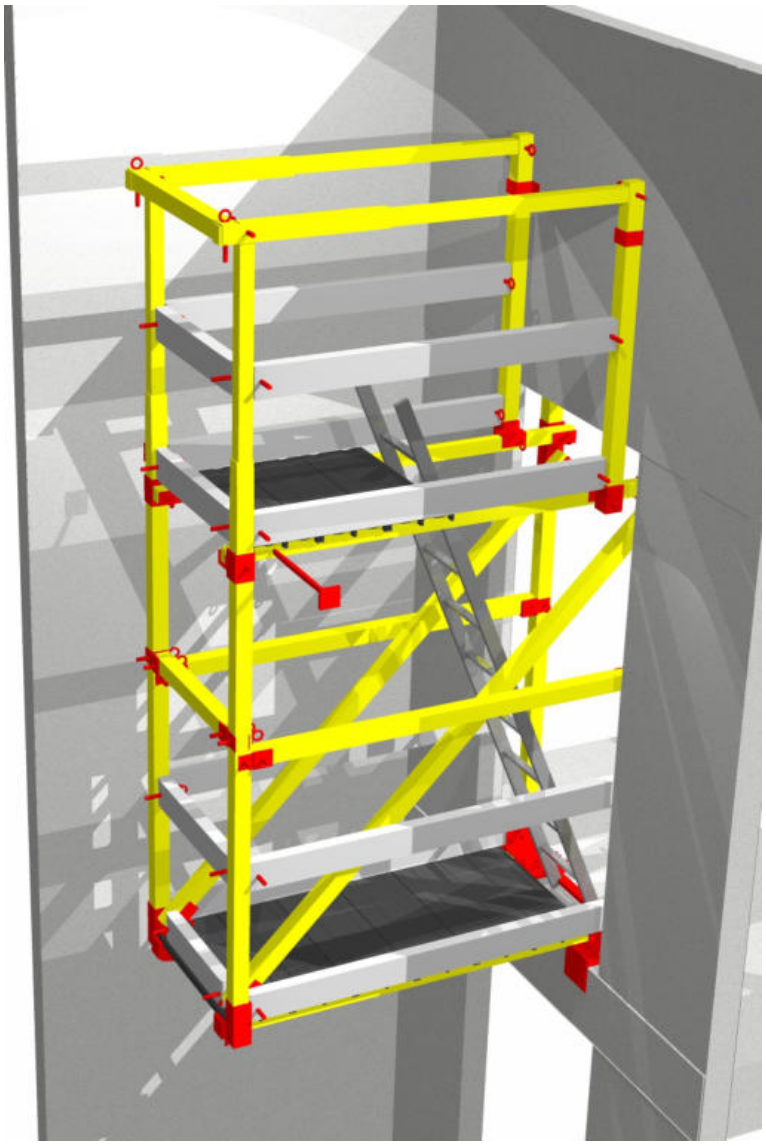
Installation and usage instructions



Stingl - *mobil PANO*

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1. General

1.1 Introduction

These assembly and use instructions apply only for the STINGL MOBIL PANO scaffolding approved as indicated in section 1.3.

The safety notes, rules and regulations in these assembly and usage instructions that relate to the operation of STINGL MOBIL PANO scaffoldings apply to the product in this documentation.

It is the responsibility of the operator to:

- ensure that local, regional and national regulations are observed,
- observe the rules (legislation, regulations, guidelines etc.) in these assembly and usage instructions
- ensure that the assembly and usage instructions are made available to personnel and that the information, notes, precautions and safety rules are observed in all aspects

1.2 Distributor/Manufacturer

Manufacturer:
Stingl Systems GmbH
Dimbacher Strasse 25
74182 Obersulm
GERMANY

Phone +49-7134-13797-13
Fax +49-7134-13797-11
info@stinglonline.de
www.stinglonline.de

1.3 Homologation

The following STINGL MOBIL PANO working scaffold has been tested and certified by TÜV Rheinland. Certificate Number S 60158422.

1.4 Warranty

The scope and period of warranty are stated in the sales and delivery conditions of the distributor. For any warranty claims based on deficiencies in the documentation, the assembly and usage instructions valid at the time of delivery shall apply (see section 1.5). The following applies beyond the scope of the sales and warranty conditions: no warranty shall be given for damage to the delivered STINGL MOBIL PANO scaffold which may be due to one or more of the following reasons:

- ignorance or non-observance of these assembly and usage instructions,
- insufficiently qualified or instructed operating personnel,
- use of non-genuine replacement parts.

The operator/owner must ensure that,

- the safety rules in section 2 are observed,
- any applications for which STINGL MOBIL PANO was not approved as well as an incorrect assembly and unauthorised use are excluded,
- that an approved utilization is ensured and the STINGL MOBIL PANO scaffold is used in accordance with the contractually agreed operating instructions.

1.5 Issue no. and/or date of issue

The date of issue of these assembly and use instructions in English is 21 February 2020.

1.6 Copyrights and patents

- The copyright for these assembly and usage instructions remains with the manufacturer.
- The following patent application publication on STINGL MOBIL PANO is in place:
  PCT / EP 02 / 07764
- Any violations of these conditions will require compensation.

2. Safety

2.1 Warning!!!

IMPORTANT SAFETY RULES

Serious injury or death can result from your failure to familiarize yourself with and comply with all applicable safety requirements of federal, state and local regulations and these safety guidelines before erecting, using or dismantling this scaffold.

- Never move a STINGL scaffold when anyone (or any material) is on it.
- If in doubt as to the ability of a STINGL scaffold to handle any particular job, write or telephone for instructions. Don't take chances.
- Never use any STINGL scaffold that is damaged or improperly erected. Do not force parts that do not fit freely.
- Never interchange STINGL scaffolding components with components from a different manufacturer.
- Each employee using the platform must be familiar with the national health + safety advices.

2.2 Safety instructions

1. STINGL MOBIL PANO shall be erected, moved, dismantled, or altered only under the supervision and direction of a competent person qualified in scaffold erection, moving, dismantling or alteration. Such activities shall be performed only by experienced and trained employees selected for such work by the competent person.
2. The job site should be inspected to determine ground conditions or strength of supporting structure, and for proximity of electric power lines, overhead obstructions, wind conditions, the need for overhead protection or weather protection coverings. These conditions must be evaluated and adequately provided for.
3. STINGL MOBIL PANO shall not be erected or used in the immediate vicinity of power lines or electrical conductors until such are insulated, de-energized, or otherwise rendered safe against accidental contact.
4. It must be ensured that no elevator is operating while the working platform is in use.
5. Before using STINGL MOBIL PANO, check the individual parts for damage or wear. Do not use the parts if they are worn.
6. Any STINGL MOBIL PANO scaffold that has been damaged or weakened from any cause shall be immediately removed from service and shall not be used until repairs have been completed.
7. Never modify the original parts. The contractor must ensure that installation, conversion and removal work can be performed without the persons insured running any risk of falling.
8. Hard hats must be worn by all persons erecting, moving, dismantling or using scaffolding.
9. Each employee shall be protected by the use of personal fall arrest systems or guardrail systems.
10. Employees shall be prohibited from working on the scaffold if covered with snow, ice, or other slippery material except as necessary for removal of such materials.

11. Where swinging loads are being hoisted onto or near STINGL MOBIL PANO such that the loads might contact the scaffold, tag lines or equivalent measures to control the loads shall be used.
12. Work on or from STINGL MOBIL PANO is prohibited during storms or high winds unless a competent person has determined that it is safe for employees to be on the scaffold and those employees are protected by a personal fall arrest system or wind screens. Wind screens shall not be used unless the scaffold is secured against the anticipated wind forces imposed.
13. Tools, materials and debris shall not be allowed to accumulate so as to create a hazard on scaffold platforms.
14. Inspect the scaffold assembly before each use to see that it is assembled correctly, that it is level and plumb, base plates are in firm contact with sills, bracing is in place and connected, platforms are fully planked, guardrails in place, safe access is provided, that it is properly tied and/or guyed and that there are no overhead obstructions or electric lines within 4 m of the scaffold assembly.
15. Use only the safe means of access that is provided. Do not climb bracing or frames not specifically designed for climbing. If such access is not provided, insist that it be provided.
16. Climb Safely.
17. Face the rungs as you climb up or down. Use both hands.
18. Do not try to carry materials while you climb.
19. Be sure of your footing and balance before you let go with your hands. Keep one hand firmly on frame or ladder at all times.
20. Ladders shall not be used on STINGL MOBIL PANO to increase the working level height of employees.
21. Ladders used on the STINGL MOBIL PANO platform must comply with EN 131.
22. Do not work on slippery rungs to avoid slipping.
23. Do not overload STINGL MOBIL PANO with materials. Scaffolds shall not be loaded in excess of the design load. Manufactured scaffolds shall be used in accordance with the manufacturer's recommendations.
24. Makeshift devices, such as but not limited to boxes and barrels, shall not be used on top of scaffold platforms to increase the working level height of employees.
25. Do not remove any component of a completed STINGL MOBIL PANO scaffold assembly except under the supervision of a qualified person. Any component that has been removed should be immediately replaced.
26. Always observe federal, state and local safety and accident prevention regulations. Only allow **properly qualified and <u>trained</u> personnel** to install the scaffold.

2.3 Important points and provisions regarding the installation of STINGL MOBIL PANO:

1. The scaffolding platform conforms to German scaffold class 4 of EN DIN 12811 Part 1-3 and is authorised for a maximumuseful surface weight per unit area of 3.0 kN/m².

2. STINGL MOBIL PANO may only be mounted on sufficiently stable parts of structural works capable of taking up and passing on the forces which are produced.

3. The lintel section must be able to withstand horizontal forces of min. 3.5kN.

4. The door threshold must be able to withstand horizontal forces of min. 4.2kN and vertical forces of min 6.6kN.

5. Base plates or screw jacks with base plates must be in firm contact with both the sills and the legs of the scaffolding. Compensate for uneven ground with screw jacks with base plates. NEVER USE unstable objects such as blocks, loose bricks, etc.

6. The vertical wall with the door opening for mounting must be concrete of sufficient qualtity (wall thickness min. 100 mm).

7. The front vertical girder must extend higher than the door opening by at least 100 mm. The distance between floor and ceiling must not be shorter than 2350 mm.

8. Before setting foot on the upper work platform, at least two telescopic spacers must be mounted as per the installation instructions and extended out to the surrounding shaft wall, profiled girder or guide rails. If the spacers are placed between the working platform and existing elevator guide rails, this must be done with adapters, which can be supplied additionally.

9. It must be ensured that the spacers (telescopic rods) can be placed perpendicular to the working platform and push against the shaft wall.

10. The gap between the perimeter of the working platform and the shaft wall may not exceed 1000 mm. The following maximum shaft widths must be observed when using the platform:
    Platform width of 700 mm: maximum shaft width 2800 mm
    Platform width of 1000 mm:maximum shaft width 3100 mm
    Required minimum opening widths to ensure proper installation: platform width plus 100 mm.

11. Guardrails must be used on all open sides and ends of scaffold platforms. Top, midrails and toeboards are required.

12. All socket pins must be secured with split pins at any time.

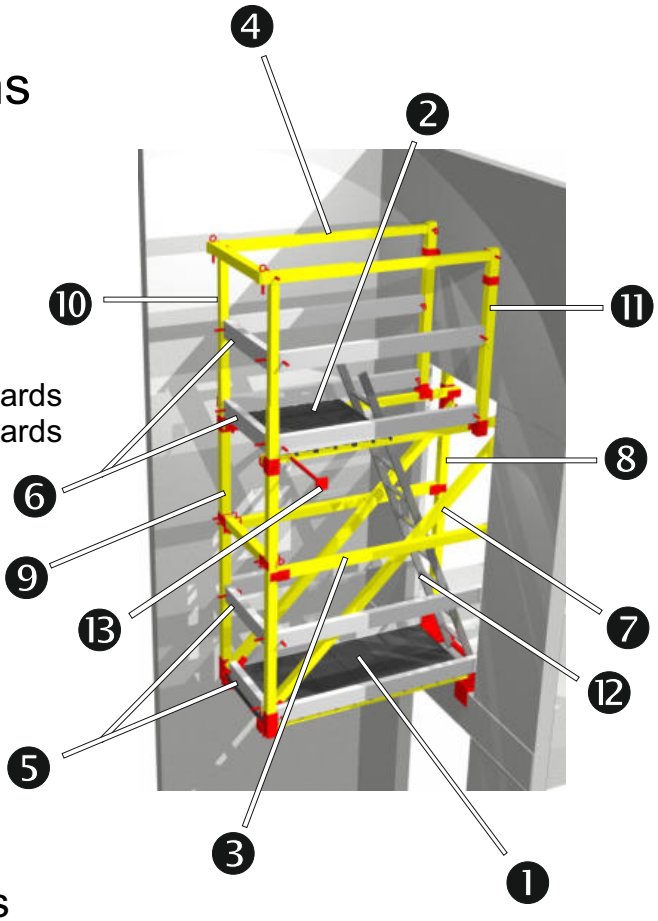
13. A detailed drawing and specifications must be kept with the scaffold on the job.

14. Safety gear for fitters like for example fall arrester, full body harness, suitable anchorage point etc. must be used in accordance with local requirements at all times during the erection, use and dismantling of the platform.

15. Be careful while handling inner and outer GRP tubes as well as guard rail sections with inner and outer parts. Interior parts might slide out easily causing damage or injuries.

3. Model-specific specifications

3.1 Overview of model



1 Lower platform
2 Upper platform
3 Lower circumferential handrail
4 Upper circumferential handrail
5 Lower circumferential midrails/toeboards
6 Upper circumferential midrails/toeboards
7 Diagonal triangle sides
8 Front vertical triangle sides
9 Lower vertical rail stanchions, rear
10 Upper vertical rail stanchions, rear
11 Upper vertical rail stanchions, front
12 Leaning ladder
13 Telescope rods

3.2 Location of identification markings

The nameplates for the work platforms described in this installation and usage manual are affixed to the diagonal sides of the triangles and on the front of the rear handrails.

Scaffold class 4
Maximum area load: 3.0 kN/m²
Manufacturer: Stingl GmbH Version: PANO

3.3 Usage range

3.3.1 Intended use

The work platforms described in this installation and usage manual may only be used as work platforms for lift shafts, in accordance with the overview for the model - see section 3.1.

3.3.2 Non-intended use

Any improper use - that is, any deviation from the specifications stated in section 3.3.1. on the work platforms described in this installation and usage manual - is classed as non-intended use. This is also the case if the standards and guidelines listed in this installation and usage manual are not observed.

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4 Erection instructions

4.1 General

Caution:
You may only begin to erect a work platform after reading and understanding the SAFETY RULES listed in section 2 in full. Only carry out the tasks listed below after reading section 2.

You mount the tube sections by inserting locking pins. Safety pins prevent the locking pins from accidentally coming loose. The locking bins must be inserted from the inside to the outside of the platform. The pre-assembly of the triangular structural parts must take place at a suitable location outside the lift shaft.

We recommend that you get help from another person to erect and disassemble the work platform.

You must be extremely careful when handling the component parts (see section 2).

Caution:
Read the relevant task specification (for example, as described in section 4.2) in full before beginning to erect the scaffold. Carry out the erection tasks step-by-step after reading the specification.

4.2 Basic setup

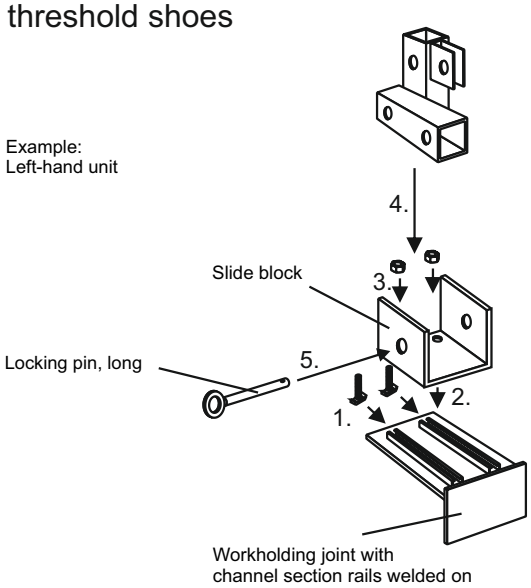
4.2.1 Preparation

Unpack all component parts of the work platform to be erected, and remove any packing material according to the instructions where necessary. Check that all component parts of the work platform are present, as described in section 6.

Read through the erection instructions listed in section 4.1., and refer to them whenever necessary when carrying out the steps below.

4.2.2 Erection

4.2.2.1 Assembling the threshold shoes



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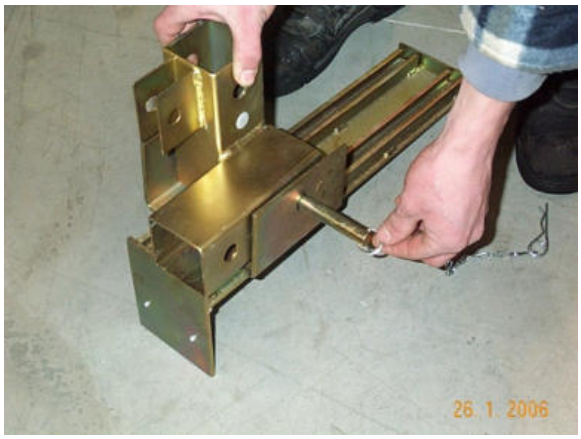

Example: right-hand unit

4.2.2.2 The position of the slide bar on the threshold bracket is determined using the right-hand unit in this example

The threshold slide (fig. 2/pos. 1) must be set to the correct measurement along the C profile rails using the front vertical side of the triangle, taking the shaft wall thickness in the door area into account.

Additional information:

- Observe the markings indicating whether components are right-hand or left-hand components
- Colour marks indicate the centre of the platform (inside)
- Insert bolts from the inside to the outside

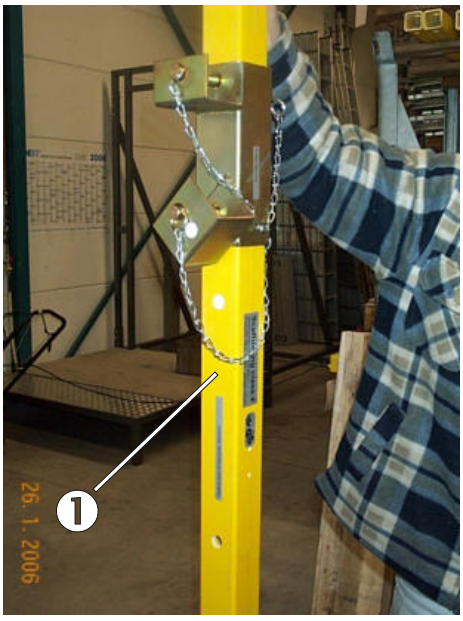

Fig. 1: Front right vertical triangle side

The front vertical triangle side (fig. 1/pos. 1) must be placed into the threshold joint (fig. 2/pos. 1) from above and fastened with a short locking pin.

Personal safety equipment (belt, fall protection equipment) must be put on before the technician approaches the lift shaft with the unit at the latest. You must ensure that the technician is secured by means of a suitable suspension point.

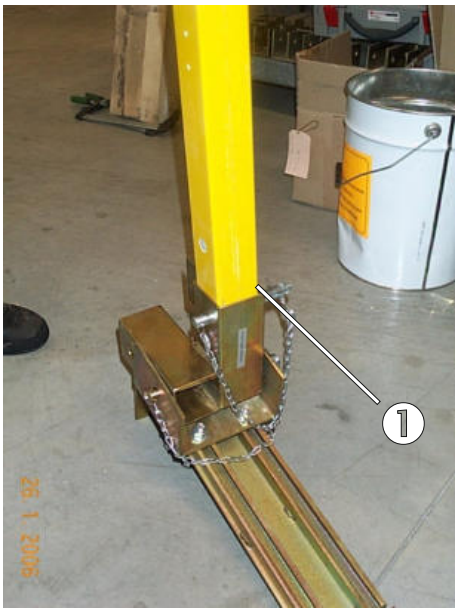

Fig. 2: Front right vertical triangle side, placed into assembled threshold joint

Place the front right vertical triangle side (fig. 3/pos. 1) incl. threshold bracket (fig. 3/pos. 2) on the threshold of the lift shaft (fig. 4/pos. 1) and move the front piece that should protrude above the lintel (fig. 5/pos. 1) into a vertical position by moving the threshold joint. Bolt into place.

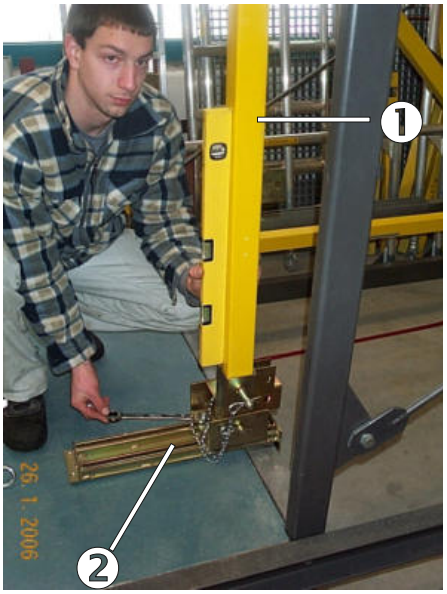

Fig. 3: Front vertical triangle side, placed into assembled threshold joint

The surface of the threshold bracket must lie flat to the threshold (fig. 4/pos. 1).

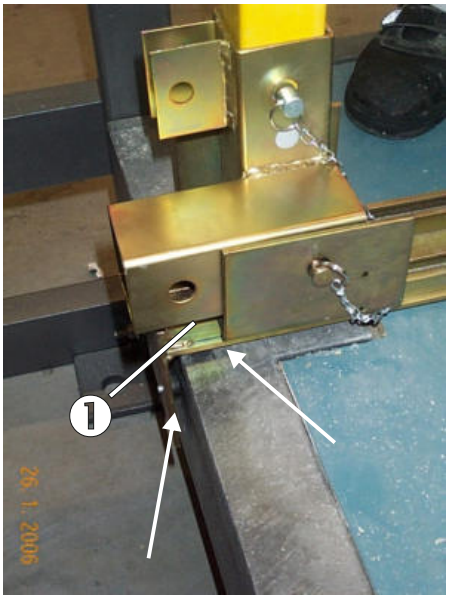

Fig. 4: Threshold bracket placed on the threshold

The front triangle side must protrude at least 100 mm above the upper lintel, and must lie flat to the lintel (fig.5/pos.1). Additional assembly steps involve taking the unit to a secure work area away from the lift shaft. The lift shaft should now be secured in accordance with local guidelines.

Proceed in the same way for the left-hand unit.

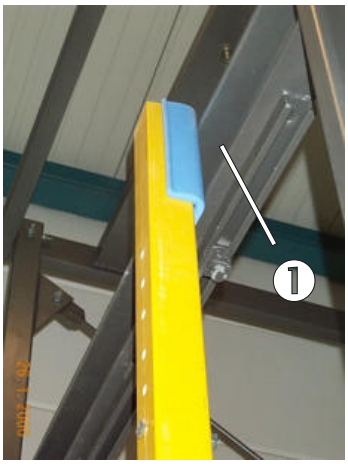

Fig. 5: Prop front vertical triangle side above the lintel

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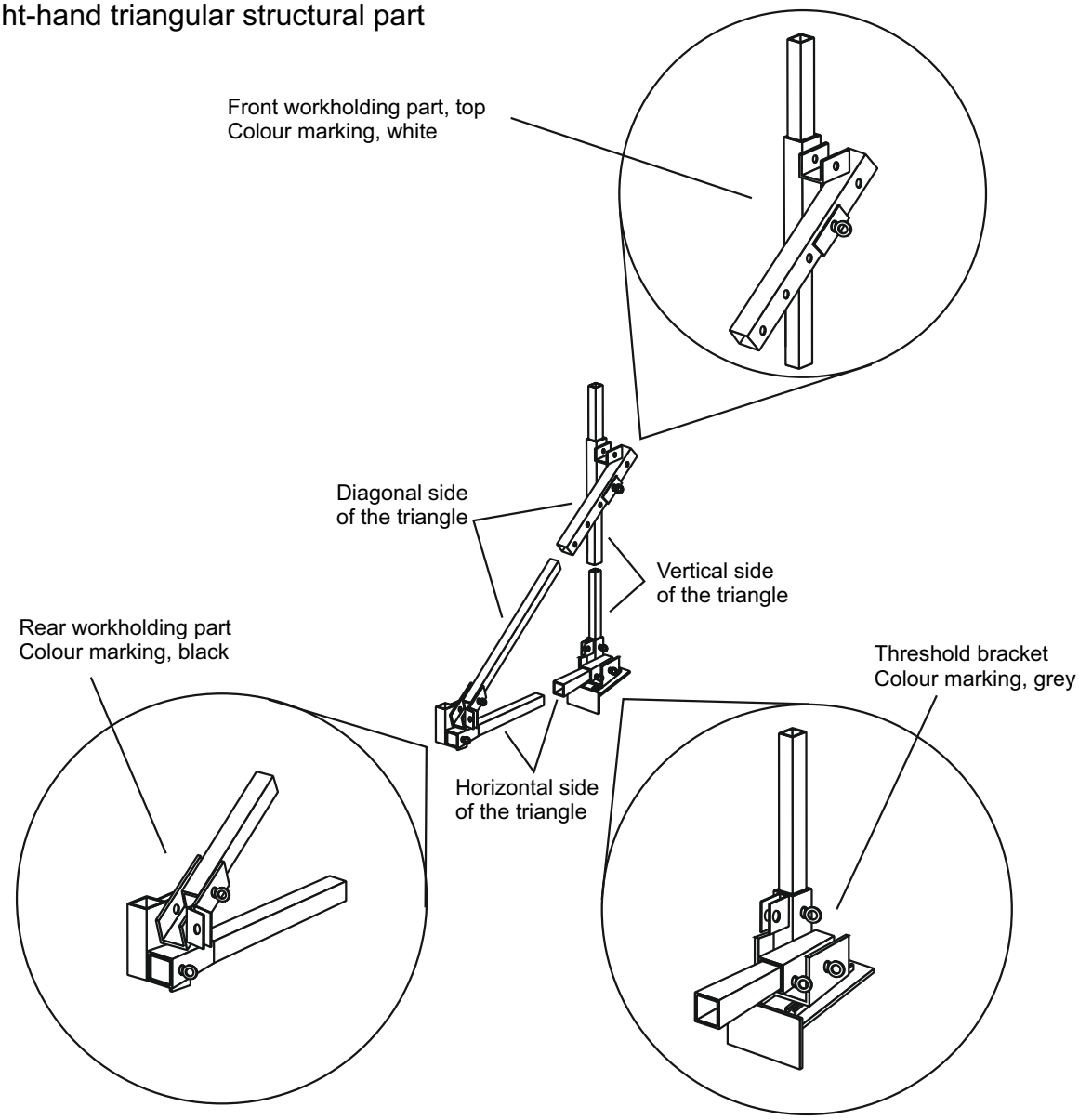
4.2.2.3 Pre-assembly:
Right-hand triangular structural part



The workholding parts illustrated above are joined to the sides of the triangle and fixed using at least one bolt as per the detailed drawings. The bolt is secured in position with the safety split pin.
When assembling the diagonal sides of the triangle, make sure that the safety bolt is correctly inserted and secured in position in accordance with the inscription on the hole pattern or the desired platform depth.
In this way, different platform depths can be realised using the same diagonal side of the triangle.
For different platform depths, horizontal pairs of triangle sides in different lengths are supplied and mounted (see parts list on page 49). Make sure that the horizontal pipe end with the greater hole-to-end distance goes into the threshold bracket. The other pipe end goes into the rear workholding part.

If the wall thickness is $\leq$ in/200 mm, use one size smaller horizontal pipes for the triangle. For example, use horizontal pipes in/1450 mm long instead of those in/1700 mm long for a shaft depth of in/1500 mm.

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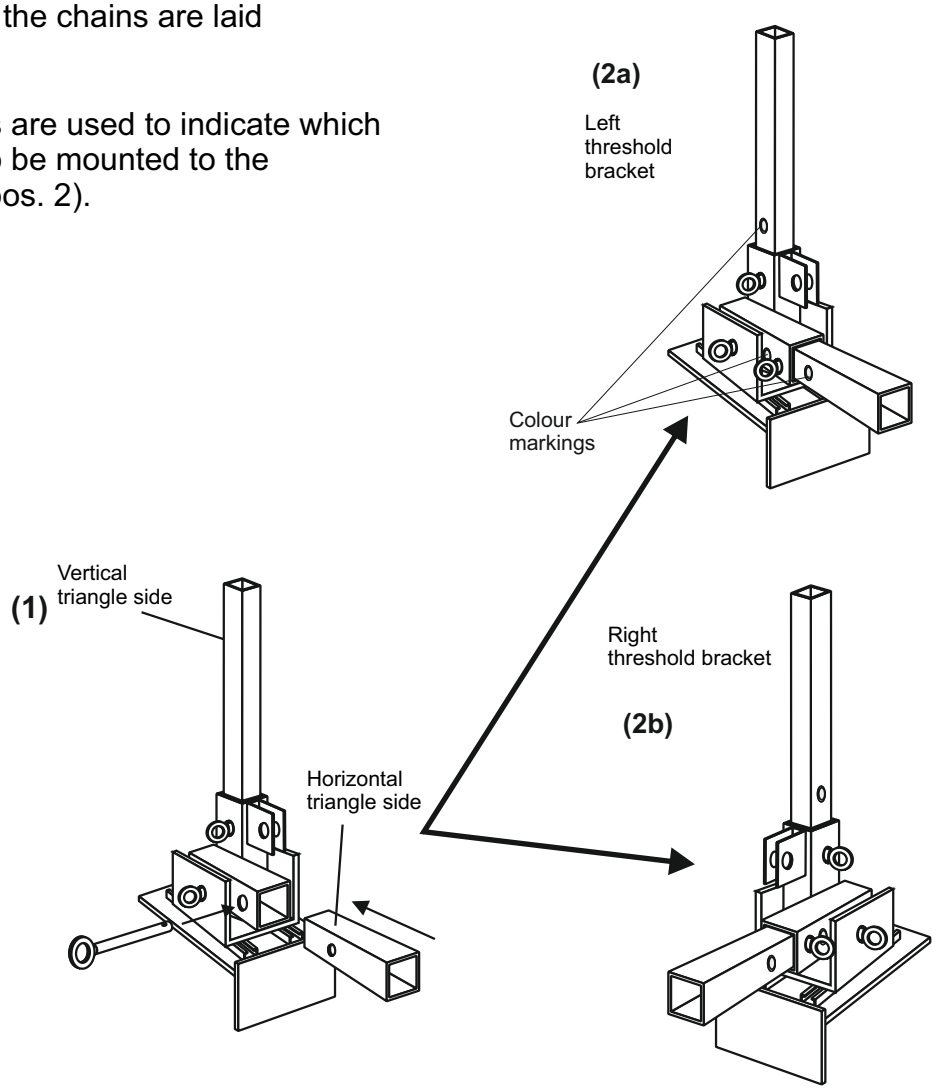
The horizontal side of the triangle must now be added to the threshold bracket (fig. 5/pos. 1) You must keep the required platform depth in mind in order to be able to determine the correct length of the horizontal profile. To mount the part, insert a small locking bolt and secure with the safety pin. You must make sure that the chains are laid correctly (fig. 7/pos. 1).

The grey colour markings are used to indicate which ends of the profiles are to be mounted to the threshold bracket (fig. 7/pos. 2).



Assembled unit: The left threshold bracket is a reversed version of the right threshold bracket when assembled

Fig. 6: Vertical and horizontal sides of triangles, connected to the left-hand threshold bracket

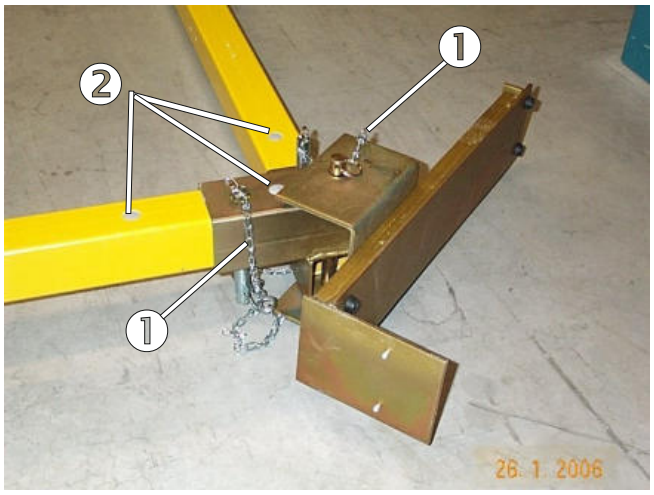


Fig. 7: Check that the chains are laid correctly

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The fastening bolt is placed at the other end of the horizontal side of the triangle and is secured with a long bolt (fig. 8/pos. 1). You can use the black marker to check that the fastening bolt has been placed in the right place. The marker must be visible and facing upwards.

The longer piece of the two-piece clamping belt and the snap hook must be hooked to the lower D-loop (fig. 8/pos. 2).

The diagonal side of the triangle is attached to close the triangle, using the coloured markings as a guide.
The tube end with the black marker is mounted onto the horizontal triangular structural part and is secured using a short bolt (fig. 9/pos. 1). The bolt chain must laid so that it falls onto the diagonal side of the triangle from above.
The tube end with the white colour marking is connected to the vertical triangle structural part at the required place (platform depth) and is secured with a long locking pin.

After the triangular structural part has been constructed, the loose end of the belt must be loosely but securely attached to the vertical side of the triangle (fig. 11/pos. 1).

4.2.2.4 Assembly of the left-hand triangular structural part

The left-hand triangular structural part is a reverse version of the right-hand triangular structural part when assembled.

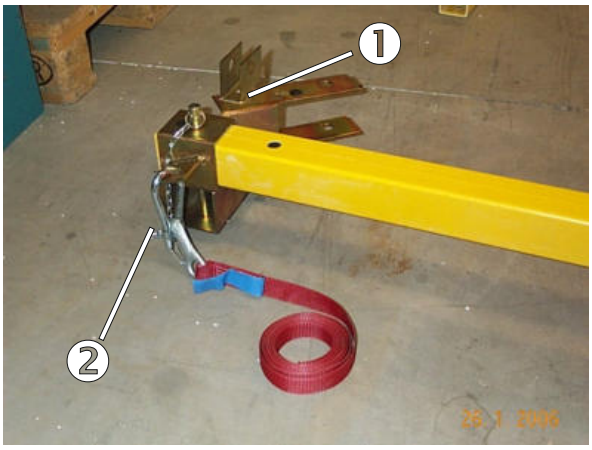

Fig. 8: Attaching the horizontal profile

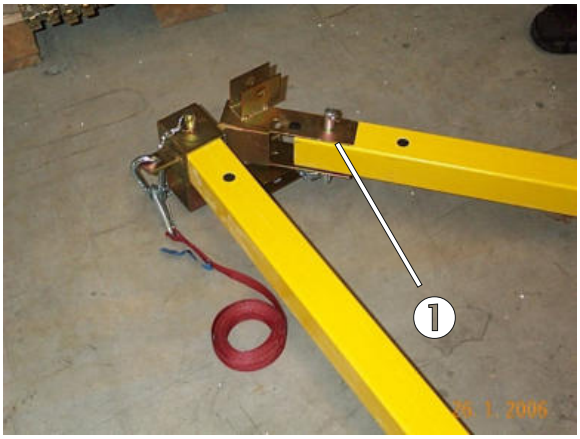

Fig. 9: Attaching the diagonal profile

Fig. 10: Setting the platform depth

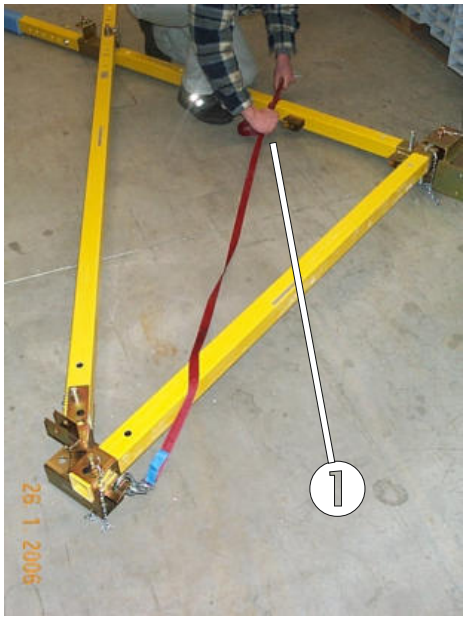

Fig. 11: Attaching the tension belt


Right-hand triangular structural part, assembled

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4.2.2.5 Positioning of the triangular structural part in the lift shaft

After the triangular structural part has been assembled, the rest of the erection takes place at the lift shaft. The triangles can be lifted by the diagonal sides, with the diagonal sides horizontally aligned when the triangles are lifted (fig. 12/ pos. 1), and then transported to the threshold in question.
Personal safety equipment absolutely must be used for any further work that takes place at the lift shaft.

Fig. 12: Transporting the triangular structural part

The horizontal alignment of the diagonal side allows the triangular structural part to be transported to the threshold safely and easily (fig. 13/pos. 1).

Fig. 13: Placing it on the threshold

The triangle is placed up to the edge of the threshold and lowered towards the centre of the shaft until the vertical side of the triangle lies flat against the upper lintel (fig. 14/pos. 1).

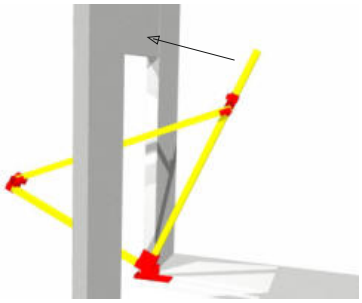

Fig. 14: Tipping the triangular structural part until it touches the lintel

Fig. 15: Lifting the triangular structural part

4.2.2.6 Laying the floor panels

When the two triangular structural parts have been installed, you can lay the first two floor panels onto the horizontal sides of the triangle, one after the other. However, before doing so, the gap between the triangles must be straightened using the first panel. You do this by slightly lifting and moving a triangular structural part (fig. 15/pos. 1).

Fig. 16: Laying the first standard panel

Once the gap has been straightened you can move the first standard panel, which has two U-shaped milled edges (not an ascent panel!) to the end of a platform by gently pushing it in the direction of the end of rear wall of the shaft (fig. 16/pos. 1). Make sure that the milled edges are facing the lower horizontal sides of the triangle. You must also make sure that the straps are still hanging free and have not been trapped or blocked by the panel you just laid. This is also the case for the second panel (fig. 17/pos. 1).

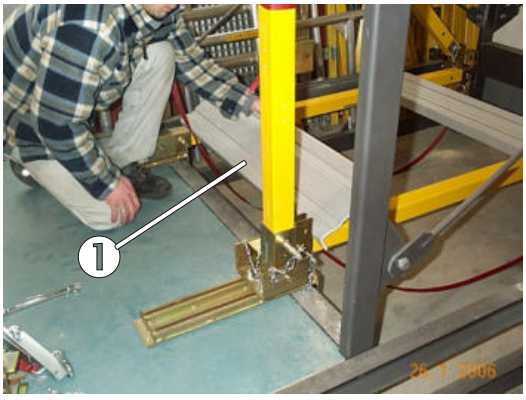

Fig. 17: Laying the second panel

In the next step, the lower cross beam is mounted onto the threshold bracket behind the horizontal sides of the triangle to stabilize and connect the triangular structural parts (fig. 18/pos. 1).
You must make sure that the cross beam is aligned so that the beam protrudes over the inner side of the right-hand and left-hand shaft or door opening by at least 100 mm. The pre-assembled Z brackets can be moved horizontally along the bar by loosening the T-head bolts.

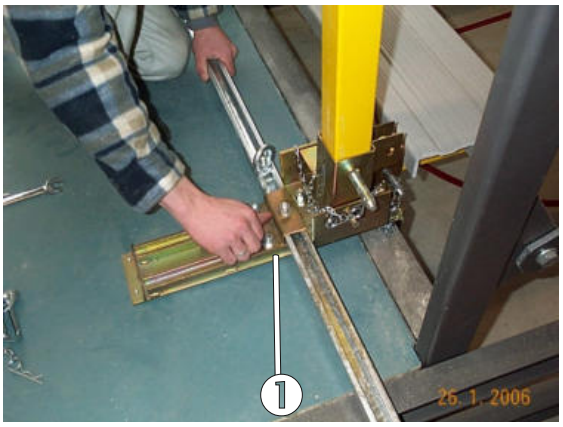

Fig. 18: Attaching the cross beam

Only then is the cross beam attached to both the left-hand and right-hand threshold brackets using two T-head bolts on each side. After being attached to the C profile, the bolts must be tightly fixed into place by turning them 90° (fig. 19/pos. 1). The notching at the end of the bolts must lie horizontal to the C profile.
This step must be carried out for both threshold brackets.

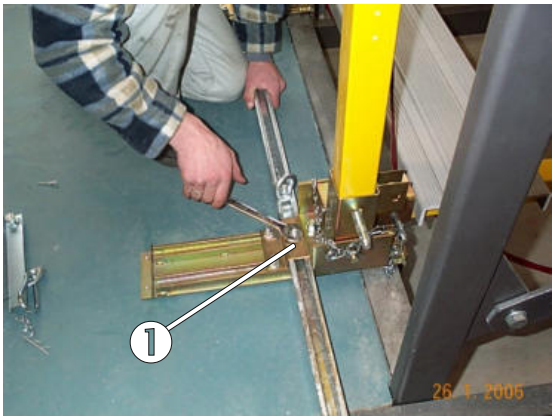

Fig. 19: Attaching the T-head bolts

Furthermore, eye screws must now be fixed to the up-facing, open cross beam next to the threshold brackets (in the direction of the centre) for the purpose of hooking on the tension belts later on.
You must make sure that you screw the bolts tightly here, too (fig 21 and 22/pos. 1).

Fig. 20

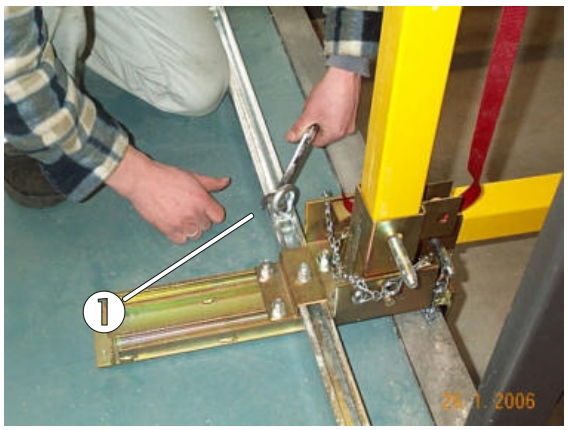

Fig. 21: Tightening the eye screws

Fig. 22

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4.2.2.7 Stabilization of the scaffolding using tension belts

In the next step, the short pieces of the two-piece tension belts are hooked onto the left-hand and right-hand eye screws using snap hooks (fig. 23 and fig. 24/pos. 2).

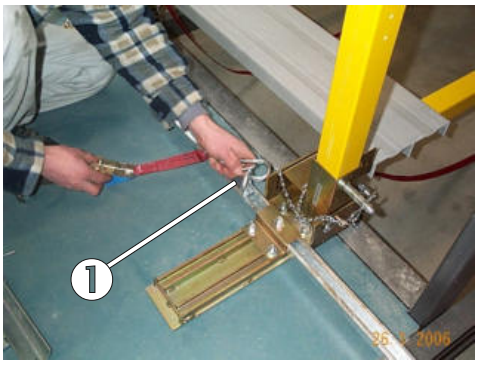

Fig. 23: Attaching the short piece of the tension belts

Fig. 24: The short pieces are then attached using a snap hook

The long pieces of the tension belts, which are attached to the vertical sides of the triangles (fig. 25/pos. 1) are then crossed and fed into the ratchet of the short piece (fig. 26/pos. 1), pulled tight and placed under slight tension by means of 2-3 ratchet movements (fig. 27/pos. 1).

Fig. 25: Loosening the second half of the tension belt

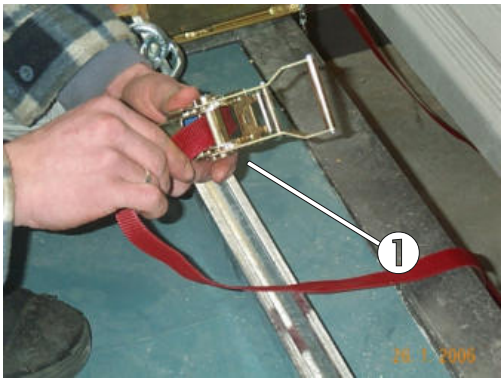

Fig. 26: Inserting the end of the belt

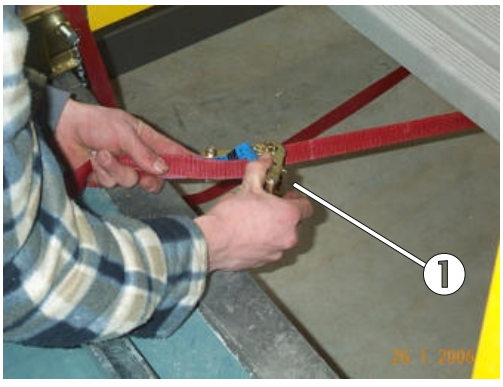

Fig. 27: The ratchet is used to place the clamping belt under slight tension

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Before inserting and tensioning the second belt, the second front panel must be placed about 30 to 40 cm away from the threshold (fig. 28 and 29/pos. 1).

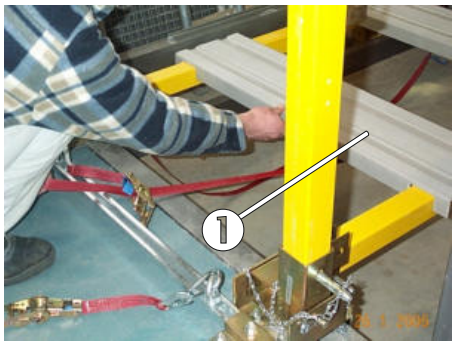

Fig. 28: Alignment of front panel

Fig. 29: Required gap of panel from ratchet

Because the tension changes, the belts should only be subjected to slight preliminary tension. The final tensioning is only applied after the panel has been laid flat (fig. 30/pos. 1).

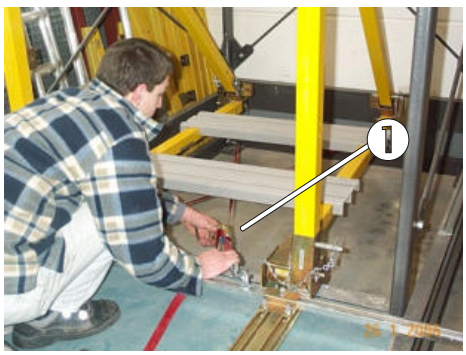

Fig. 30: Pre-tension the belts

When the tension belts have been placed crosswise at loose tension, the other panels can be laid to the front of the two triangular structural parts and pushed to the rear (fig. 32/pos. 1).

Fig. 32: Laying the other floor panels

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After the last but one panel has been laid, the tension belts are placed under maximum tension using the ratchet (fig. 33/pos. 1). You should make sure that the tension force is equally distributed over both belt threads.

Fig. 33: Equal application of maximum tension force

When the belts have been placed under maximum tension, the ratchet lever must be applied and the excess belt allowed to trail into the shaft. This can prevent accidents/ tripping (fig. 34/pos. 1).

Fig. 34: Apply ratchet and trail the excess tension belt down the lift shaft

The last and last but one panel are slightly tipped up against each other and then pressed downwards. The resistance should be slight. If the resistance is too great, the belts must be slightly loosened so that the panels can be pushed down. The belts should be tightened again afterwards (fig. 35/pos. 1).

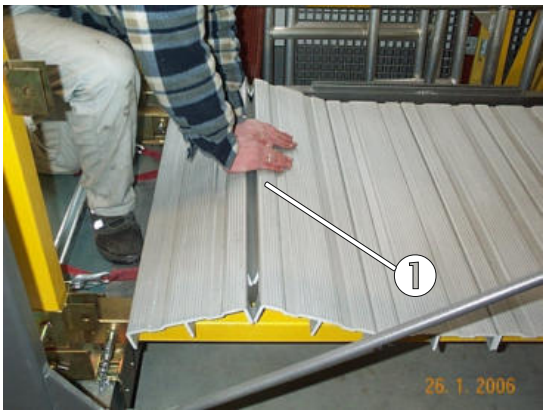

Fig. 35: Lay the last panels on the bottom platform

The final panel must lie flush with the hinge of the threshold bracket on the horizontal side of the triangle (fig. 36/pos. 1).

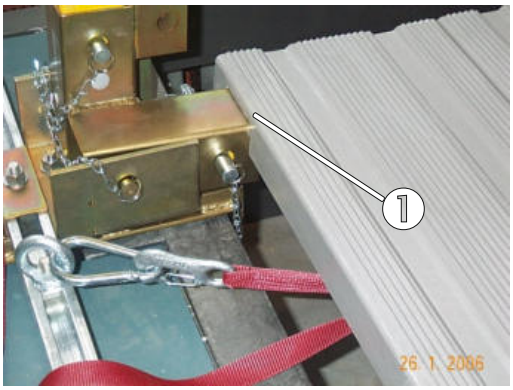

Fig. 36: Correct position of the final floor panel

Due to the tension on the belts, it should no longer be possible to move the panels lengthwise along the platform (fig. 37/pos. 1).

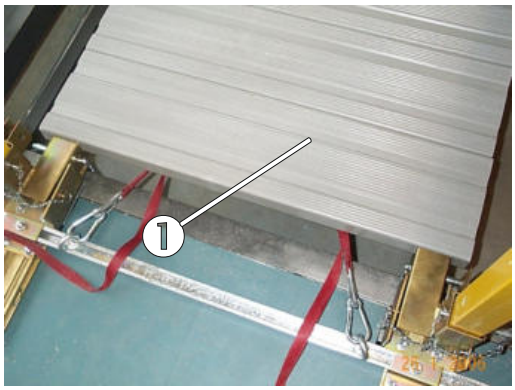

Fig. 37: Attaching the short piece of the tension belts

4.2.2.8 Vernier adjustment of triangle sides

In the next step, the front sides of the triangles must be aligned vertically (fig. 38 and 39/pos. 1).

Fig. 38: Aligning the front vertical side of the triangle (right-hand side)

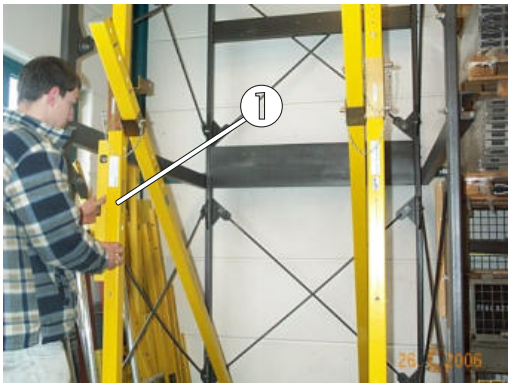

Fig. 39: Aligning the front vertical side of the triangle (left-hand side)

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The upper cross beam (C profile rail) is screwed on to both vertical sides of the triangles at face level. The open section should face towards the centre of the shaft. Taking into account the inner dimensions of the door/shaft opening, the profile rail is to be attached to the appropriate hole of the 6 drilled holes by gently tightening an HS M10x80 T-head bolt with hexagonal nut and large washer (fig. 40/pos. 1).

Fig. 40: Attaching the upper cross beam

You can gently tighten each of the hexagonal nuts using a flat wrench. The large washer serves to ideally distribute the occurring force (fig. 41/pos. 1).

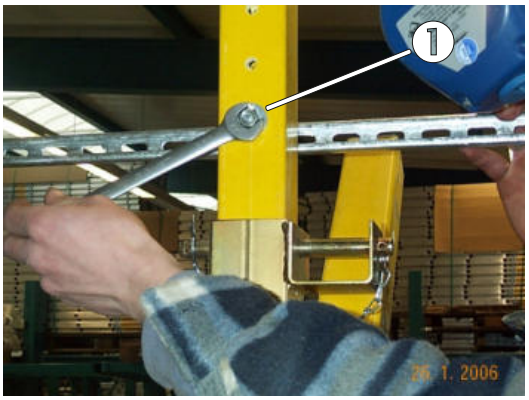

Fig. 41: Inserting the washer to distribute the force

The next step explains how to attach the L angle section along the lower and upper C profile rails using a bolt (fig. 42/pos. 1). HS 28/15 M10x30 mm T-head bolts are used for the upper rail, and HS 40/22 M10x30 bolts are used for the lower rail. The L angle that is intended for the lower cross beam has a curved projecting edge that must be placed into the C rail during assembly. When the hexagonal nut has been tightened, the projection should prevent distortion. The L angle must lie with one side piece on the C profile rail and the other on the wall/door soffit. Only then is the nut tightened.

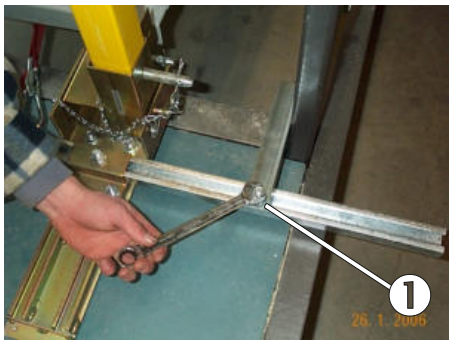

Fig. 42: L angle for bracing the platform in the doorway

The second L angle that has a projecting edge is laid in the same way on the other shaft/door soffit (fig. 43/pos. 1).

Fig. 43: Attaching the second L angle

The same method is applied for the L angle for the upper cross beam (fig. 44/pos. 1). However, this L angle has no projecting edge. Make sure that this L angle is laid on the door/shaft soffit, too. The rubber pads on the L angles protect the subsurface when the angles are attached.

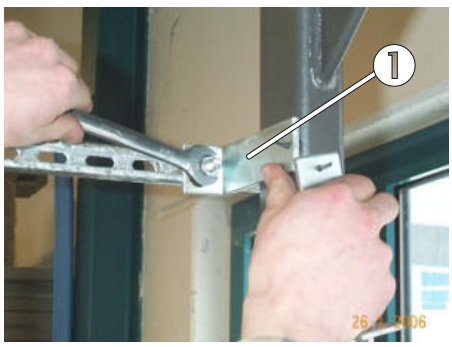

Fig. 44: L angle for the upper cross beam

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4.2.2.9 Assembly of rail system

The next part of the erection process is carried out at the rear of the assembly platform. First, the rear vertical rail stanchions must be placed into the fastening bolts and secured using a short locking pin and a safety pin (fig. 45/pos. 1). Note that the short locking pin is inserted from the rear towards the centre of the platform (fig. 46/pos. 1).

Fig. 45: Inserting the rear vertical rail stanchion

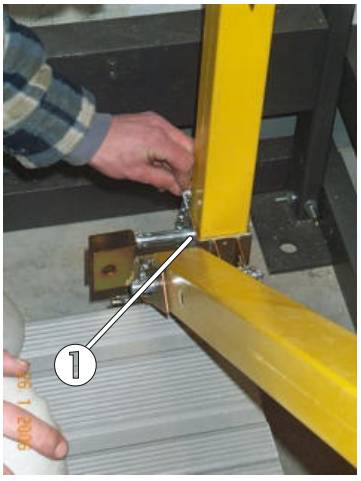

Fig. 46: Pin locking device for the rear vertical rail stanchion

Make sure that the locking pin chain hangs downwards (fig. 47/pos. 1).

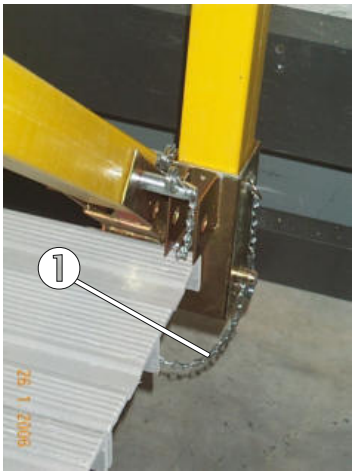

Fig. 47: Make sure the chain falls correctly

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The left-hand rear vertical rail stanchion is mounted in a laterally reversed manner and is secured using short locking pins (fig. 48/pos. 1).

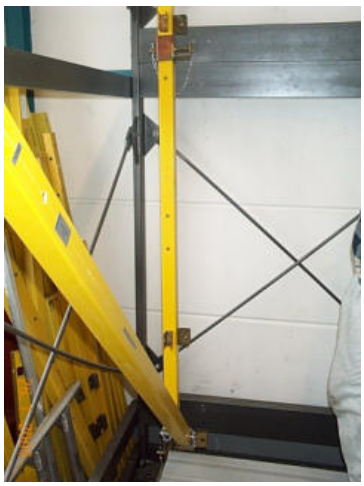


Fig. 48: Securing with short locking pins

<u>Pre-assembly of the front handrail</u>
A connecting tube is then mounted between the vertical rail stanchions to act as a handrail. First, the cross supports for handrails must be attached and secured to the ends of the tubes using short locking pins (fig. 49/pos. 1).

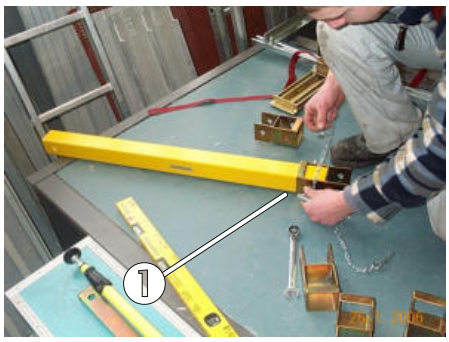
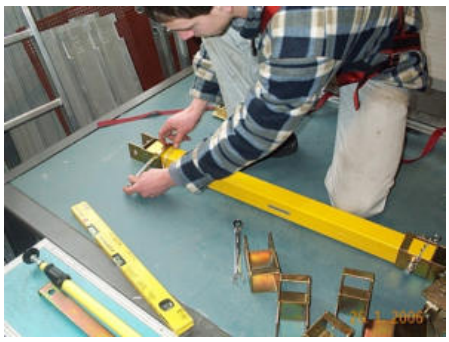


Fig. 49: Pre-assembly of the front handrail



Make sure that the locking pins are aligned correctly and the chains fall correctly (fig. 50/pos. 1).

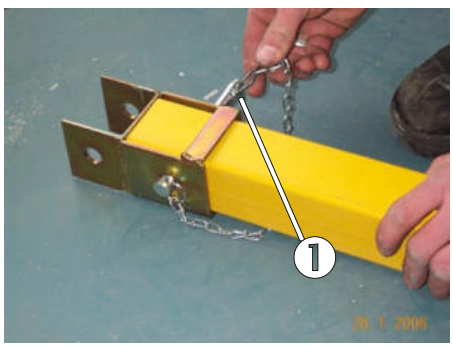
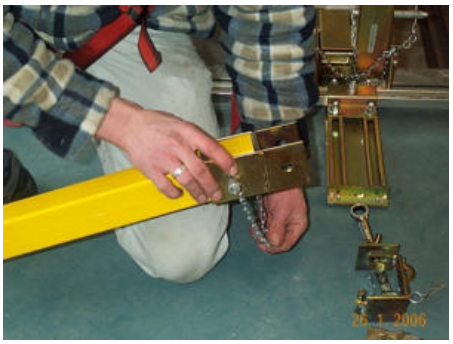


Fig. 50: Alignment of the bolt and chain



The pre-assembled handrail is now placed from above between the vertical rail stanchions by sloping the handrail slightly. It is secured using short locking pins inserted into the upper drilled holes (at waist height) from the front (fig. 51 and 52/pos. 1).

Fig. 51: Mounting the rear handrail

Fig. 52: Locking pins for securing the handrail

Make sure that the locking pins are aligned correctly and the chains fall correctly (fig. 53/pos. 1).

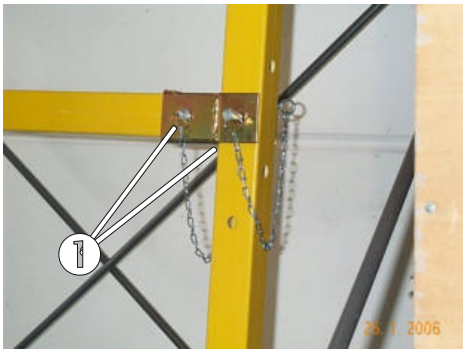


Fig. 53: Correct alignment of locking pins

In the next step, the horizontal bars are mounted lengthwise along the platform at face level. The location points are on the rear vertical rail stanchions (fig. 54/pos. 1) and on the upper tip of the triangle (fig. 54/pos. 2).

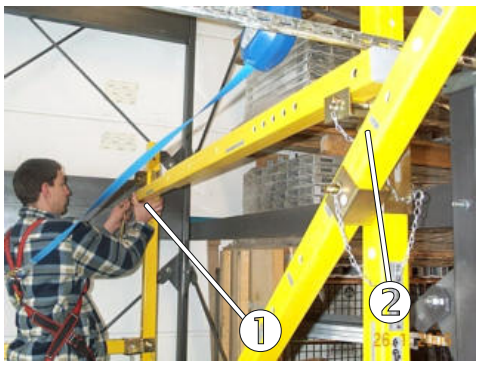


Fig. 54: Location points of upper horizontal bars

First, the inner and outer tubes of the horizontal bar are carefully pulled out to the required length. The lengthened bar can now be laid onto the location points before attaching it, making the mounting process easier. For a platform depth of 1000 mm, only use the outer tube. You have to unscrew the long locking pin on the rear fastening bolt in order to insert the bar. Then secure it again, using the locking pin. The fastening bolt must be held firmly during this process to make sure that it doesn't slip down (fig. 55/pos. 1).

Fig. 55: Rear bar must be held into place during mounting process

In the case of the front fastening bolt, too, the upper of the two long locking pins must first be taken out. They are replaced and secured after the horizontal bar has been laid (fig. 56/pos. 1).

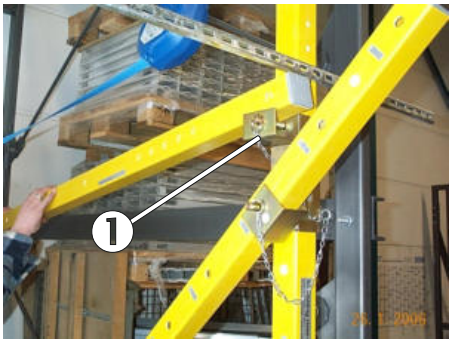


Fig. 56: Front fastening bolt for securing the bar

Make sure that the locking pins are correctly aligned and the chains fall correctly.

The second, opposite bar is mounted and secured in the same way (fig. 57/pos. 1).

Fig. 57: Second, opposite bar

Again, make sure that the locking pins are aligned correctly and the chains fall correctly (fig. 58/pos. 1).

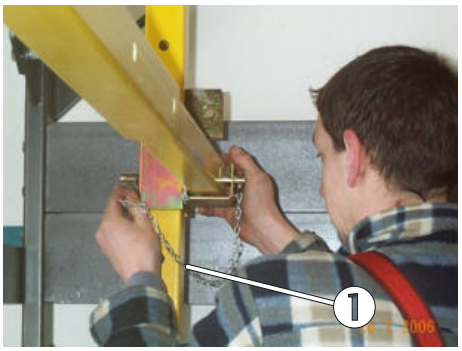


Fig. 58: Correct alignment of locking pins

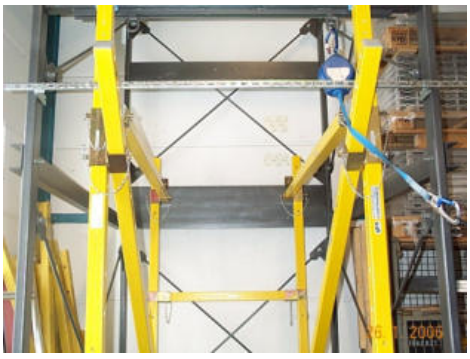


Fig. 59: Alignment of the rear vertical rail stanchions

Once the rear vertical rail stanchion is horizontal to the platform (fig. 59/pos. 1) the two upper horizontal bars must be attached to a hole appropriate to the length and secured with a short locking pin (fig. 60/pos. 1).

Fig. 60: Attachment of inner and outer tube with a short locking pin

Next, the other handrails for the side guard are mounted lengthwise. First, the front cross supports for handrails are mounted and secured to the vertical triangle sides with a short locking pin, at a height of approx. 1 m (fig. 61/pos. 1).

Fig. 61: Mounting the other handrails

The second rail cross support is attached and secured to the rear vertical rail stanchion beneath the rear handrail that has already been mounted using a short locking pin (fig. 62/pos. 1).

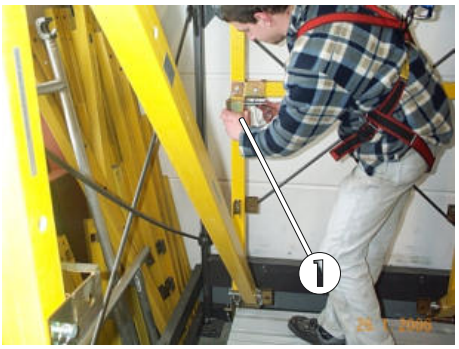


Fig. 62: Mounting the cross supports for handrails

Handrails appropriate to the platform depth (inner and outer tube) can then be placed into the cross supports. If the platform depth is greater than 1500 mm, the long outer tubes (1600 mm long) must be used for the handrail (fig. 63/pos. 1).

Fig. 63: Make sure you have the correct outer tube

After the handrails have been positioned, short locking bolts are to be used to secure them (fig. 64/pos.1).

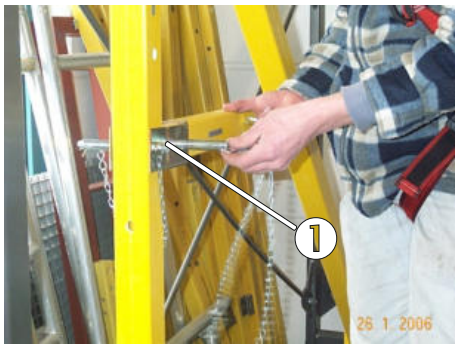
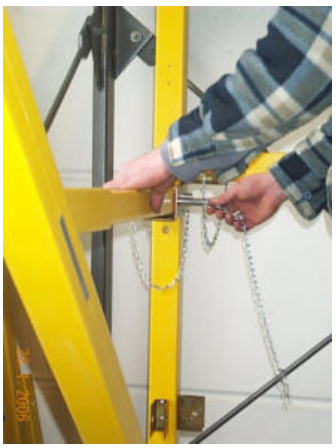


Fig. 64: Attaching the handrails



The midrails and toeboards for the side guard, which have not yet been mounted, can now be attached. Pay attention to the different lengths. Unlike for the handrails, the midrails and toeboards, which are placed lengthwise, require the long inner and outer tubes for a platform depth that is greater than or equal to 1250 mm. Again, the tubes must be attached and secured using short locking bolts (fig 65/pos. 1).

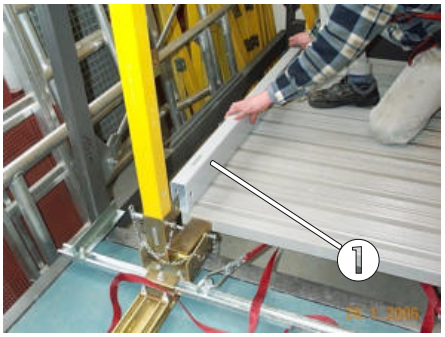


Fig. 65: Mounting the toeboard

The toeboards are to be placed on top of the U profile intended for that purpose and secured with a short locking pin (other than the exception noted below).

The two rear fastening bolts that join the diagonal and horizontal triangle sides and the rear vertical rail stanchion must be attached and secured using a long locking pin (fig. 66 and 67/pos. 1).

Fig. 66: Mounting the toeboards and midrails

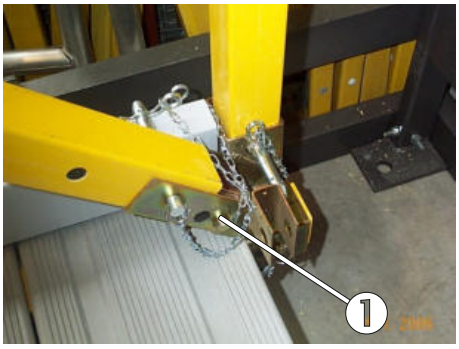
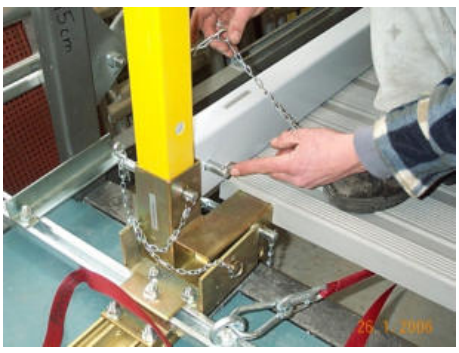


Fig. 67: Mounting the toeboard at the rear with a long locking pin

Apart from these cases, short locking pins must be used for securing the parts.



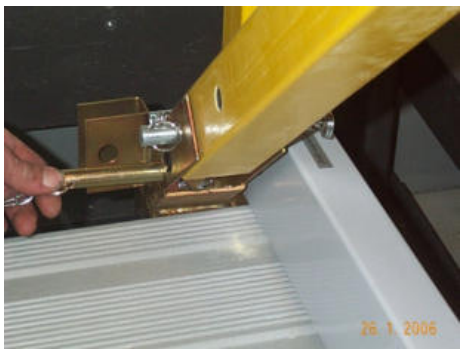


Fig. 68: Using a long locking pin to mount the rear, right-hand toeboard

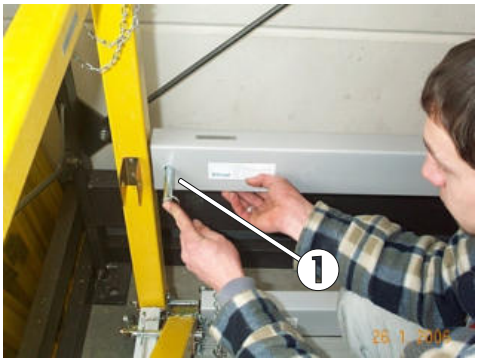
Toeboards and midrails must also be attached and mounted using short locking pins to the short front side of the rear of the platform (fig. 69/pos. 1).

Fig. 69: Mounting the front toeboard

There are also U profiles on the rear vertical rail stanchions for securing the midrails with short locking pins. You can extend the tube to the correct length by pulling out the inner tube (fig. 70/pos. 1).

Fig. 70: Mounting the front midrail

Short locking pins are to be used to mount and secure the rails.



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When viewed from the front, the rear frontal side guard should look like fig. 71.

Fig. 71

To complete the mounting of the side guard, fit the midrails and secure them with short locking pins (fig. 72, pos. 1).

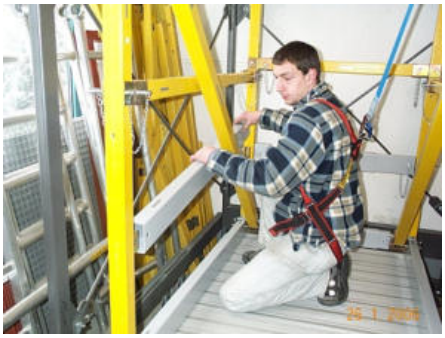
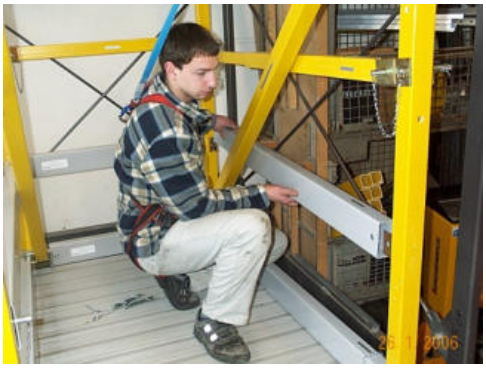
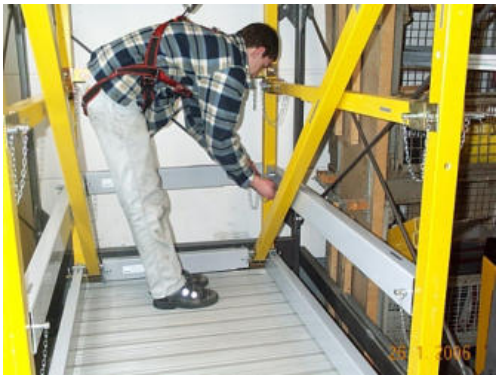


Fig. 72: Securing the midrail with a bolt





This completes the assembly of the three-sided guard rail, consisting of handrail, midrail and toeboard. It should look like fig. 73.

Fig. 73

Telescopic rods and an adaptor for fastening the rods are provided for the lateral bracing of the work platform in the lift shaft (fig. 74/pos. 1).

Fig. 74: Telescopic rods (yellow) with adaptor

If the distance to the left and right walls of the shaft (along the length of the platform) is small, an adaptor must be attached beneath the upper horizontal bars and secured with two short locking pins, inserted from the front (fig. 75/pos. 1).

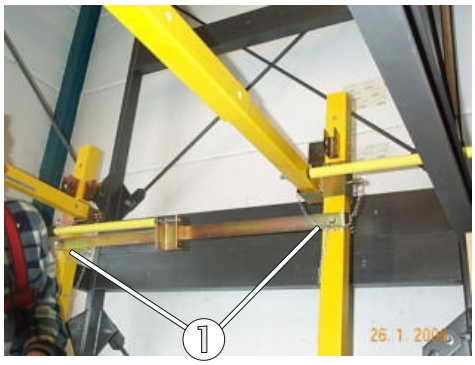


Fig. 75: Attaching the adaptor

The adaptor can hold two telescopic rods at once (fig. 76/pos. 1 and 2). The threaded post of the telescopic rod must then be inserted into the adapter (U profile) from the outside and tightened using the wing nut.

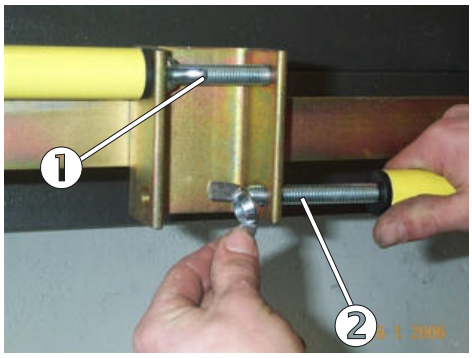


Fig. 76: Attaching the telescopic rods

However, if the distance to the wall of the shaft is larger, the rods can be mounted singly or on both sides and secured to the free drilled hole in the upper horizontal bar in front of the fastening bolt (fig. 77/pos. 1).

Fig. 77: Alternative way of attaching the telescopic rods

You can release the holding lever (fig. 78/pos. 1) to extend the telescopic rods to a maximum length of 1 m. You snap the holding lever back into place after extending the telescopic rod to the required length.

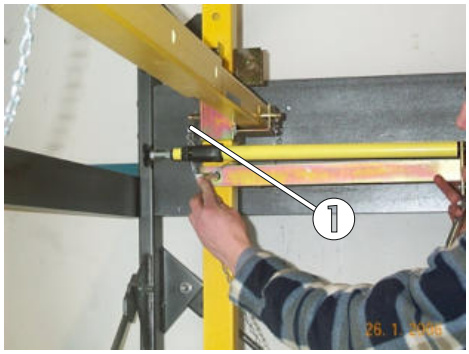


Fig. 78: Releasing and closing the holding lever

If the telescopic rod is to be attached to the upper horizontal bar, use the washer that is included in the delivery.

You can use a flat wrench to unscrew the adjustable foot at the end of the telescopic rod to a maximum of 80 mm (fig. 79/pos. 1).

When the side guard has been completed and the telescopic rods have been fitted, the erection of the base platform is complete. All other steps concern the procedure for making the unit into a double platform.

Fig. 79: Adjustable foot for vernier adjustment of length

4.2.2.10 Erection a double platform

Once the base platform has been fixed into place in the lift shaft you can begin to **erect the upper platform** and its side guard.

First, the upper rail stanchions are inserted into the rear vertical rail stanchions from above so that U profiles for attaching the midrail are positioned similarly to the U profiles of the long, lower stanchion rails and are aligned to the short centre of the platform.

Fig. 80: Upper rear rail stanchion

The inner tube then has to be secured at the front using a short locking pin, so that is cannot be pulled out (fig. 81/pos. 1).

Fig. 81: Securing the upper vertical rail stanchion

The second, opposite upper rail stanchion is inserted from above like the first stanchion. It is then secured with a short locking pin (fig. 82/pos. 1).

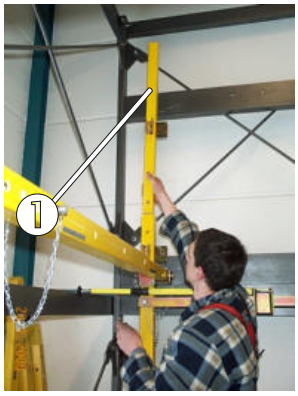


Fig. 82: Second, opposite rail stanchion

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In addition to the stanchion itself, the appropriate fastening bolt is needed for the front vertical rail stanchion.
First, examine the outer tube of the upper horizontal bar to decide where the fastening bolt is to be secured using a long locking pin. The aim is to be able to mount the wall anchor as near as possible to shaft wall inside the shaft. It is to be mounted above the lintel (fig. 83/pos. 1).

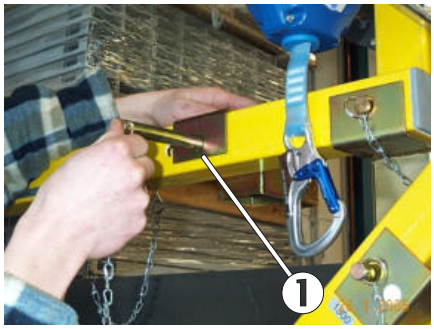


Fig. 83: Determining the correct insertion position

The fastening bolt is then placed so that the upper rail stanchion can be inserted into the square tube of the receptacle and secured with a long locking pin (fig. 84/pos. 1). The rail stanchion must be placed between the horizontal bar and the side wall of the shaft.

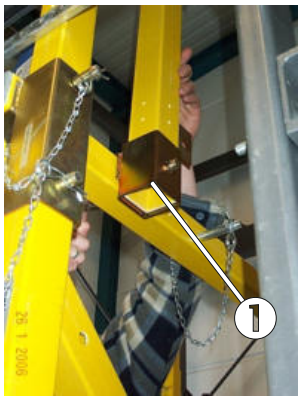


Fig. 84: Positioning the fastening bolt with upper rail stanchion

The floor panels can be laid in the next step. You begin with the standard panels which have U-shaped milled edges at the end. Starting at the rear, lay the panels and push them to the rear until they reach the stop position. The milled edges should be laid onto the upper horizontal bar (fig. 83/pos. 1).

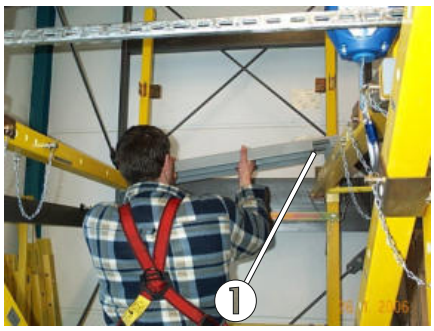


Fig. 85: Laying the upper floor panels

Additional panels are added, without leaving gaps, in accordance with the platform depth.

For greater flexibility, you can use a narrow floor panel (fig. 86/pos. 1).

To facilitate access to the higher platform from the threshold, you must use three ascent bars (floor panels with L-shaped milled edges) at the frontal door area (fig. 86 and 87/pos. 1).

Fig. 86

Fig. 87

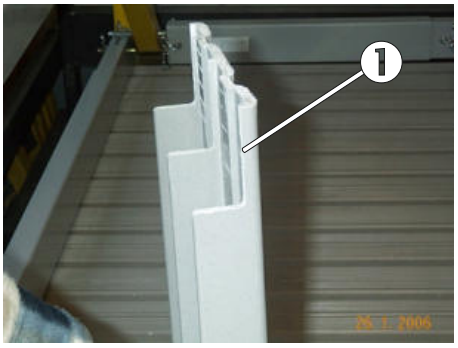


Fig. 88: Ascent panels

To prevent the panels on the upper platform from slipping, tube clamps must be clamped and secured behind the last floor panel/nearest floor panel to the door (fig. 89/pos. 1).

Fig. 89: Tube clamps to prevent the floor panels from slipping

In the next step, you reach the upper platform using the leaning ladder included in the delivery. Make sure that the ladder is stable and correctly positioned (fig. 90/pos. 1).

Fig. 90:

Then attach the upper wall anchors for stabilizing the front rail stanchions (upper) and the circumferential, three-piece guard rail, consisting of handrail, midrail and toeboard.

The upper front vertical rail stanchions must be parallel to the shaft wall, and each must be attached using a wall anchor (fig. 91 and fig. 92/pos. 1).
The wall anchors can be freely adjusted to the depth. You can either use T-head bolts or wall screw anchor fittings to fix them to the shaft wall. (Fig. 93/pos. 1).

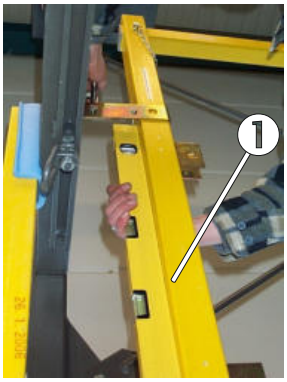


Fig. 91: Aligning the rail stanchions

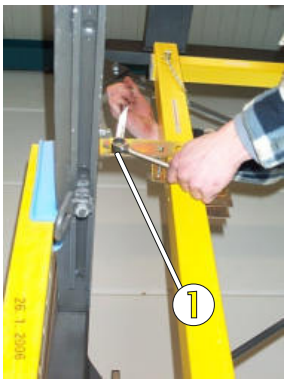
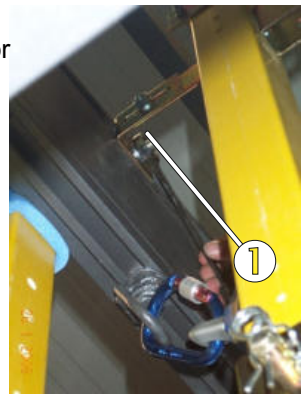


Fig. 92: Attaching the wall anchor

Fig. 93: Using T-head bolts or wall screw anchor fittings for mounting



The upper vertical rail stanchions can then be joined to the provided handrails and secured using short locking pins. The handrails that run along the length of the platform must be placed into the vertical rail stanchions as show in fig. 94/pos. 1 and fig. 95/pos. 1 and secured with short locking pins.

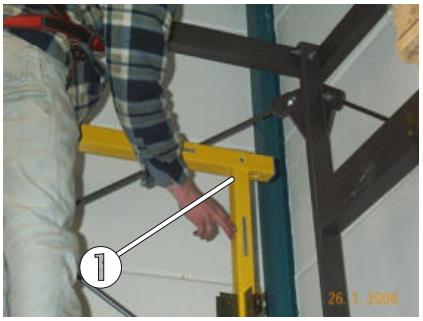


Fig. 94: The outer tube of the handrail is placed on top of the rear vertical rail stanchion

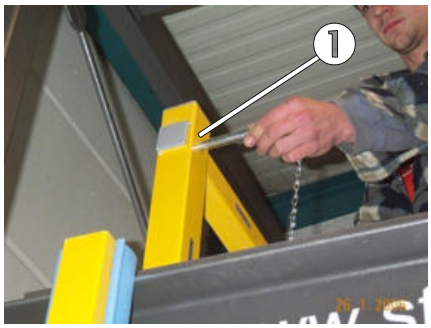


Fig. 95: The inner tube of the hand rail is inserted into the front vertical rail stanchion and secured with a locking pin

The upper rear frontal handrail is laid onto the handrail that runs along the length of the platform and is secured from above using a short locking pin at the end of the tube (fig. 96 and fig. 97/pos. 1).

Fig. 96: Laying and securing the upper frontal handrail

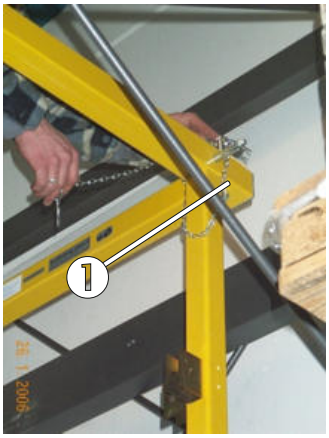


Fig. 97: The locking pin is inserted from above

When the handrails have been mounted, you can begin to mount the midrails and toeboards with the U profiles of the vertical rail stanchions, which are provided for that purpose. Like the guard rail on the lower platform, the rails on the upper level are secured using short locking pins (fig. 98/pos. 1).

If the platform depth is greater than 1500 mm, the long midrails and toeboards must be used.

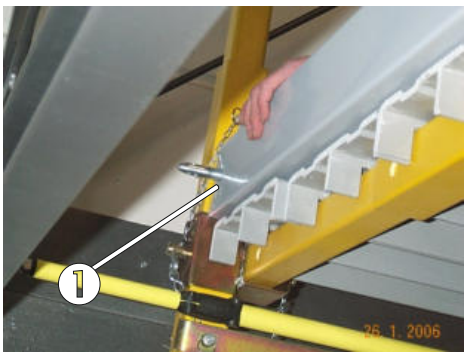


Fig. 98: Securing the toeboard

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Make sure that the locking pins are aligned properly and remember to use safety pins.

Fig. 99:

Fig. 100:

Fig. 101:

Fig. 102:

Fig. 103:

Fig. 104:

Fig. 105:

Fig. 106:

Fig. 107 ▶:

Fig. 108 ▶▶:

Fig. 109 ▶:

Fig. 110 ▶▶:

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Fully erected Stingl *mobil* PANO work platform, double platform model:

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5. Maintenance, repair and storage

5.1 Cleaning the components

All components can be cleaned using water with a commercial cleaner added.

ATTENTION: Cleaning agents must not get into the ground, used cleaning fluids must be disposed of in accordance with applicable environmental legislation.

5.2 Inspecting the components

GRP tubes/PVC sections/platform panels
Inspect for deformation, crushing and cracks. If a deficiency is discovered, do not use those components.

Steel sections/joints
Inspect for deformation, crushing and cracks. If a deficiency is discovered, do not use those components.

Pins
Inspect for deformation and completeness (chain + split pin in place). If a deficiency is discovered, do not use those components.

Lashing straps
Inspect for deformation and function of metal parts as well as wear of textile straps. If a deficiency is discovered, do not use those components. Local inspection rules for lashing straps must be followed strictly.

Telescopic rods
Inspect for deformation, crushing and cracks. If a deficiency is discovered, do not use those parts.

5.3 Storage

The scaffold components must be stored in such way that they are not damaged. Use the wooden boxes supplied to properly stow all parts. During storage, the scaffold components must be protected against the effects of weather. Avoid contact of all components with aggressive liquids as well as long exposure to UV-rays. Store them lying down if at all possible. During transport to or from the place of storage, the scaffold components should be stored properly in the wooden boxes (or similar protective boxes) to avoid sliding, impacting and falling