- Top fitted with self-locking safety catch

Material: Aluminium

Weight: Length 1,680 mm: 10.5 kg

Length 1,960 mm: 11.5 kg

a) Top section (Fig. 8):

- Length 1,680 mm or 1,960 mm
- Bottom fitted with push-in joint, which the safety catch locks into
- Top fitted with fixed catch

Material: Aluminium

Weight: Length 1,680 mm: 10.5 kg

Length: 1,960 mm: 11.5 kg

### 3.2.2 Securing device

The securing device (Fig. 9) is mounted on the back of the ladder section (2 for each ladder section) and these enable a safety belt to be used to secure the ladder section to the mast.

Weight: 2.2 kg.

Components:

Securing device (1)

Safety belt (2)

Pawl (3)

Protective caps (4)

Locking lever (5)

Locking lever with bolt (6)

M8 hexagonal nut with locking piece (7)

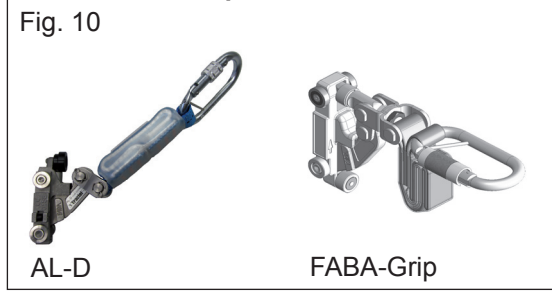


### 3.3 Technical data and weight

The specifications and the weights can be found in the individual part descriptions

### 3.4 Components of the climbing protection system

#### 3.4.1 AL-D or Grip slider



The AL-D or Grip (Fig. 10) slider must be installed at the bottom of the first assembled ladder. They are used as a personnel safety device. Each slider must be used for securing a single person only to the climbing protection system via a safety harness. A maximum of two people can be secured to the system at the same time. The slider accompanies the user over the complete path by running along automatically.

## 4. Additional accessories

### 4.1 Personal protective equipment against a fall from a height

Anyone who is working on the climbing protection system must have their PPE permanently connected. The PPE is not part of the climbing protection system package. However, it must comply with all the regulations and standards. The PPE, which is supplied to ensure safety on the climbing protection system, must allow the user to move freely and without any restrictions. You are only allowed to leave the climbing protection system when it is in a safe place where you cannot fall off.

## 5. Checklist


A checklist must be completed, in which the following details must be checked:

- Inspections, maintenance and troubleshooting

The checklist can be found in the Appendix to this installation and operating manual and it must be kept safely by the system operator.

## 6. Installation and maintenance

- The customer must confirm that the mast has an adequate load bearing capability rating.
- The round mast must have a minimum diameter of 88 mm.
- You must ensure that there is adequate inherent safety present during the installing and dismantling processes (see below).
- The tightening straps must never be pulled across or lashed around sharp objects.

Technician's personal safety harness 	<ul style="list-style-type: none"><li>– Slider AL-D or Grip</li><li>– Approved harness</li><li>– Safety line with fall arrester</li><li>– Work positioning lanyard</li><li>– Helmet</li><li>– Industrial safety gloves</li><li>– Safety shoes</li></ul>
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### 6.2 Required tools and devices

No special tools or appliances are needed for the installation.

### 6.3 Inspection of the scope of delivery

Use the delivery note to check that the package is complete before starting the assembly.

The parts must not be bent or damaged in any way. Before starting the assembly you must check operation and functionality by ensuring that the mechanical parts and the manually operated attachment parts are in perfect working order and function correctly.

Any damaged parts that are found must not be repaired or used. They must be replaced by original parts.

Fig. 11

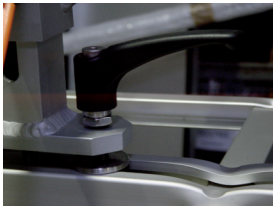


Fig. 12



Fig. 13

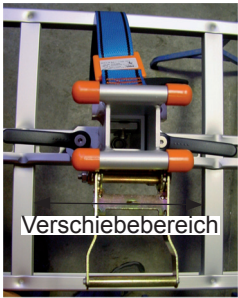


Fig. 14

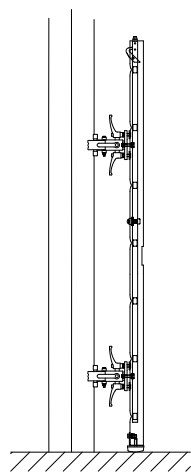


Fig. 15



Fig. 16

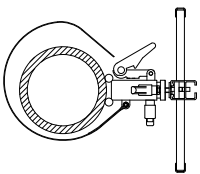


Fig. 17

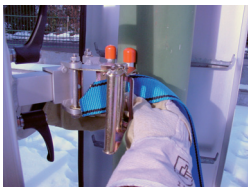


Fig. 18

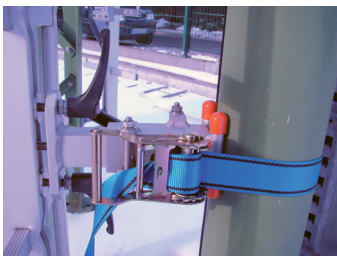
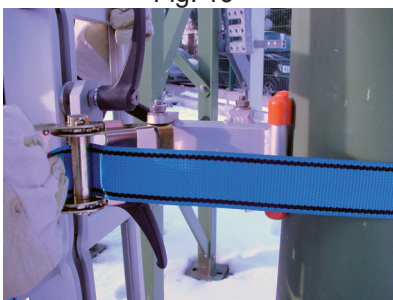


Fig. 19



## 6.4 Installing the climbing protection system

### 6.4.1 Fitting a securing device to the ladder

1. You must ensure that the pressure piece has been released.
2. Turn the securing device by 90° and place it on the back of the ladder (Fig.12).
3. Turn the securing device by 90°.
4. Use the locking lever to tighten up the pressure piece.

### 6.4.2 Moving a securing device

1. Undo the locking lever (Fig. 11).
2. Turn the securing device by 90° and remove it from the rail.
3. Refit as described in Section 6.4.1.

### 6.4.3 Readjusting a securing device (Fig. 13)

1. Undo the pressure piece at the back of the rail.
2. The securing device can be moved in between two rungs.
3. Now use the locking lever to tighten up the pressure piece in the new position.

### 6.4.2 Fitting the bottom section of the ladder

1. The ladder section with the support foot must be positioned on the mast so that it is aligned with all of the securing devices on the mast (Fig.14).
2. You must ensure that the ladder is aligned vertically (Fig.15).
3. Use the safety belt to secure the ladder to the mast afterwards (Fig. 16).
4. The pawl must be open in this case. You must ensure that the slit in the pawl axis is visible.
5. Push the end of the strap with the slit in it from behind so that it goes down through the slit in the axis and then tighten up. The strap must be tight around the mast. You must ensure that the safety belt is not twisted (Fig.17).
6. The end of the safety belt will be held tightly and you can now move the pawl lever backwards and forwards to tighten the safety belt (Fig. 18).
7. When both of the ladder section's safety belts have been tightened up around the mast, the pawl can be folded inwards and the loose end of the safety belt can be left to hang down, in order to prevent it from being trodden on (Fig.19).

Fig. 20



Fig. 21

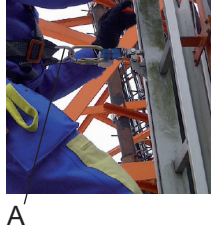


Fig. 22



Fig. 23

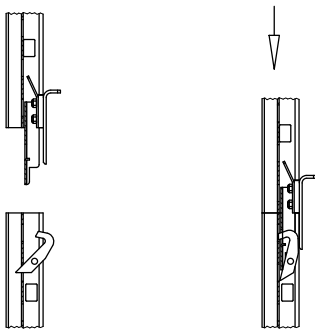


Fig. 24



### 6.4.3 Fitting the middle section of the ladder

1. Fasten the slider AL-D or Grip on the front attachment loop "A" of the personal safety harness.
2. Insert the slider attached to the safety harness in the cut-out in the rail in the bottom section of the ladder and move it over the detachable catch (Figs. 20 + 22).
3. Climb onto the ladder and then use an additional lanyard to secure yourself to the mast (Fig. 24).
4. Lift up the middle ladder section, place in on the mast and then use the push-in joint to slot into the lower section of the ladder (Fig. 23).
5. Tighten the lower safety belt on the middle ladder section as described in Section 6.4.4 (5 – 7). You must ensure that the ladder is aligned vertically.
6. Undo the lanyard and then climb up to where you can manually access the upper securing device (Fig. 24).
7. Use the lanyard to secure yourself and then tighten the safety belt on the second securing device as described in Section 6.4.4 (5 – 7).

Other middle ladder sections are installed as described in Section 6.4.3.

### 6.4.4 Fitting the top section of the ladder

The upper ladder section is installed in the same way as the middle ladder section (Section 6.4.4). You must ensure that a fixed catch has been fitted at the top.

## 6.5 Inspecting prior to initial use



*The inspection results must be written down and kept in a safe place.*

A qualified expert must undertake and document the inspection in accordance with the checklist.

## 7. Operation

For ascending the climbing protection system, the slider AL-D or Grip is inserted into the bottom ladder element from below. The properly fitted PPE against falls from a height must have been connected to the slider beforehand. The climbing protection system can now be climbed without you falling off. Other safety and operating conditions can be found in the operating manual provided with the slider.

## 8. Rescue operations

This system must have a rescue plan. This plan has to include all possible emergencies than may occur while working with the climbing protection system. The casualty must be rescued within 15 minutes. Otherwise the casualty's life will be endangered.

## 9. Application, misuse and handling

### 9.1 Application in accordance with regulations

The climbing protection system uses the most up-to-date technology and complies with all of the safety regulations applicable at the time it was launched on the market and these are covered by the authorised use regulations. The design cannot prevent neither predictable misuse nor the residual dangers without restricting the authorised functionality.

Information about the inherent dangers is given by special warnings mounted directly on the climbing protection system and/or in the technical documentation.

The climbing protection system must always be used in compliance with the details given in the technical documentation. Any non-authorised utilisation or activities undertaken using the climbing protection system that are not described in this manual are forbidden and constitutes misuse outside the legal liability limits applicable to the Tractel Group.

At least two people must be present on site when the system is being installed, used or dismantled.

### 9.2 Forseeable misuse or handling

Your safety is always guaranteed if the climbing protection system is used in accordance with the details stipulated in the technical documentation. Incorrect use will endanger your safety and must be avoided at all times:

- Never allow more than 2 people to be secured by the climbing protection system at the same time.
- Never use another slider or similar element in the climbing protection system other than the original FABATM slider AL-D or Grip.
- Never test the climbing protection system by deliberately inducing a fall.
- Never use force to try and pull the slider over an obstruction in the running rail.
- Never use ladder sections that were last inspected more than 12 months previously (date of the last inspection).
- The FABATM climbing protection system is only to be used for assembling ladders from the bottom to the top.

## 10. Dismantling the climbing protection system

Fig. 25



Fig. 26



Fig. 27

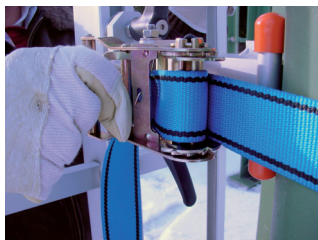
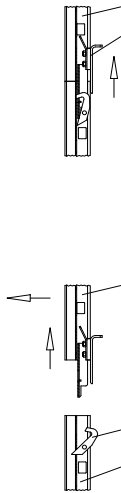


Fig. 28



The climbing protection system must be dismantled from the top downwards.

1. Climb up to the top section of the ladder. The user must secure himself to the mast using a lanyard (Fig. 25).
2. Undo the upper securing device's safety belt. In this case you must fold back the pawl and pull the lever in the pawl handle. The safety belt can now be pulled out of the pawl (Fig. 26 + 27).
3. Climb downwards until the slider sits beneath the safety catch that lies underneath the ladder section.
4. Release the top ladder section's lower securing device's safety belt. Push the top ladder section slider upwards. This will release the upper ladder's push-in joint. The safety catch (joint area) will simultaneously lock the ladder section underneath against inadvertently detaching from the slider.
5. Remove the top ladder section (Fig. 28).
6. Dismantle the other ladder sections as described in Sections 1 – 5.
7. When the ground and a safe position is reached, the detachable catch will open and the slider can be removed from the rail.
8. The securing device lashing belt can be released afterwards and the ladder section with the support foot can then be removed from the mast.



A lanyard must remain attached to the mast during the entire dismantling process.

## 11. Transport and storage of the the climbing protection system

The climbing protection system serviceability must always be checked after it has been used and it must also be inspected for any signs of damage. The climbing protection system must be cleaned if it was dirtied during use.

The ladder section must be dry when stored and kept in temperatures ranging from  $-10^{\circ}\text{C}$  to  $+40^{\circ}\text{C}$ . Transport and storage must be undertaken so that parts cannot be damaged.

The safety belts must never come into contact with aggressive materials (acids, paint, fire, heat, etc.). If the safety belts do come into contact with such materials, then the safety belts must be inspected immediately and replaced whenever necessary (to be undertaken by the manufacturer).

## 12. Maintenance and troubleshooting

Use the checklist to check out the climbing protection system at least once every 12 months.

These checks must always be run before the system is reused if a fault occurred during use or if somebody fell off.

Damaged parts must be replaced by original spare parts.

## 13. Ordering parts

Use the relevant climbing protection system part catalogue for ordering the parts.

Place your order with your authorised dealer or a member of the worldwide Tractel Group (see last page).

AL2 MOBIL-F system	Installation site:	Installation date



**A technical expert must undertake the inspection of the climbing protection system  
This documentation must be used for the implementation and once a year afterwards.**

The checklist must be completed in full during the inspection and signed afterwards	Imple- men- tation	1. year	2. year	3. year	4. year	5. year	6. year
Inspection date							
Expert's name							

## Visual inspection

### All ladder parts

Rail, side-rail, rungs are not bent							
Inside of the rail is not dirty?							
Fixed catch fitted at top?							
Detachable catch fitted in bottom ladder section?							
Support foot fitted to bottom ladder section, not damaged?							
All safety catches fitted at the top (all bottom and middle ladder sections)							
All push-in joints and sliders fitted at the bottom (all top and middle ladder sections)							

### Securing device

Safety belt not damaged?							
Safety belt ID is visible?							
Safety belt not damaged?							
Pawl not damaged, device complete?							

## Functional test

Install the climbing protection system in accordance with the installation and operating manual and then check the following:

### All ladder parts

Detachable catch at bottom works?							
Safety catch and slider functions: safety catch locks in?							
Fixed catch at top?							

### Securing device

Permanently connected to the ladder							
Check that the pawl and strap work on each device							







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