

# Technical Information

Mount Logan version 8

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01.02.17



## General

The work described is to be carried out by specialist personnel.

### Dimensions (Measurements of the system)

Overall size	see draft plan II
Clearance	1.80 m
Minimum space	see draft plan I
Height	5.5 m

### Age suitability

From 6 years

### Number of users

Approx. 35 children

### Maximum height of fall

1.96 m

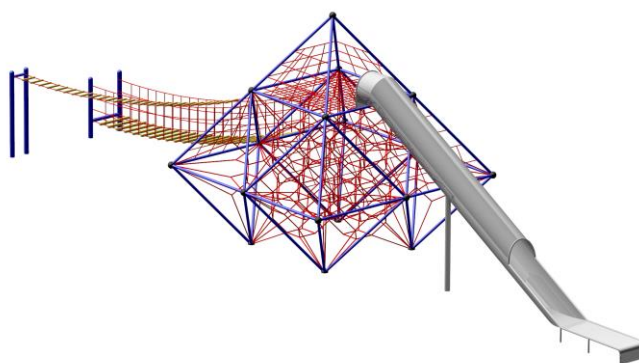


Figure 1 Mount Logan with rung-bridge, hand over hand ladder and slide

## Ground quality

Please refer to EN 1176-1 for ground conditions in the play area. Sand, wood chips, gravel and synthetic safety ground coverings with HIC inspection are permitted by this Standard. We recommend a minimum thickness of 400 mm of gravel (grain size 2 – 8 mm) or sand (grain size 0.2 – 2 mm). If you use a synthetic protective surface, it must be sure that all relevant parts for the maintenance (see maintenance instruction on page 7) are every time accessibly. If necessary consult smb.

## Installation Tools

### Tools supplied:

1 off	Special socket spanner, size 32, with angled extension
1 off	Socket spanner, size 32, with extension
1 off	Socket spanner, size 30
1 off	Allen key, size 10, with extension
1 off	rope roll

### Additional tools required:

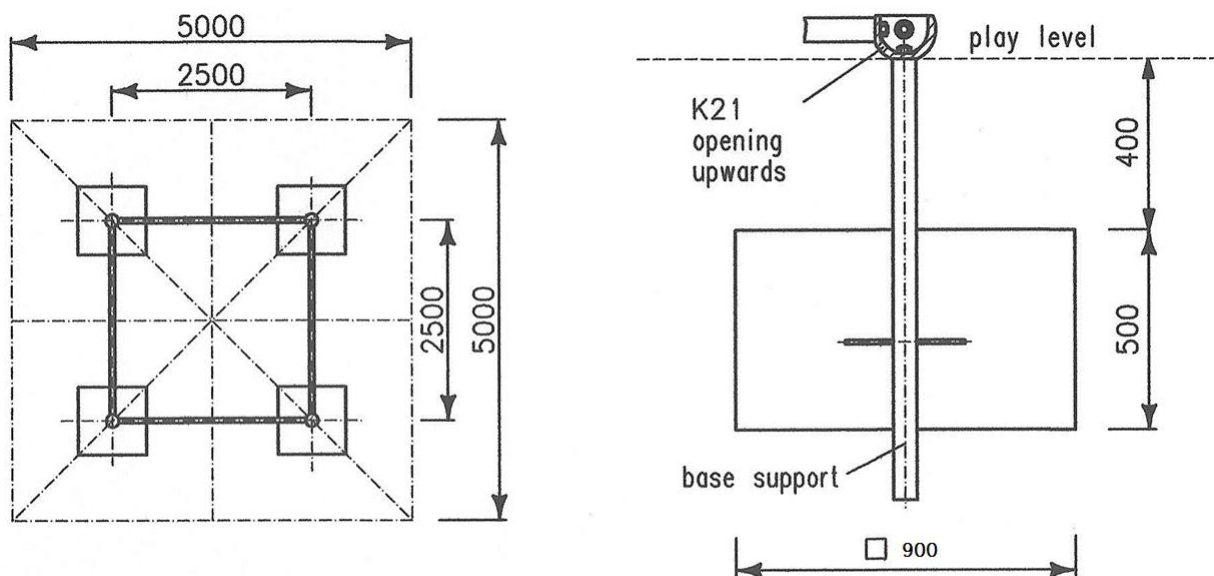
Usual assembly tools	
1 off	Double ladder, approx 5.0 m long
1 off	open jawed spanner size 32
2 off	open jawed spanner size 24 (if mounted with anchorage frame)

## Assembling with foundations

To make the foundations, the spherical connection joint **K21** and four pipes are used, from which an initial foundation framework is made (**Figure 2**).

**Note:** As the parts are to be used again, care must be taken when handling.

The **K21** connection joints are screwed together to form a square with the aperture facing upwards across four pipes. The concrete anchors are fixed below the connection joints. The framework is to be aligned in a **balanced** manner and **at the appropriate height**. The concrete anchors are to be of such a length that they exceed the height of the foundations and find a hold in the earth when the foundation framework is temporarily constructed (**Figure 2**). The concrete can then be poured.



Please note: Joints and pipes are to be used again!

Figure 2 Arrangement of the foundations

- Minimum grade of concrete for the foundations: **C20/25 (B25)**
- Quantity of concrete required: **about 3.64 m<sup>3</sup>**
- We are working on the assumption that the base is grown soil. If this is not the case, please consult us as the foundation dimensions may need to be changed.

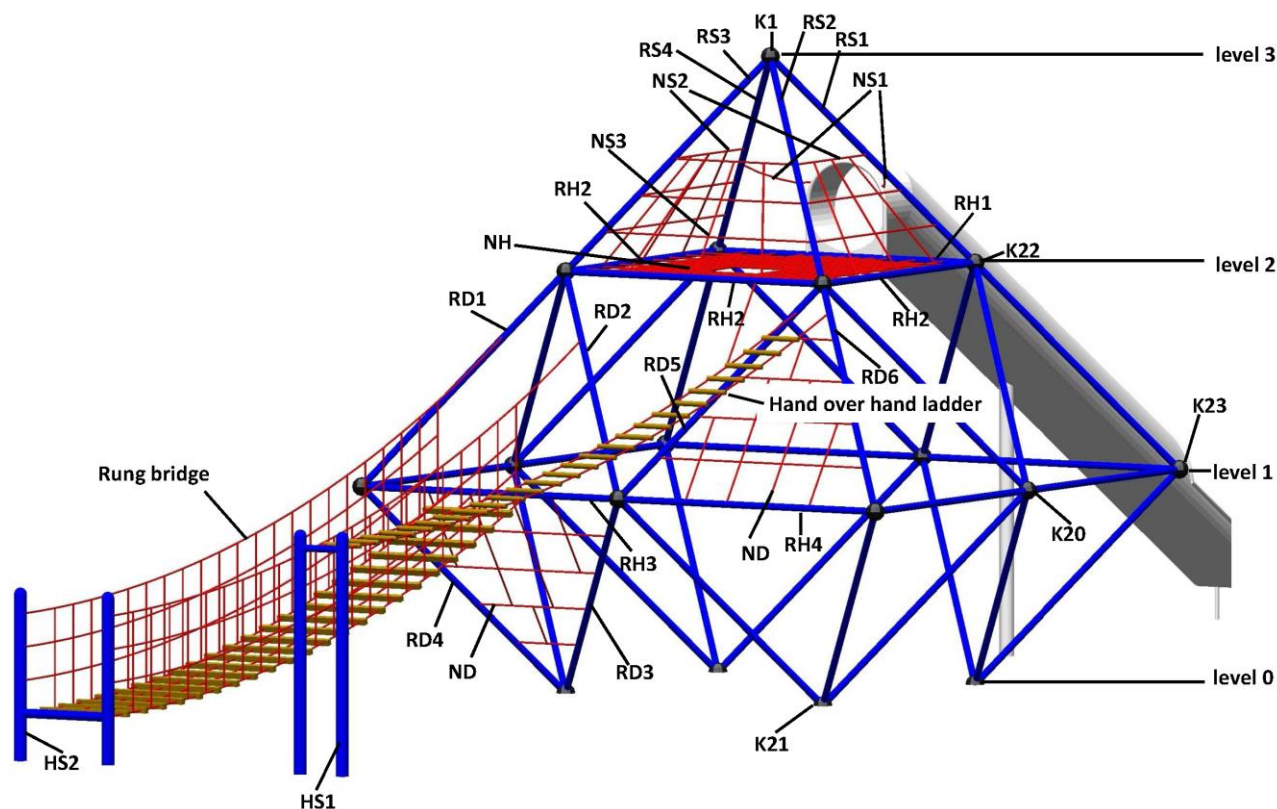


Figure 3

## Assembling the frame

First of all, the foundation framework is to be taken down and the parts are to be used again. The structural arrangement of the pipes and connection joints may be seen in **figure 4**. **The code number which is stamped onto the hollow balls (K20, K21, K22 and K23) is always facing upwards.** Please ensure that tubes RS1 until RS4, RD1 until RD6 and RH1 until RH4 are positioned correctly (**Figure 3**).

The framework is then to be assembled up to **level 1**. **The spherical apertures face outwards, with the exception of K21, which face inwards.** The screw connections (lock washer and HV nut M20, SW32) are initially to be fastened hand tight and, after completion up to **level 1**, finally tightened firmly.

Further construction now takes place, in a corresponding fashion, up to the vertex of the equipment (**level 3**). After the completely mounting of the frame, all the screw connections are **tightened firmly** with the supplied **socket spanner size 32**. In order to have a safe working platform for the next level, it is recommended that wooden planks are to apply onto the completed level.

### Notice:

At the assembling of the space netting on the upper hollow balls it is helpfully for you when you support the space netting from the underside. The insert of the clamping cylinder is going easier when you support the pulling with the enclosed rope.

## Assembling the space netting

The marked vertex of the net (**K1**) is to be lifted, using the rope pulley, by means of the knotted rope as per **Figure 4** and fastened onto **connection joint K1** using the clamping nut M20, SW32. The clamping systems of the four connection joint points **K22** on **level 2** then follow. Push the clamping cylinder with the bolt M20 into the telescopic sleeve (**Figure 6**) and first of all, tighten it with the clamping nuts by only five turns to make for easier insertion into the spheres.

The four spheres **K21 (level 0)** are then connected with the eye bolts and the welded special covers. Plug the eye bolts through the spheres **K21** and screw it with a washer and a self secure cap nut M20 SW 32 (**Figure 5**).

Now connect the tension points **K20** and **K23** at **level 1** in the same way like **K22**. Push the clamping cylinder with the bolt M20 into the telescopic sleeve (**Figure 6**) and first of all, tighten it with the clamping nuts by only five turns to make for easier insertion into the spheres.

## Tensioning the space netting

The net **begins** to be tensioned on **joint K22** on **level 2** and then takes place, via the clamping nuts, using the SW32 special socket spanner which is supplied. It must be **tensioned up to the pretensioning mark (fig. 6)**. Tension is then created on joints **K20** and **K23** on **level 1** also to the pretensioning mark. The net finally has a good **uniform strong** tension.

### Caution:

Please note, that at all clamping points **the ropes are not distorted** when you tensioning the net. If necessary hold it firm with a practical tool.

After the tensioning the clamping nuts at all joints in level 1 and 2 (**K20, K22** and **K23**) are to lock with the supplied locking nut M20 SW32 including the spring lock washer. **When you tightened the lock nut, you can hold up the M20 bolt with an Allen key size 10 (figure 6).**

Finally, the hollow spheres, which are still open, are to be sealed using the specially prepared sealing covers via a mounting bracket (**Figure 6**). Please fix all the covers that our logo is readable. Thank you.

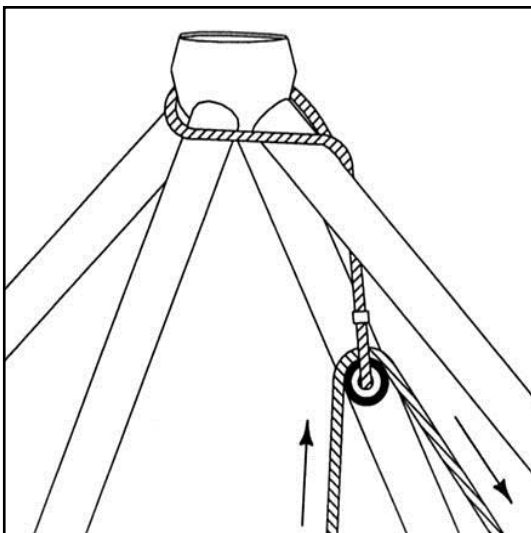


Figure 4

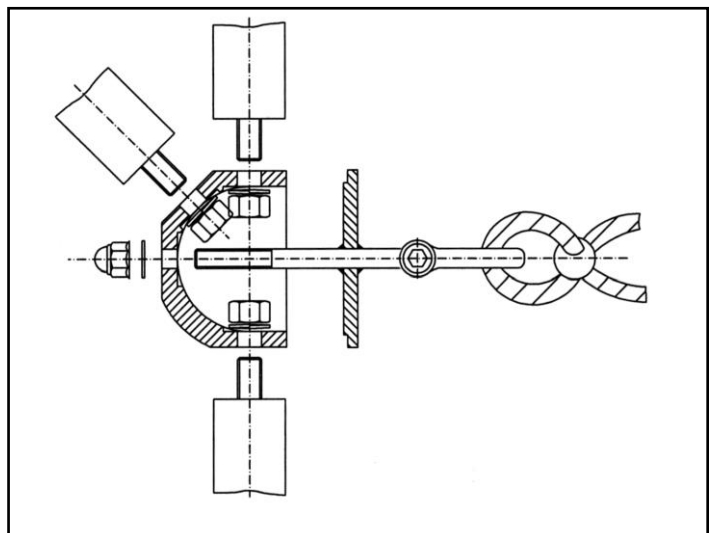


Figure 5 joint K21

## The first re-tensioning of the space netting

**!!! Initial re-tensioning should be carried out after one to two weeks of use (reference operational inspection for more details) !!!**

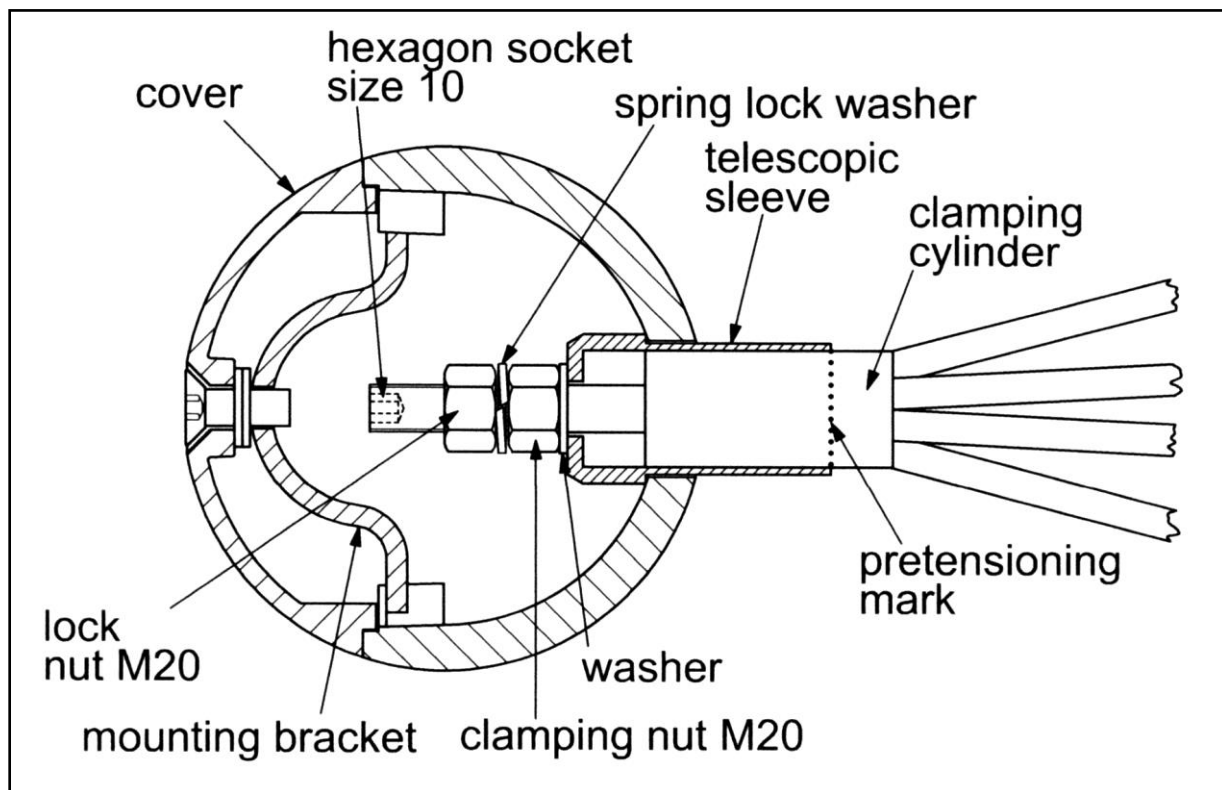


Figure 6

## Assembly of the horizontal net (NH) and the slide

As a next step, the horizontal net **NH (figure 3)** is to be installed on **level 2**. Make sure to mind the correct positioning of the entry opening, which has to be opposite to the slide connection. The screwing is done via the **ROWOCON connections (images 7 and 8)**. The screws as well as two special bits are provided.

For assembling the horizontal net (**NH**) we recommend the following procedure:

- Insert the rope ends in the **ROWOCON®** sleeves as far as they will go and fasten them (first all the ropes on the slide side).
- Secure the opposite side, using the hemp rope to provisionally tighten the net, which will make threading and screwing down easier.
- The two remaining sides of the net can then be screwed down.

**It is recommended that after the insertion of the horizontal net, the slide is put onto the connection tube and screwed together. Afterwards, align the slide and provisionally support it. Then, concrete (C20/25) should be filled into the respective holes.**

After fitting the horizontal net, the nets for the top of the frame (2x NS1, 2x NS2 and NS3) can then be fitted.

Finally, the concrete at the slide should be checked and improved in case there have been loosening during the entire installation process.

### **Notice:**

If individual rope ends should insert only with difficulty, you can help yourself with an injection of silicon or oil in the **ROWOCON®** sleeves. In no case it is allowed to remove the end sleeve of the rope!

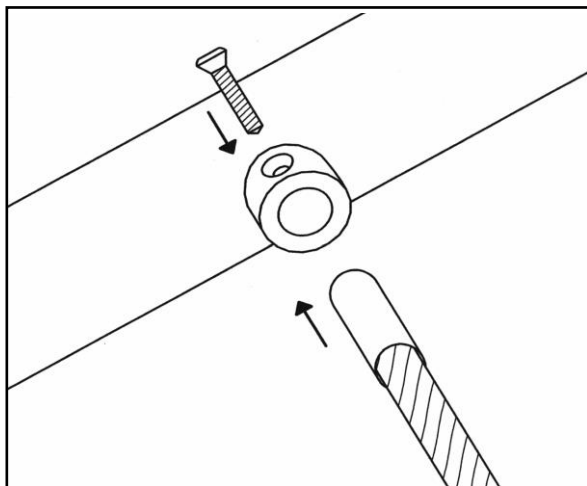


Figure 7 Alignment and fastening of the ROWOCON® sleeves

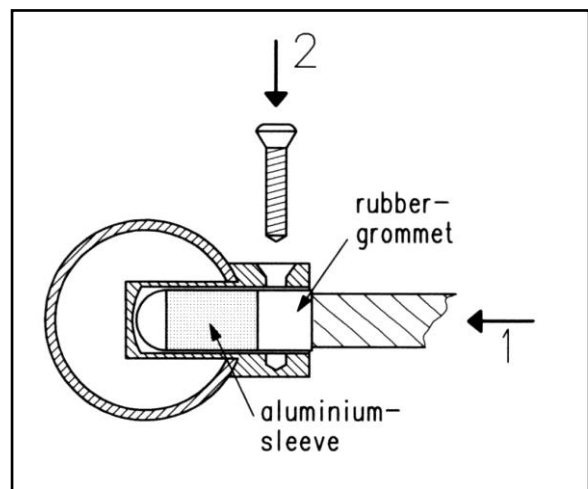


Figure 8 Bring in of the rope ends into the ROWOCON® sleeves

### Mounting of the 7m rung-bridge

To mounting the Rung-Bridge the balustrade ropes are to fix at the eye bolts of the tubes **RD1** and **RD2**. After this the balustrade ropes are to fix at the **H-post**. Now the foot ropes are to fix at the tube **RH3** and at the **H-post HS2**. With the eye bolts at the **H-post HS2** the bridge could be adjusted in the length. Please note the details in the supplement „**Mounting of smb-bridges**“.

### Mounting of the 7m hand over hand ladder

To mounting the hand over hand ladder, ropes are to fix at the eye bolts of the tubes **RD5** and **RD6**. After this the ropes are to fix at the **H-post**. With the eye bolts at the **H-post HS1** the ladder could be adjusted in the length.

### Mounting of the triangle nets under the bridge and for the ladder

The two triangle nets **ND** are to fix between the tubes **RH3**, **RD3** and **RD4** (net under the bridge) and **RH4**, **RD5** and **RD6** (net for the ladder) in the same way as the nets under the top (**NS2** and **NS**).

## Maintenance instructions EN 1176-1

### Routine visual inspection

The frequency of this inspection depends on local conditions (high/low usage, vandalism, air contamination, effects of the weather).

The net is to be checked for damage, particularly for line breaks. Care must be taken to ensure that the hollow balls are sealed.

### Operational inspection (every 6 months)

- The first re-tensioning of the equipment must be carried out after it has been used for between 1 and 2 weeks. Re-tensioning is done using the clamping nuts M20 which are situated in the hollow spheres of the level 1 and 2 (**K20, K22 and K23**). After removing the cover, using a size 10 Allen key, the locking nut M20 SW32 is to loosen at first. The re-tensioning is carried out on clamping nut SW 32 **beyond the pretensioning mark**. All connection joints of levels 1 and 2 should be re-tensioned in a uniform fashion. After being tensioned, lock the clamping nuts with the locking nuts which you are removed beforehand (**Figure 6**). **Please note the right position of the spring lock washer between the two nuts. When you tightened the lock nut, you can hold up the M20 bolt with an Allen key size 10 (figure 6).** Now the hollow spheres are locked with the prepared ball covers via the retaining bolt in the cover. Please fix all the covers that our logo is readable. Thank you.

#### **Caution:**

Please note, that at all clamping points **the ropes are not distorted** when you tensioning the net. If necessary hold it firm with a practical tool. (**figure 7**).

- Re-tensioning must be carried out once or twice again until the lengths of rope are gone.

### Main inspection (every 12 months)

#### **in addition to the visual and operational inspection:**

- Check the anchor pipes or the anchor frame for signs of excessive corrosion, especially at the transition of the concrete foundation and the anchor pipe (when foundation anchoring).
- Check to see that the pipe connections are sealed tightly in the hollow spheres. If a screwed connection has become loose, it is to be tightened inside the sphere.
- Check the clamping systems for damage.