

Technical information – BEN NEVIS²

Mounting instructions
Maintenance instructions

DIN EN 1176-1
DIN EN 1176-1



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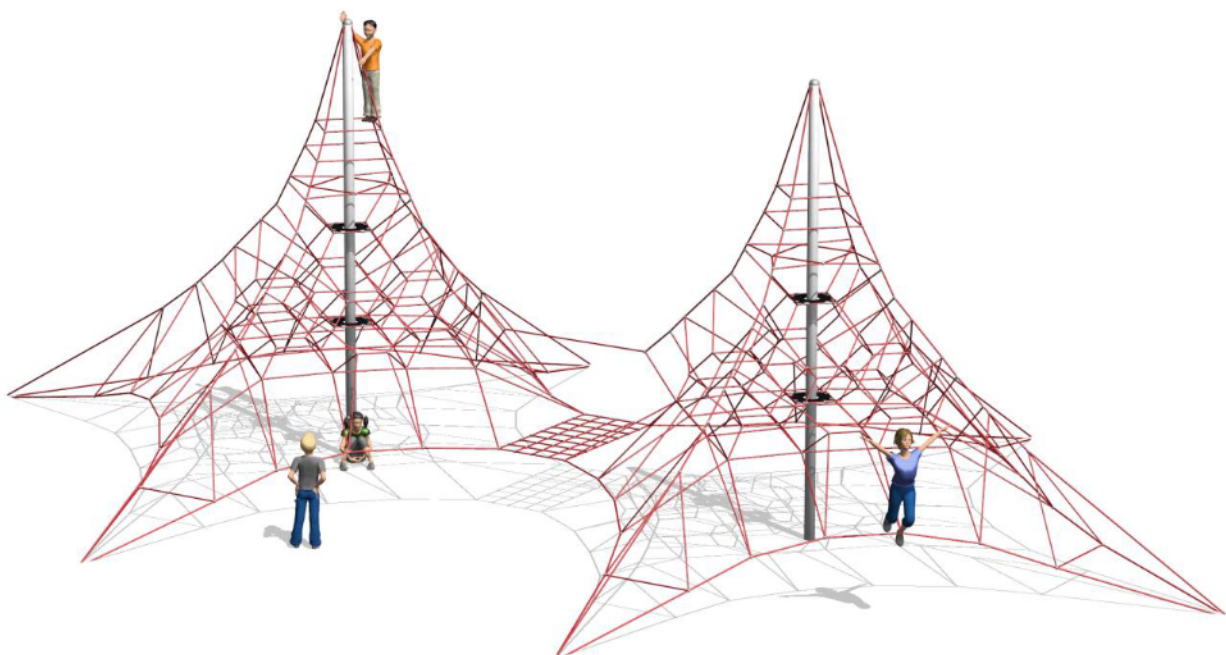


Fig. 1- Symbolic illustration of Ben Nevis²

Art. Nr. 1262062

If you have any further questions do not hesitate to contact us:

smb Seilspielgeräte GmbH Berlin in Hoppegarten
Technikerstraße 6/8
DE-15366 Hoppegarten

Fon. +49 (0) 3342 50837-20
Fax. +49 (0) 3342 50837-80

info@smb.berlin
www.smb.berlin

1 Mounting instructions

1.1 General

The described work must be carried out by qualified specialists (a minimum of 3 persons).

Dimensions

Effective space	11.60 x 18.60 m
Fall space	1.50 m
Minimum space	14.60 x 21.60 m
Height	5.80 m

Age group

From 5 years of age

Number of users

92 children

Maximum free drop height

2.40 m

1.2 Ground quality

We refer to EN 1176-1 with respect to the ground conditions in the playing area. Sand, wood chippings, gravel and synthetic fall protector with HIC test are accordingly permitted. We recommend a 400 mm thick bed of gravel (grit size 2 – 8 mm) or a sand filling (grain size 0.2 – 2 mm). When applying a synthetic fall protector it must be guaranteed that all positions relevant for maintenance (see Maintenance instructions on page 9) are accessible at all times. If necessary, consult smb.

1.3 Assembly tools

Tools supplied

- 1 size 46 open jawed spanner with extension

Additional tools required

- 2 cable pulley (10kN tensile force)
- 2 hemp rope, min. Ø20 mm, length according to requirements
- 2 crowbar
- normal assembly tools (hammer, pliers, screwdrivers, etc.)

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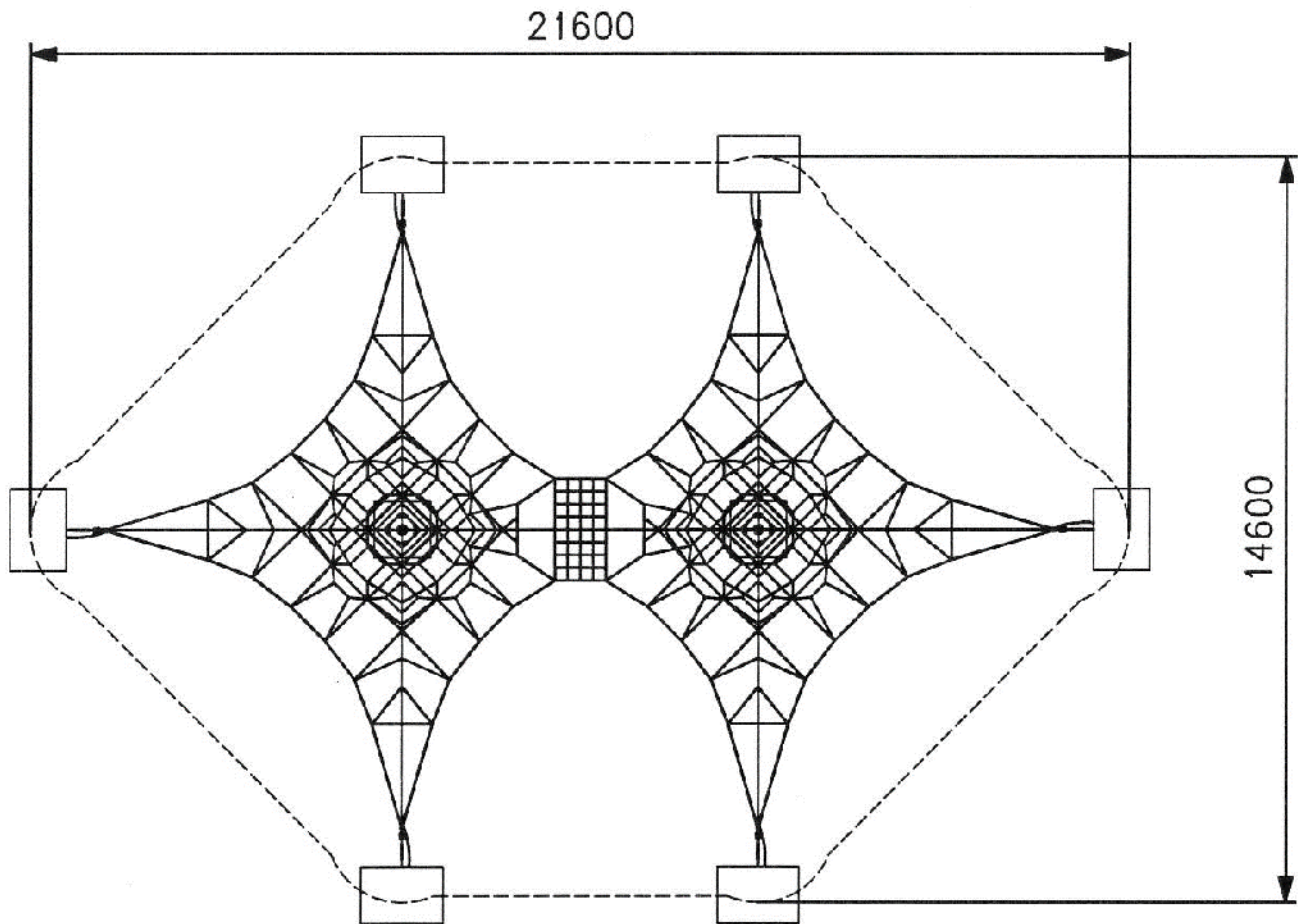


Fig. 2 – Top view with safety area

Minimum concrete quality for the foundations:

C20/25 (B25)

Setting time:

at least 8 days

Amount of concrete required:

approx. 9.1 m³

We are working with the assumption that the ground is naturally grown soil. If this is not the case, please consult us as the foundation dimensions may need to be changed.

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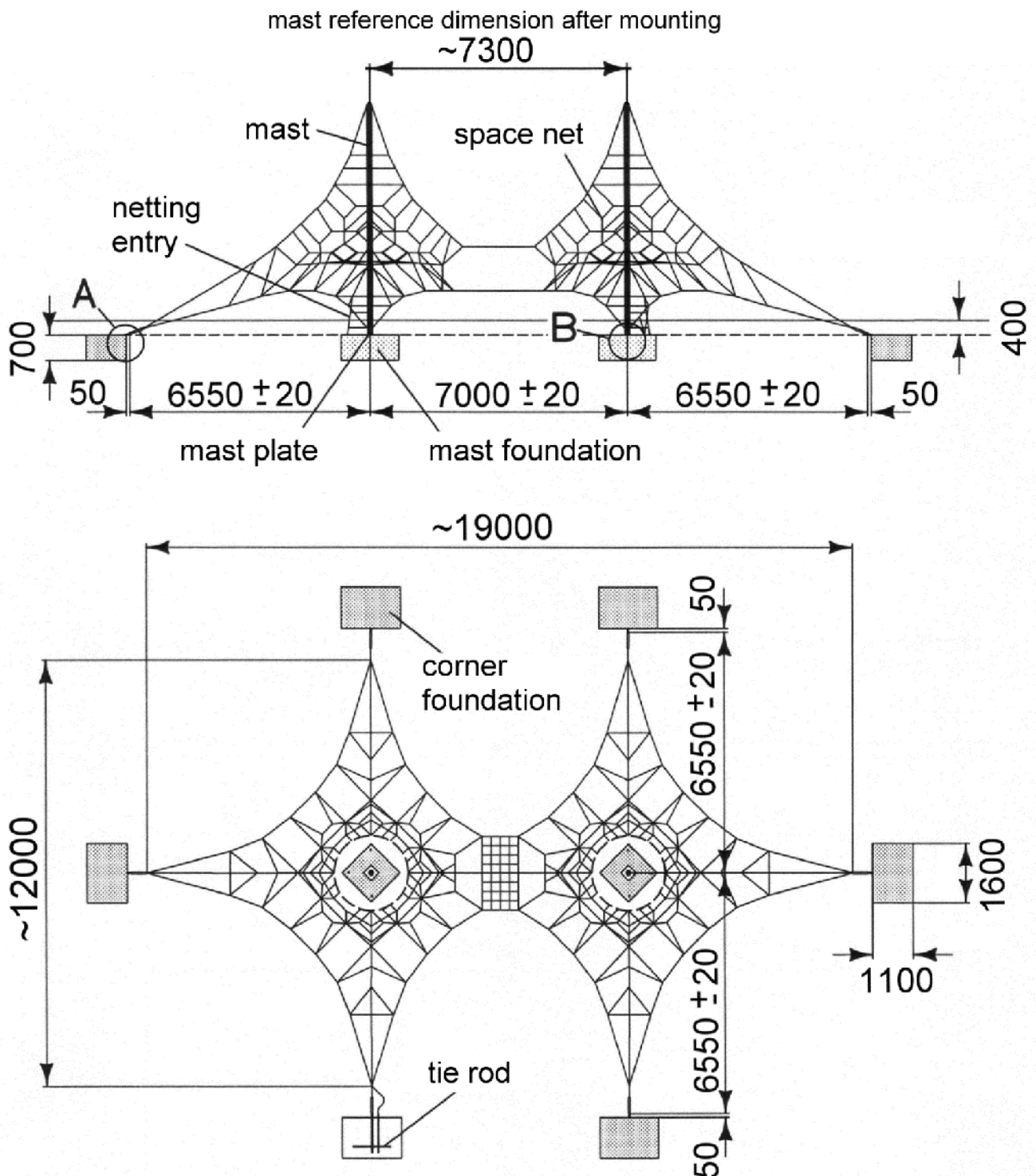


Fig. 3 – Front view and top view with foundations

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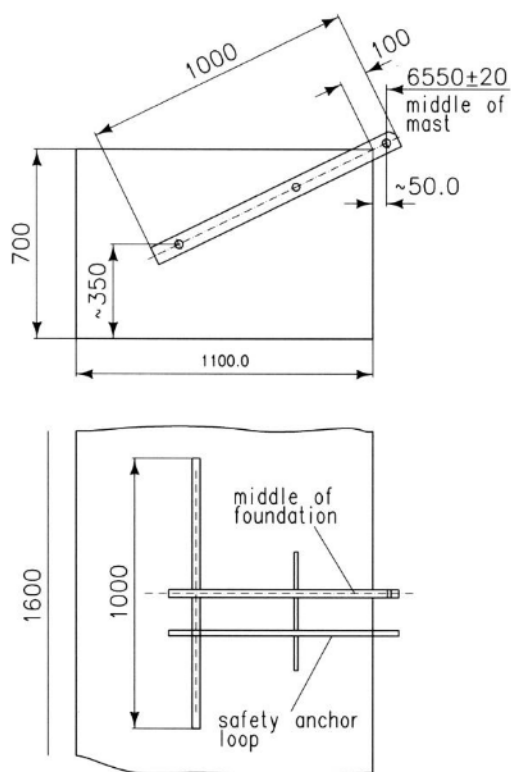


Fig. 4 – Anchors at the corner foundations

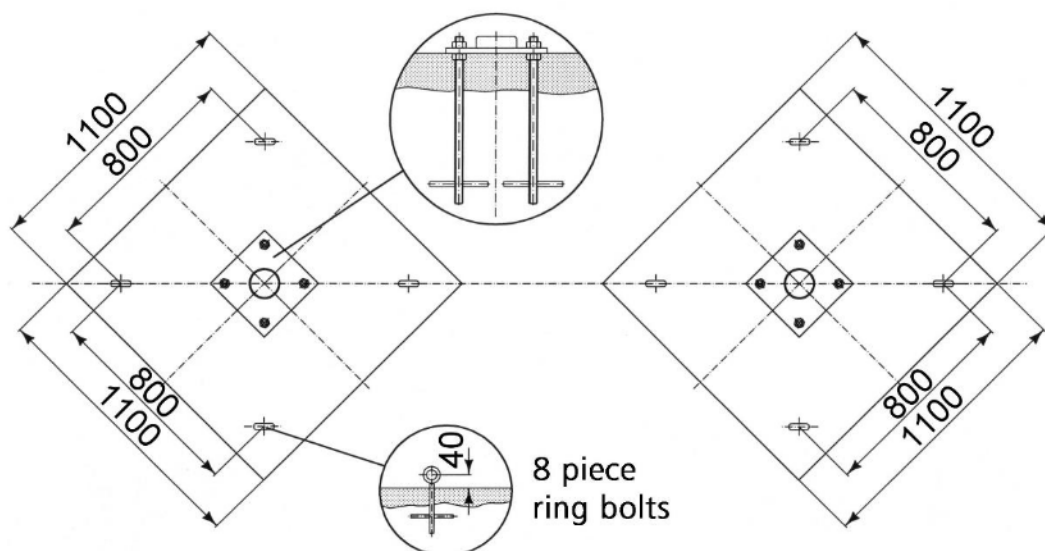


Fig. 5 – Mast plate foundations with positioning of the eye bolts

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1.4 Installing the masts and the space net

General advice

The Hercules rope from which the space net is made, is a wire rope coated with a chemical fiber. The coating can be damaged when pulled or dragged over sand or soil, so please be careful when handling the spacenet!

Spreading out the space net

In the factory, the space net is folded in a specific way when it is packed into the crate. Accordingly, when removing the net from the crate, be mindful of these folds. The net is spread out on the ground in such a way that the marked corner points 1, 4, 5 and 6 are positioned at their corresponding foundation point (**Fig. 6**). Connect the corners of the space net to the foundations 1 and 4 by connecting the shackles to the tie rod links (**Fig. 7**).

Inserting the masts into the space net

Push the masts through the space net to the two tops of the net. Make sure that the black painted markings (that mark the play level with their top edge) are pointing towards the mast plate. A hemp rope in the space net provides orientation while pushing the masts through. Once the masts have been pushed through, place the mast caps (at the tops of the net) in the masts, align the masts and support them provisionally at the top (**Fig. 6**). In this position, make sure that the bottom end of the masts are supported by the circular section of the mast plates.

Raising the mast

When raising the mast, it is essential to make sure that you pull the mast, not the space net!

For raising the masts, use one rope pulley of 10 KN pulling force each. The raising of the masts including the space net should be done carefully. Make sure that the mast caps are in the mast tube and are not pulled out, and that the bottom end of the masts are positioned over the circular sections of the mast plates at all times.

Both masts are raised at the same time!

Once the masts are raised more than 45°, connect the net to the foundations 5 and 6 (**Fig. 6**). Continue raising the masts until they are vertical and then make the last connections to foundations 2 and 3 (**Fig. 6**). A crowbar in the curved shackle can help pull the net towards the tie rod foundation.

When raising the masts and tensioning the spacenet, it is essential to make sure that the masts are not pulled beyond vertical!

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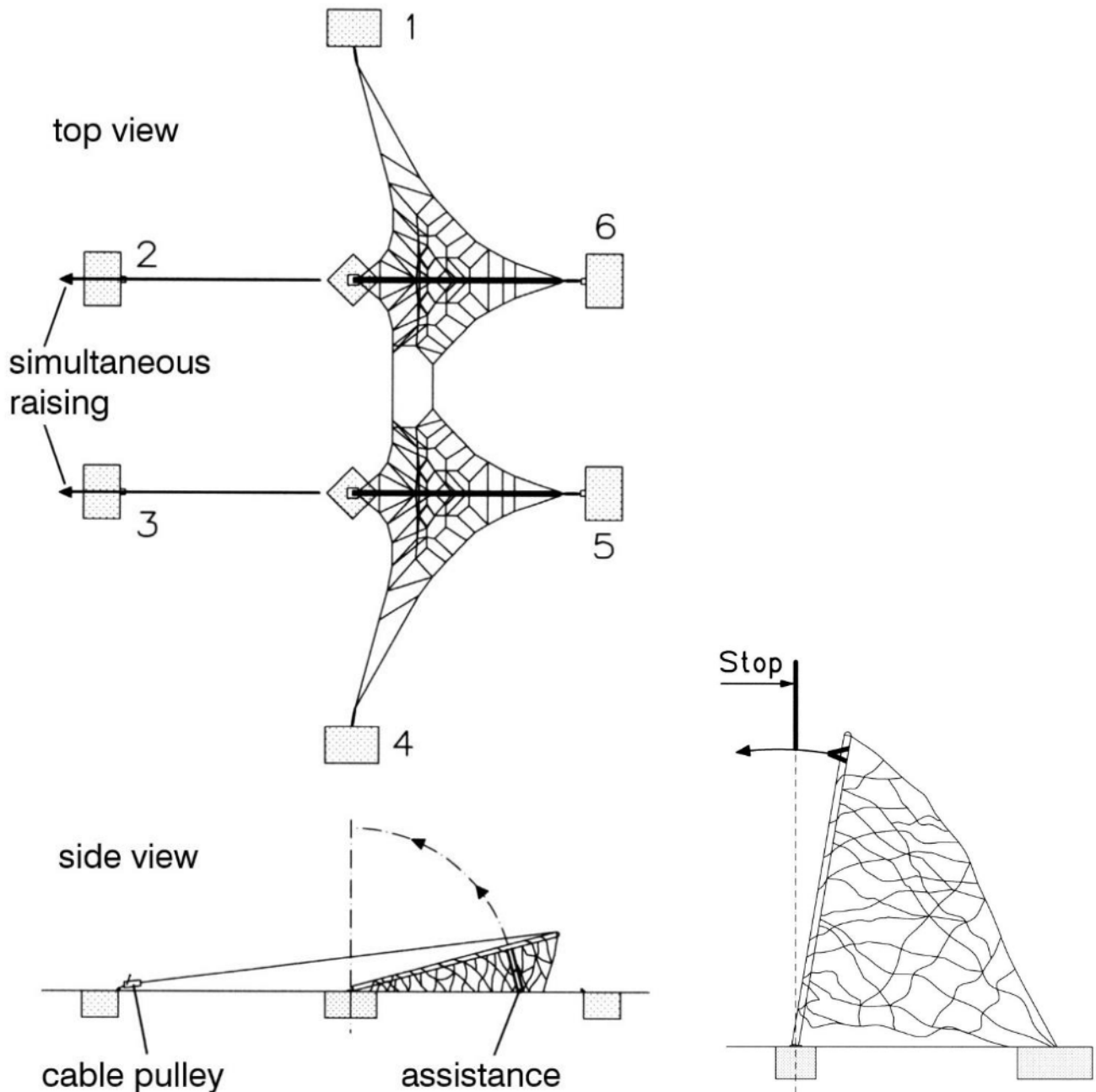


Fig. 6 – Raising the masts

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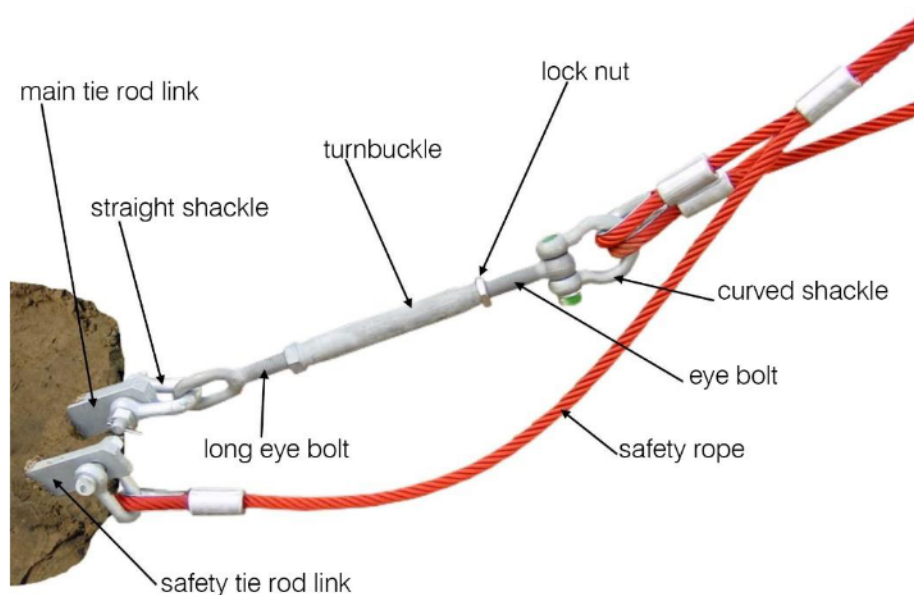


Fig. 7 – Connection between space net and foundation

1.5 Attaching the entry ladder

The entry ladders are pre-assembled in the space net and only need to be connected at the bottom to the eyebolts of the mast foundation (**Fig. 5**).

1.6 Tensioning of the space net

Tensioning is carried out at the turnbuckles with the supplied tensioning tools (**Fig. 7**). After light pretensioning at all turnbuckles to ensure a secure stand of the pyramid, tension evenly at the turnbuckles of foundations 1 and 4 (**Fig. 6**) until the reference dimension of approximately 7300 mm is reached (in longitudinal direction, measured at the mast heads) (**Fig. 3**). The outward deviation from the vertical should be the same for both masts. Then tension only at the turnbuckles of foundations 2, 3, 5 and 6 (**Fig. 6**) as evenly as possible. Make sure that the masts are vertical in the transverse direction. The space net should be brought under clear and even pre-tension. After tensioning, tighten the lock nuts firmly.

The first retensioning of the space net

Initial retensioning should be carried out after one to two weeks of use (reference the maintenance instructions for more details)

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2 Maintenance instructions

Visual routine inspection

The frequency of this inspection depends on local conditions (high/low usage, vandalism, air contamination, effects of the weather). The inspection should be carried out by a qualified person or company.

- Check the space net for damage, particularly for line breaks.
- Check the condition of the ground in the safety area (e.g. contamination or piling).
- Check that the play level is at the height of the top edge of the black painted markings on the masts.

Operational inspection (every 6 months)

In addition to the visual routine inspection:

- At the mast caps, check that the center marks of the mast ropes are positioned between the rope brackets.
- Check that the lock nuts on the turnbuckles are tight (**Fig. 7**).
- Check the shackle connection of the safety ropes to the thinner tie rod link (**Fig. 7**).
- Check the tension of the space net and retensioning if necessary.

Retensioning

- Expose the turnbuckle and clean the threaded parts (**Fig. 7**).
- Loosen the lock nut.
- Tension evenly at the turnbuckles with the supplied size 46 spanner as long as it is possible to turn using manual force without major effort. When tensioning, counteract the direction of the tensioning rotation to prevent the anchoring ropes from twisting.
- Make sure that the masts are standing vertical in the transverse direction and that the reference dimension of approximately 7300 mm is reached in longitudinal direction, measured at the mast heads (**Fig. 3**).
- Tighten the lock nuts again after the tensioning is completed.

Main inspection (yearly)

In addition to the visual and operational inspection:

- Check all the shackle screw connections.
- Check the safety ropes for damage.
- Check the tie rods at the foundations for signs of corrosion.
- Check the mast plate for firm position on the foundations and for signs of corrosion.
- Check the foundations for concrete failures. Expose the concrete in the area of the tie rod to do so.

Please note

The swaying of the mast tube is a static necessity and therefore intended.

To provide play appeal and a long service life, the spacenet must be kept under tension. Approximately one week after initial use, the first retensioning should already be carried out. Further retensioning at longer intervals is necessary until the natural rope elongation is exhausted.

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