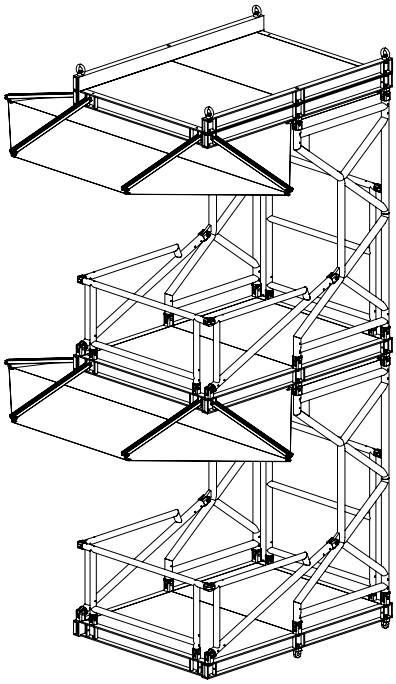
Assembly Manual

SPBK150208
Spot Basket for follow spots



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1 Preface

Make sure that you read and understand this manual completely before using this structure.
This manual should be available for everyone assembling, disassembling or loading the SPBK150208 (Called, from here on, simply by the term "Spot Basket").
In the event that certain steps are not clear please contact our Technical Department.
Save this manual for later use. At request, we can send you an additional manual or you can download it from the Efesto website.

Contents

2 Introduction

This manual will describe the steps of assembly of a modular structure for temporary and itinerant use, hereinafter called *Spot Basket*.
It is a modular aluminium structure, assembled with prefabricated components and used as a suspended work plan in combination with free-standing towers and lifting systems. A typical application of this structure is to provide a support base in elevation, for stage luminaries, commonly called "Follow spots" and for the operator assigned to its use.
This manual does not deal with the nature and the shape of the structure that support the *Spot Basket* (Tower, chain hoist, motors, etc.).
Before starting the assembly note the following:

- Make sure the "Spot Basket system" is build of genuine Efesto production components.
- There is no capacity for snow or seismic load. Only use the Spot Basket during snow-free periods and regions free from seismic-activity.
- Always wear safety-shoes and gloves while assembling or disassembling the Spot Basket.

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3 Components identification

Spot Basket is composed of two main structures (see Fig.1): A top element (SPBK/FB150208), with the function of suspension element (flying bar), and one or more (max 4) basket modules (SPBK/M150208).

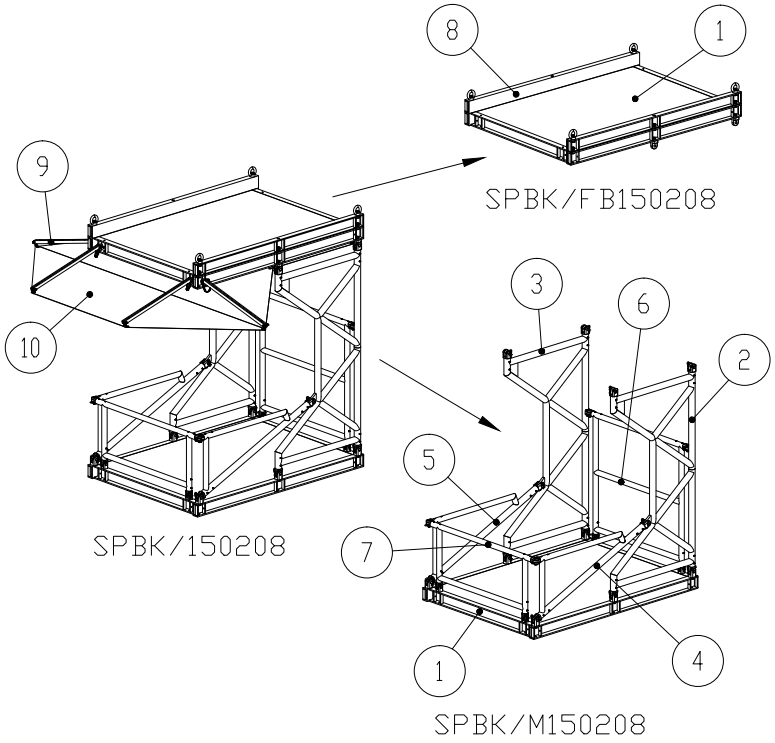


Figure 1: Spot Basket main components

In turn, top element and basket module, are composed by basic elements. These components are listed in the following table with reference to the numbering indicated in the figure 1.

Number	Components	Description
1	SPBK/P150208	Platform
2	SPBK/MF105200S	Main frame, left
3	SPBK/MF105200D	Main frame, right
4	SPBK/SF152S	Secondary frame, left
5	SPBK/SF152D	Secondary frame, right
6	SPBK/BR125	Back railing
7	SPBK/FR63	Front railing
8	SPBK/FBC208	Flying bar component
9	SPBK/RC90	Rod for tarpaulin cover
10	SPBK/TPVC	PVC tarpaulin

These components are illustrated in the following images:

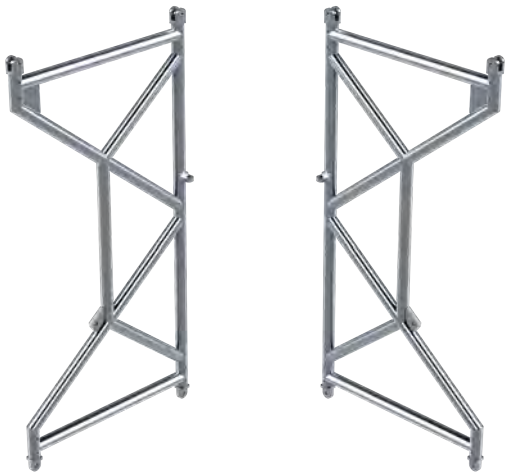
3.1 Platform

It's the basic component both for the realization of the basket module that for the realization of the top element.

Figure 2: SPBK/P150208

3.2 Main frame

It's one of the main structural element (together with the secondary frame and the platform) as well as the element of continuity between the basket modules and between module and top element.



(a) (b)

Figure 3: Main frame: (a) SPBK/MF105200D; (b)SPBK/MF105200S

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3.3 Secondary frame

The only difference between the left (SPBK/SF152S) and right (SPBK/SF152D) element is the hole for the pin on the fork that connects this element to the main frame. In fact, in both components, the counterbore of the hole must be on the outer side of the Spot Basket.

Figure 4: Secondary frame: SPBK/SF152S and SPBK/SF152D

3.4 Back railing

This component closes, at the rear, the basket and has bracing function.

Figure 5: SPBK/BR125

3.5 Front railing

This component, located on the front of the basket, has the same function of the back railing.

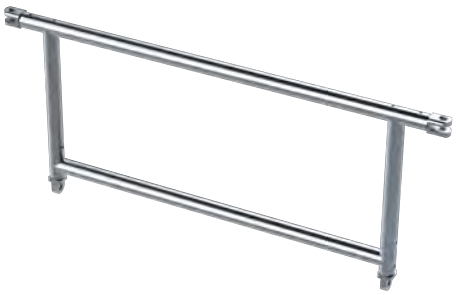

Figure 6: SPBK/FR125

3.6 Flying bar component

The flying bar component is the accessory that, combined with a platform, allowing for the suspension of the Spot Basket.

Figure 7: SPBK/FBC208

3.7 Rod for tarpaulin cover

The SPBK/RC90 is the accessory that allows the installation of the PVC tarpaulin in the front of the Spot Basket. They should be installed on the platform just above the basket that you want to cover.

Figure 8: SPBK/RC90

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3.8 PVC tarpaulin

The PVC tarpaulin cover is a shelter from the sun and light raining.

3.9 Coupler components

The connections between the different components must be made with forks, pins and high strength bolts. Below, we describe the main elements.

Forks

The forks, which are described in this section, are those in galvanized steel, to be mounted on the platforms, by means of bolts, and which will be coupled with the corresponding aluminium forks welded on the remaining components (main and secondary frames and railings). These forks are divided into:

- Female forks ("U" forks) SU6060M16 (Fig.9): with base side of 60 mm and threaded hole M16;
- Female forks SU5050M12 (Fig.9): with base side of 50 mm and threaded hole M12;
- Male forks ("T" forks) ST6060M16 (Fig.10): with base side of 60 mm and threaded hole M16.

Figure 9: SU6060M16; SU5050M12.

Figure 10: ST6060M16.

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Pin kits

- PF52; PF105: These kits (Fig. 11) consist of a clevis pin and a safety cotter pin made of steel. The kit PF52 includes a clevis pin 64 mm long and it must be used for the SU5050M12 forks, while the kit PF105 with clevis pin 74 mm long, must be used for the forks SU/ST6060M16.
- S/60D10F4: Consist of a pin and a safety cotter pin made of steel, linked together by a chain (Fig. 12). The S/60D10F4 it must be used to connect the rod SPBK/RC90 to the platform.

Figure 11: PF52; PF105.

Figure 12: S/60D10F4

4 Assembly

The assembly of the components is achieved by means of fork connectors with clevis pins and safety cotter pin (see Fig. 13).

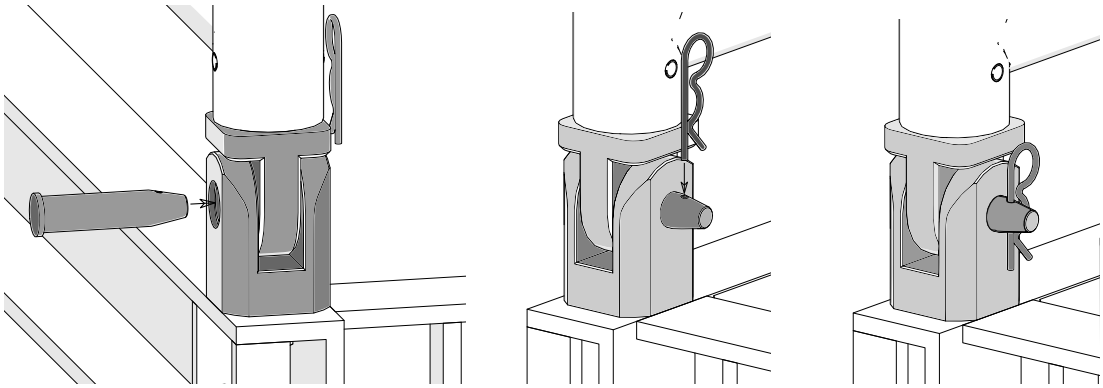

Figure 13: Forks connection by means of clevis pin and safety cotter pin

Forks mounting on the platform

In the case where the forks are already mounted on the platform you can skip to the next step.
The forks must be mounted on the platform (see Fig. 14) with a hex cap screw and a split washer (Grower model), as illustrated in figures 15 (upper side) and 16 (underside). The characteristics and dimensions of the components to be used are given in figure 17.

NOTES:

- *For easy assembly of the structure, the hole counterbore of fork, should be on the outer side of the platform for the SU6060M16 and inside for the SU5050M12;*
- *The "T" forks ST6060M16 are not necessary to the platforms of the terminal modules;*
- *The "U" forks (ST6060M16 and ST5050M12) must not be installed on the platform of the top element (SPBK/FB150208 in figure 1)*

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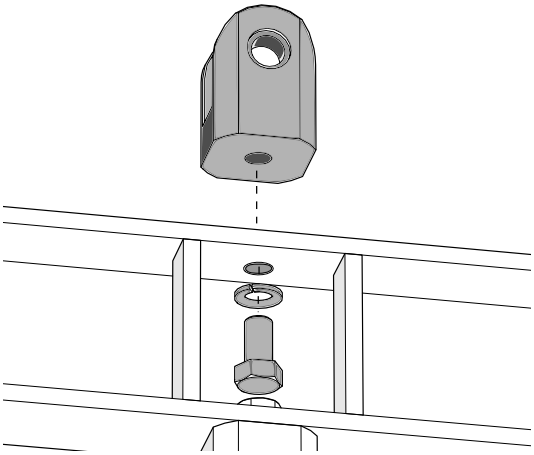

Figure 14: Forks assembly

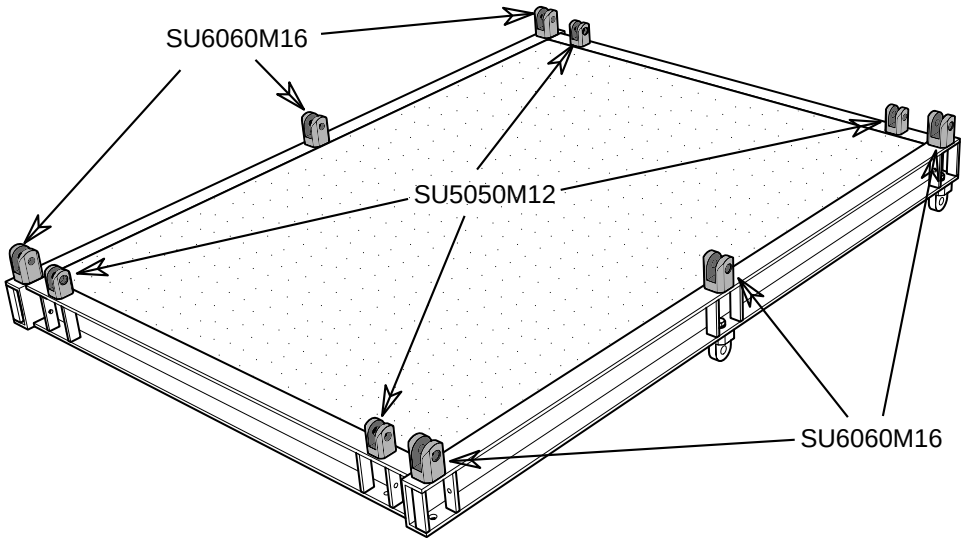

Figure 15: Forks assembly on the upper side.

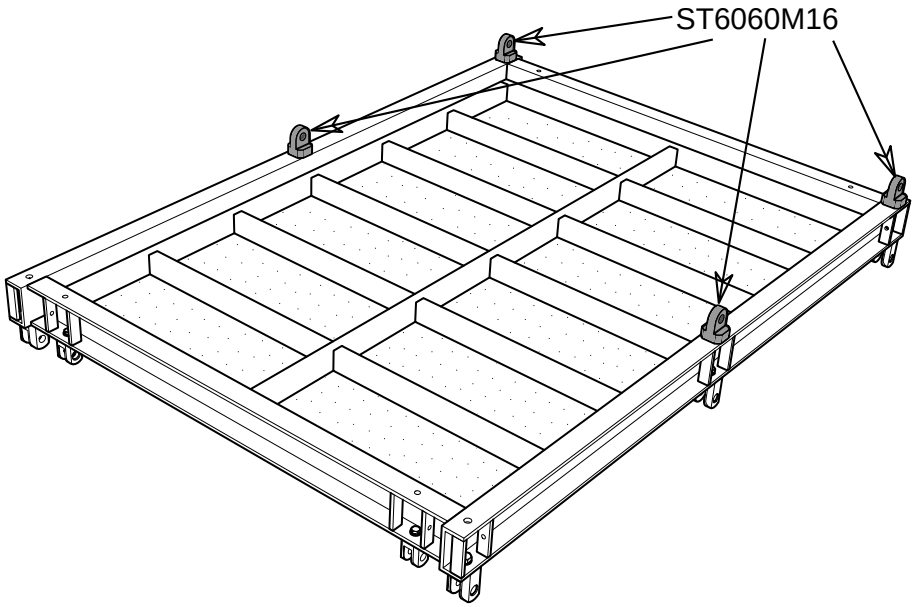

Figure 16: Forks assembly on the underside.

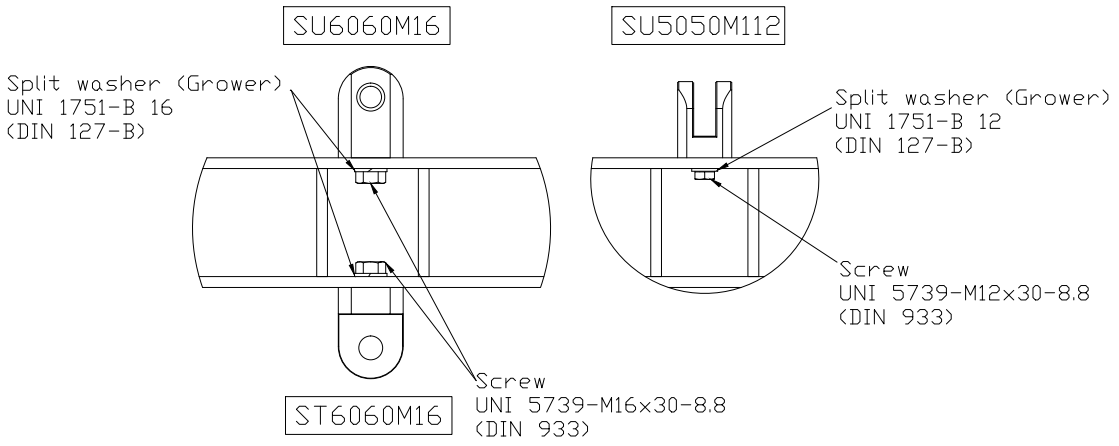

Figure 17: Bolts specifications

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4.1 Basket module assembly

Main frames assembly

The main frames must be mounted on the rear forks (SU6060M16) of the platform, as shown in figure 18 (using the circled elements as references).

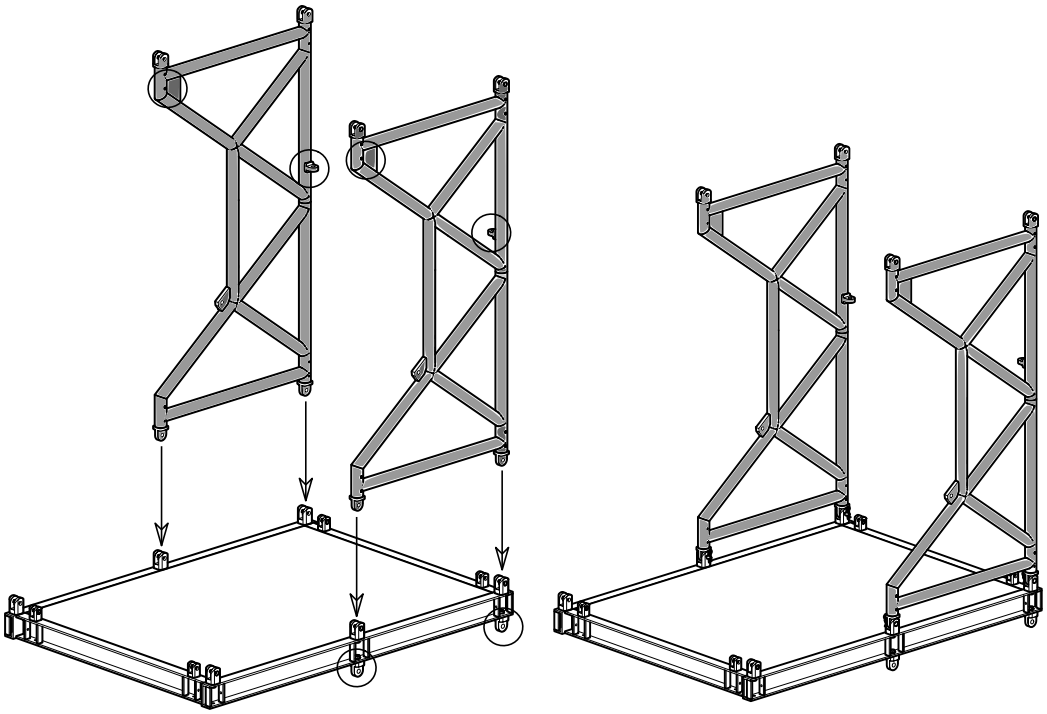

Figure 18: Main frames assembly

Secondary frames assembly

The secondary frames must be mounted between the front forks (SU6060M16) of the platform and the intermediate front joints present on the main frames (See Fig. 19)

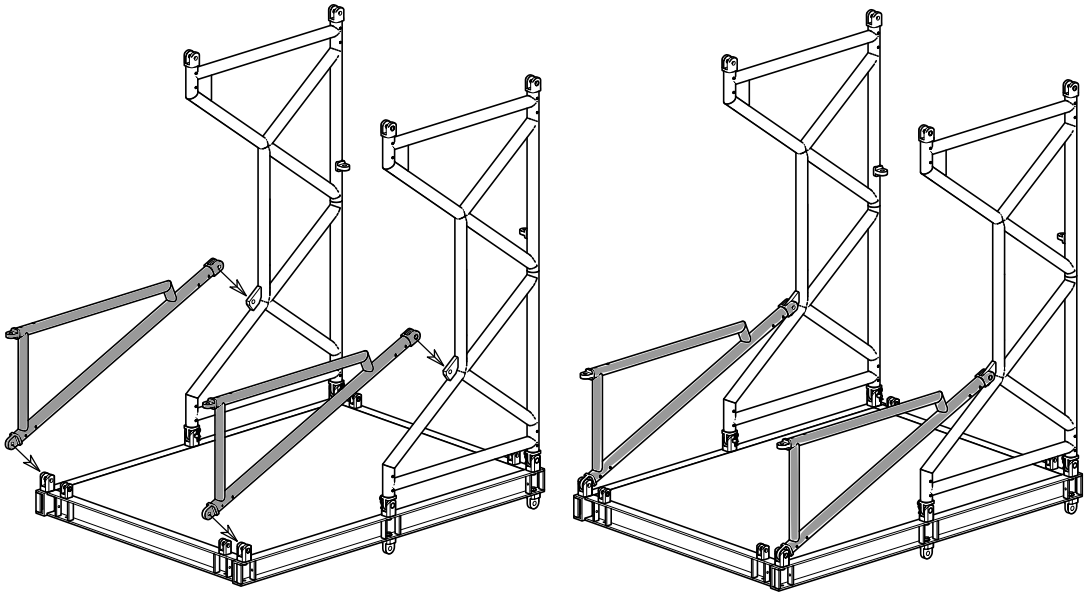

Figure 19: Secondary frames assembly

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Back railings assembly

The back railing must be mounted between the rear forks (SU5050M12) of the platform and intermediate rear forks present on the main frames (See Fig. 20).

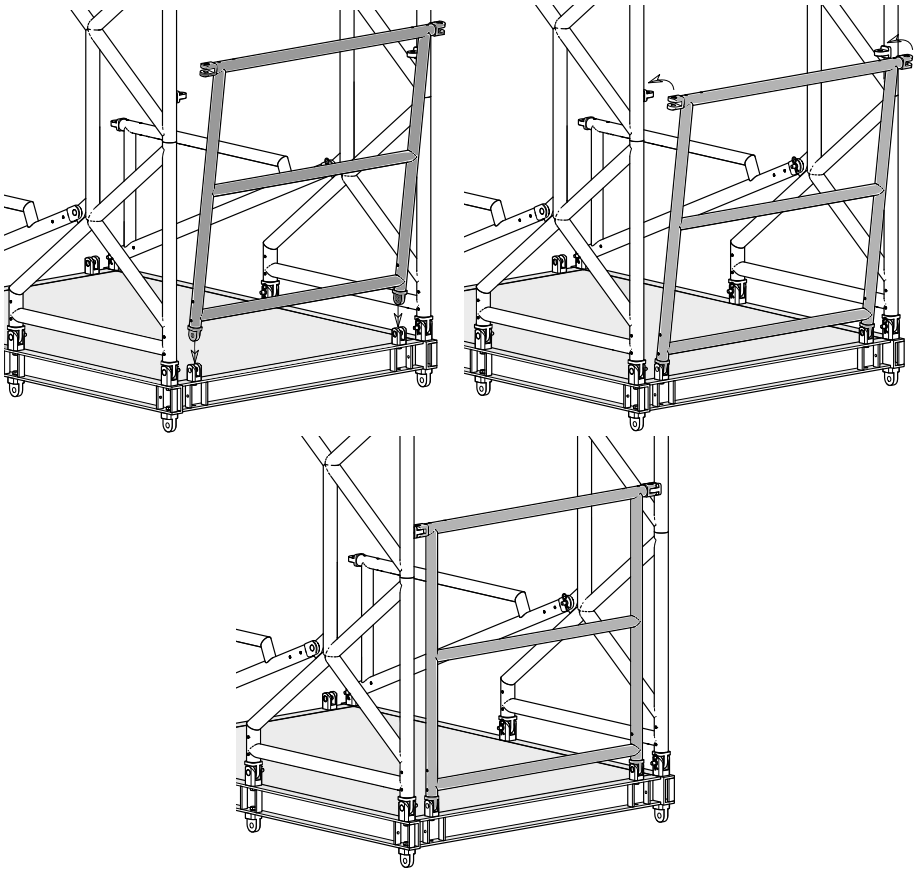

Figure 20: Back railings assembly

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Front railings assembly

The front railing must be mounted between the front forks (SU5050M12) of the platform and the forks present on the secondary frames (See Fig. 21).

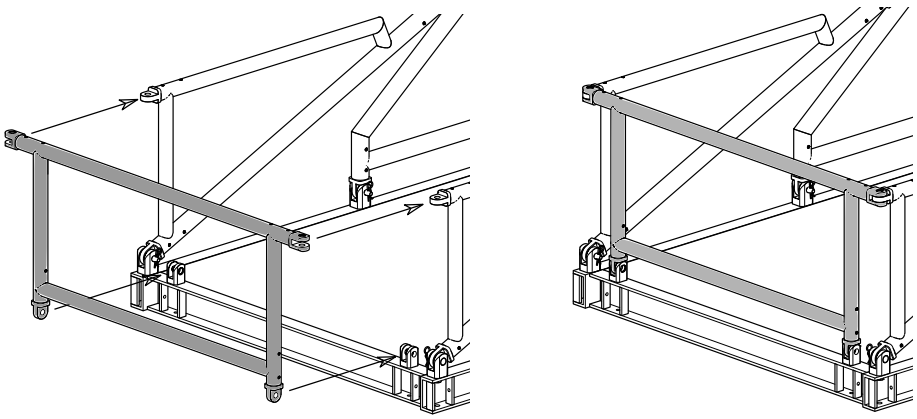

Figure 21: Front railings assembly

In figure 22 is shown the assembled basket module.

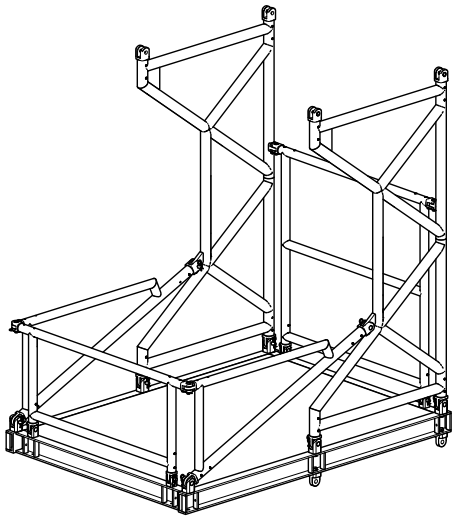

Figure 22: Assembled Basket module

4.2 Flying bar assembly

The *Top element* must be assembled by mounting two *Flying bar component* on a platform with no forks on the top side. Each *Flying bar component* must be equipped with two eyebolts M24 at the end. The connections must be made, in the six points shown in figure 23, with the components indicated in figure 24.

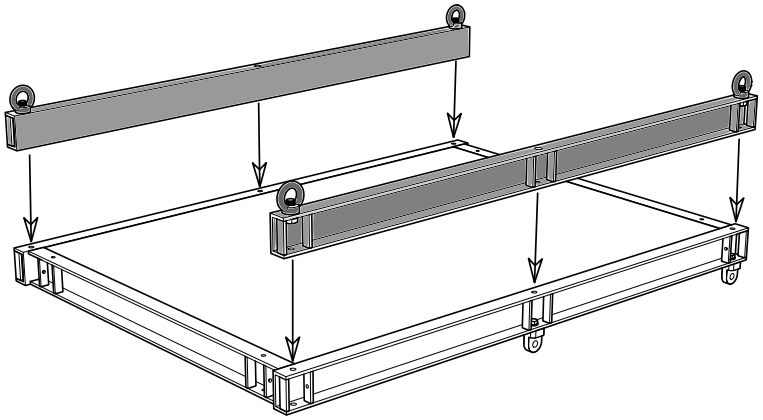

Figure 23: Flying bar assembly

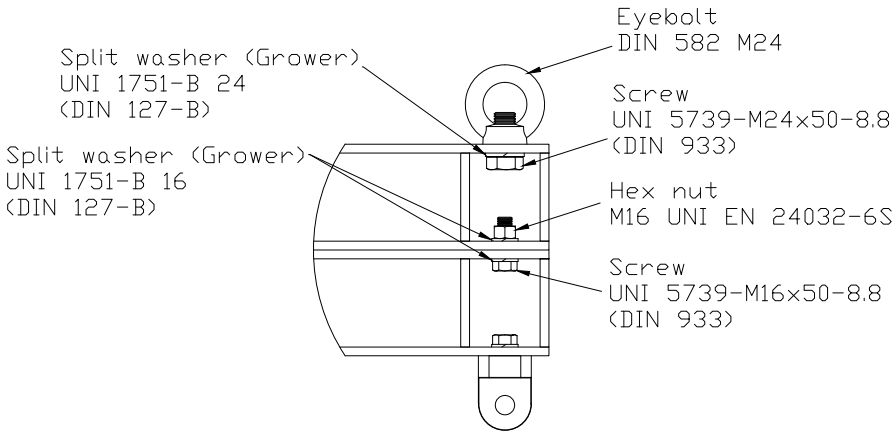

Figure 24: Bolts specification

4.3 SpotBasket assembly

At this point, we can assemble, a basic *Spot basket*, by connecting the *basket module* to the *top element* (Fig. 25 and Fig. 26)

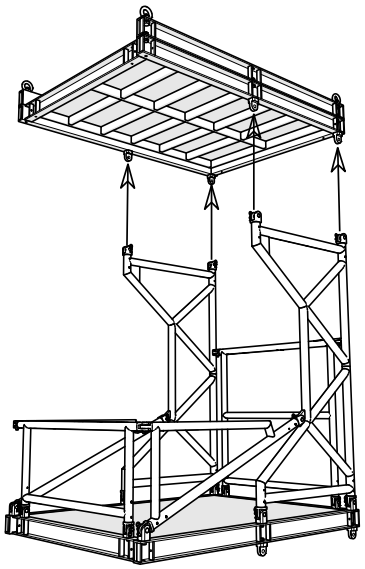

Figure 25: Spot Basket assembly

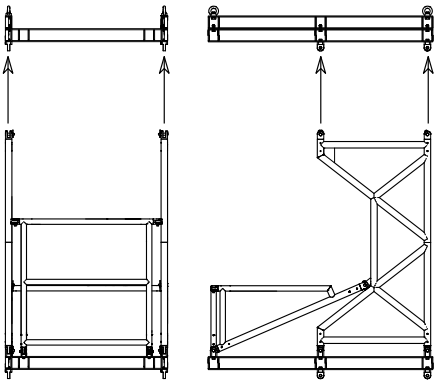

Figure 26: Spot Basket assembly

One proceeds in the same way for the assembly of successive modules (max four)(Fig: 27).

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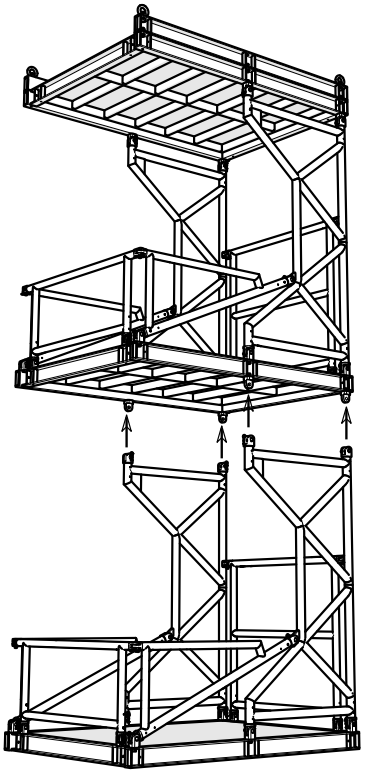

Figure 27: Next modules assembly

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4.4 PVC tarpaulin assembly

In the case that we want to mount the PVC covers (See Fig. 28), we have to first install the rods for tarpaulin on the platforms that will receive these covers. The rods must be assembled on the platforms using the pins S/60D10F4 (See Fig. 29).

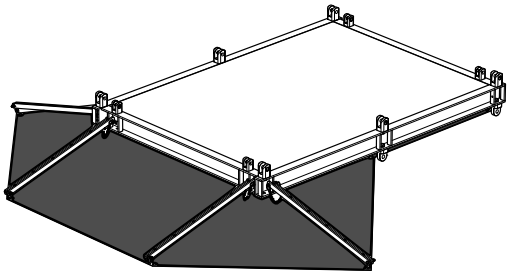

Figure 28: Cover on platform

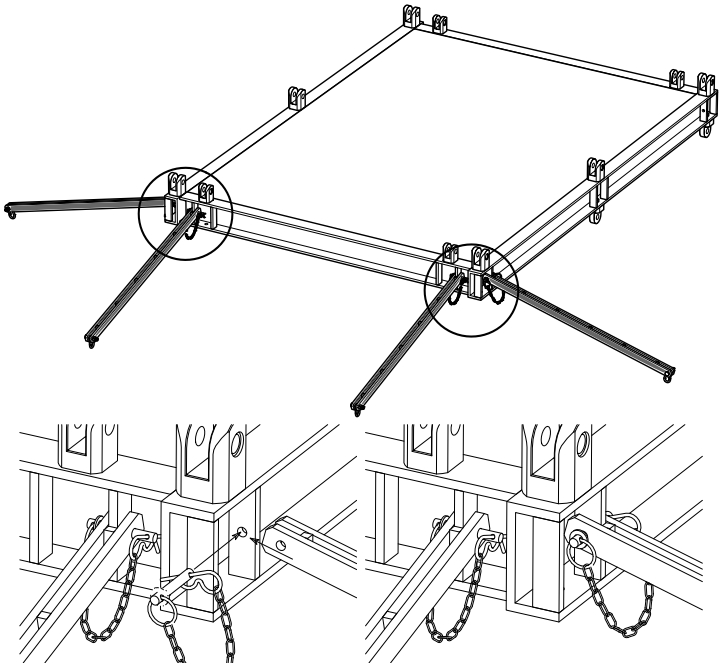

Figure 29: Rods for tarpaulin cover assembly

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5 Disassembly

Disassembly is principally done by going through the assembly procedure in the reverse order.

6 General use

Spot Basket is a structure for temporary and itinerant use. It is a modular aluminium structure, assembled with prefabricated components and used as a suspended work plan in combination with free-standing towers and lifting systems. A typical application of this structure is to provide a support base in elevation, for stage luminaries, commonly called "Follow spots" and for the operator assigned to its use.
There is no capacity for snow or seismic load. Only use the Spot Basket during snow-free periods and in regions free from seismic-activity.
The load capacity defined for Spot Basket in §7 (function of modules number) are to gross of the wind actions, as it is not possible to establish the installation boundary conditions of the structures described here.
The actions due to the wind, are subject to variation as a function of the installation area, the type of terrain, the exposure category of the site, as well as the height of installation and by the morphology of the overall structure (comprising the support structure: for example the tower truss).
Wind action must be assessed in relation to the location and height of the installation and with respect to local building regulations and loading reductions should be made accordingly.

7 Loading

The following table shows the uniformly distributed loads that can be applied on the structure platforms, in various mounting configurations (see page 27, §7.2, Structural Report ID.18.2015):

Number of modules	Load $[kg/m^2]$
1	600
2	400
3	300
4	200

8 General prescriptions

- Maximum number of modules in overlap is 4;
- The defined loads are static; If, during the installation, the dynamic actions cannot be limited, they will have to be carefully considered by any personnel involved in the assembly and control of this phase;
- The structure after being taken to the working height must be constrained in order to block the horizontal displacement.
- The railings do not constitute a protection system against falling from a height, so the operator on the structure must be provided with personal fall protective equipment (harness).

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- User must carefully read and clearly understand the assembly guide before installation;
- The structure is supposed to be used by specialized personnel, expert enough and adequately trained for the assembly/disassembly and to use it;
- It is to be borne by a qualified technician to define the external actions to which the structure will be subject in places of installation;
- The connection of the components of the structure, must be fitted with the appropriate pins and connection elements;
- Operators must also check that all pins have been mounted complete with safety lock, ensuring the integration of any missing items;
- The personnel must be present during the entire period of use of the structure;
- All of the support structures of the "Spot Baskets system" must be adequately dimensioned, both from the constructive point of view and from the point of view of stability;
- The assembly of the structure is subjected to testing of proper installation by a qualified technician;
- Also be sure that the components of the structure keep intact its initial characteristics of integrity and are therefore not be affected by the barrel, cracks or damage.

9 Safety inspection interval and maintenance

We recommend careful documented inspection by a competent person at least once a year and possibly more often if the circumstances or intensity of use require so. All parts have to be checked and inspected visually for damage or any other aspect, that might negatively affect the safety of the structure, prior to each time of use. Parts and components subject to dents, cracks and deformation are to be discarded and taken out of service. Special attention must be given to the coupler components. These components are to be considered as "consumables" in the sense that these parts will show more wear in use, and might from time to time have to be replaced with new ones.

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