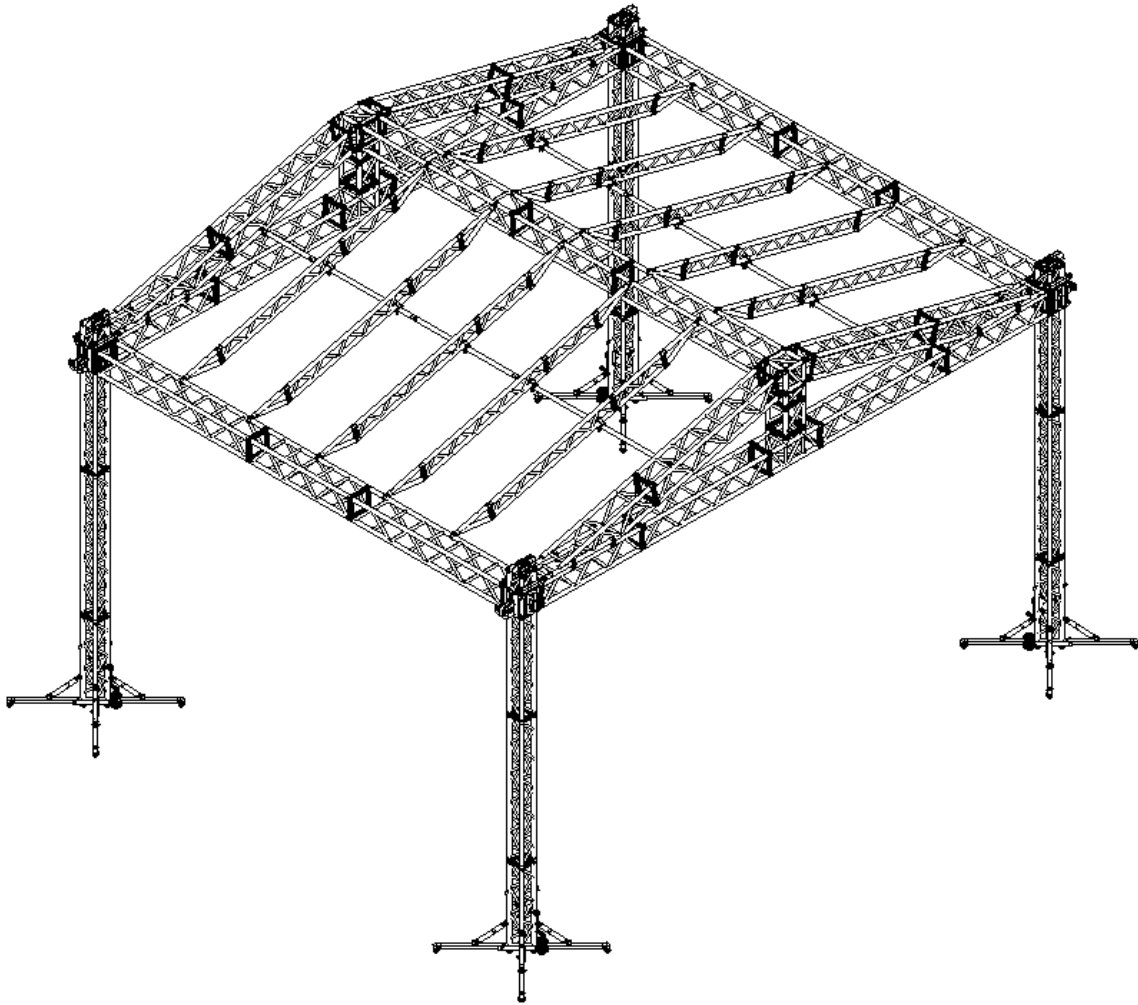

RSD0806ST - RSD1008ST USER'S MANUAL



INSTALLATION, USE AND MAINTENANCE MANUAL

Thank you for choosing LITEC products.

Each of our products is the result of careful design and in-depth technical analysis.

We always commit ourselves to guarantee the best quality and highest safety. If you follow the instructions contained in this manual carefully, you will use our products in the correct way obtaining their maximum performances and preventing them becoming damaged.

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1. GENERAL DATA OF THE MANUFACTURER

1.1 MANUFACTURER DATA

The product that you have chosen was designed and carried out by:

LITEC Italia S.p.A.
Via Martin Luther King, 70
31032 Casale sul Sile (TV) - ITALY
Tel. +39 0422.997300 - Fax. +39 0422.997399
Web site: www.litectruss.com
E-mail: info@litectruss.com

1.2 CONTENT OF THE MANUAL

This manual gives all information regarding the usage and the maintenance of the products called 'RSD0806ST and RSD1008ST'.

The manual refers to the intended use of the machine, to technical features and to the installation, use and maintenance instructions.

1.3 ADDRESSEES OF THE MANUAL

This publication refers to:

- Factory manager, if he is present.
- Persons in charge of the safety and of the design of the temporary event.
- The personnel in charge of the installation, use and uninstal of the machine.
- The personnel interested in the usage of the machine.
- The personnel in charge of the maintenance.

The manual must be kept by a person who is responsible for it, in a suited place for its preservation and its consultation.

In case of loss or deterioration, the substitutive documentation must be requested to the manufacturer.

1.4 REVISIONS OF THE MANUAL

The manual refers to the conformation of the product when it is issued in the market. The manual is an integral part of the product and it can not be considered inadequate just because it has been updated subsequently according to new experiences. Possible changes, corrections of the structures sold afterwards, do not oblige the manufacturer to bring changes to the equipment supplied earlier and not even to consider the structure and its manual as inadequate and lacking.

If the manufacturer should bring possible additions to the manual and consider right to send them to the users, they should keep the additions with the manual itself because the additions should become an integral part of it.

Note: The manufacturer has the material and intellectual property of this publication and he forbids the divulgation and the duplication, even a partial one, without his previous written permission.

1.5 TABLE OF REVISIONS

The following table resumes the revisions of the manual:

<i>RELEASE</i>	<i>ANNOTATIONS</i>	<i>DATE</i>
02	Image release	12/07/2012
03	Some contents	10/06/2014

2. WARRANTY AND RESPONSABILITY

2.1 WARRANTY AND RESPONSABILITY OF THE MANUFACTURER

With reference to what is reported in this instruction manual, LITEC Italia S.p.A. declines any responsibility in case of:

- Use of the product in disagree with the national laws about security and industrial injury.
- Wrong predisposition of the working place and of the structures where the product operates.
- Unauthorized changes in the machine.
- Use of the machine by unauthorized technical personnel.

In order to take advantage of the warranty given by the manufacturer, the user must observe strictly the prescriptions written in this manual, above all:

- He should always work following the functional limits of the product.
- He should always make a periodic maintenance.
- He should always use the original spare parts suggested by the manufacturer



WARNING. It is forbidden to use the product in disagreement with the instructions given by the manufacturer. The instructions written in this manual do not substitute but complete the duties regarding the national laws about security and industrial injury.

2.2 REFERENCE STANDARDS

The design and the production of the 'RSD0806ST and RSD1008ST' has been realized according to the following standards:

Applicable standards:

- EN 1999-1-1:EUROCODE 9
- DIN EN 13814
- DIN EN 1991-2-4:EUROCODE 1
- DIN 4112

3. PRESCRIPTION FOR THE SAFETY

3.1 INFORMATION AND GENERAL BEHAVIOUR ABOUT THE SAFETY

The assembling and disassembling operations of the product must be performed by fully trained, competent and suitably experienced people and organization.

The personnel involved in the 'RSD0806ST and RSD1008ST' use must be supplied with the necessary equipments.

In particular, the following PPE must be provided during the assembling and disassembling procedures of the 'RSD0806ST and RSD1008ST':

- Safety shoes.
- Protective gloves.
- Head protection (helmet)

3.2 SPECIFIC INFORMATION ABOUT THE SAFETY

During the assembling, use and dismantling operations of the product, the working area should be delimited previously in order to prevent unauthorized personnel from entering.

3.3 SAFETY SIGNS

The product is supplied with the following safety signs:

	<p>Obligation of consulting the user manual</p>	<p>Assembling and dismantling operations must be performed only by fully trained, competent and suitably experienced people and organizations</p>	
	<p>Obligation of using protective helmet</p>		<p>No handling of the pulley</p>
	<p>Obligation of using protective gloves</p>		<p>No lifting people</p>
	<p>Obligation of using protective shoes</p>		<p>Warning suspended loads</p>
	<p>Obligation of grounding</p>		<p>Danger of cutting hands and feet for planes or mechanical devices in movement</p>

4. PRESENTATION OF THE PRODUCT

4.1 GENERAL DESCRIPTION OF THE PRODUCT

The 'RSD0806ST and RSD1008ST' are two devices for temporary use which lifts and supports truss systems and other loads in the entertainment industry.

The truss of the tower belongs to the QX30SA series made by LITEC Italia S.p.A.

At the top of the truss there is an element supplied with pulleys useful for the returning of the rope of the manual winch. This element is constrained to a base which lies on an adjustable foot. Four profiles depart from the base in order to give a suitable stability to the tower against its upsetting. They are made by aluminum and they have a rectangular section whose extremities are supplied with adjustable feet, too. Then, four aluminum tubular stabilization bars help in supporting the truss of the tower which is already fixed to the base. The load can be lifted by a chain hoist too.

4.2 GENERAL DATA

Size of the roof

The roof will be assembled in the size of 10x8 m and 8x6 m. The total height of the structure is 7,5m. The stage roof is considered to be a temporary structure that can be dismantled and not as a permanent building.

The whole structural-framework consisting of Aluminum trusses is made by the company LITEC Italia. Geometry and allowable loads are shown at the end of the paragraph. The roof area is enclosed with canopy, Rear wall and sides can be closed with canopy.

Canopy

The Canopy is calculated to be 100% closed.

The wall canopy is fixed at the horizontal roof trusses as well as to the columns.

The structure is stiffened by means of guy wires in the roof and in rear- and sidewalls.

Guy wires need to be adequately tensioned before use.

Above wind force 8 the canopy of the rear - and sidewalls needs to be removed. As regards further information please refer to the structural report n° 7235 of the Engineering office Krasenbrink+Bastians.

4.3 PURPOSE OF USAGE

The intended use of the product is to lift and support the truss structures and the roofing systems typically used in the entertainment activities.

Examples of entertainment activities are:

- Product presentations;
- Theatre shows, musicals, opera and ballet;
- Classical, pop and rock concerts;
- Festivals;
- Exhibitions and trade shows;
- Celebrations and parties;
- Fairgrounds;
- Conventions, demonstration meetings.

4.4 CONDITIONS AND LIMITS OF USE

It is important to remember that the 'RSD0806ST and RSD1008ST' is a machine constructed for lifting loads in the entertainment industry exclusively. It is forbidden using the product for lifting loads in industrial and production fields, not even as lifting device.

On following pages allowable pay loads of the structure and different possible configurations for equipment such as illumination (spots) and sounding are displayed. If the preparing loading configuration differ from these set ups, please inform LITEC Italia office.

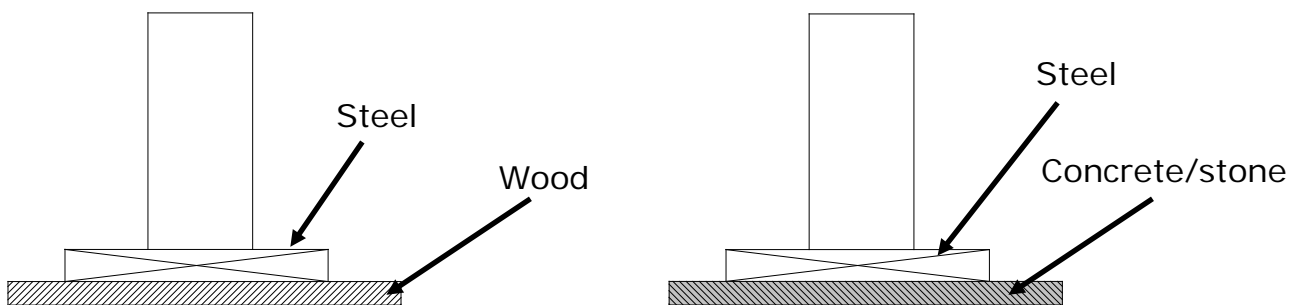
Loads up to 80 kg can be fastened at any position of the chord. Loads more than 80 kg have to be positioned at the node or adequate proofs have to be carried out. Loads shall be equally distributed over the trusses main chords.

All given values are static loads. To consider dynamic affecting the loads have to be decreased with a factor of minimum 1,2.

Necessary ballast loading

Roof, back wall and sides enclosed: fully closed canvas wall.

Suspended loads in the roof and interlocking connected podium may be taken into account of the ballast loading calculation.



frictional coefficient μ

$\mu = 0,40$ steel to wood to stone/concrete.

$\mu = 0,60$ bolted/put into steel to wood to stone/concrete.

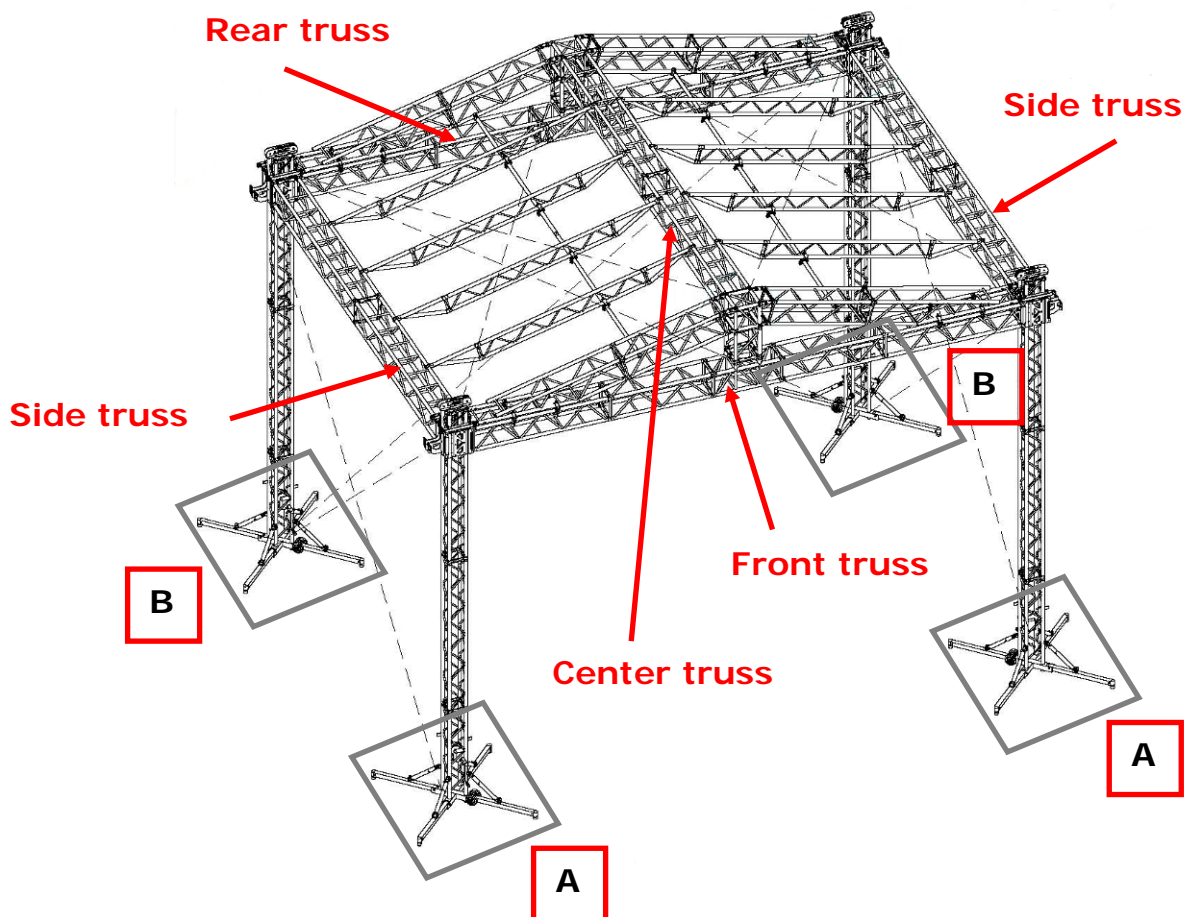
It also recommends that the erection of the structure shall only be made in appropriate weather conditions of wind force or snow height.

Summarizing schemes and tables of the possible loading conditions of the structures are indicated as follows.

LEGENDA: P = concentrated load

q = distributed load

ROOF STRUCTURE RSD0806ST



Legenda:

Stage 08x06	Front truss	Rear truss	Center truss	Side truss
Outdoor	150 kg/m	130 kg/m	130 kg/m	130 kg/m
Indoor	200 kg/m	200 kg/m	150 kg/m	150 kg/m

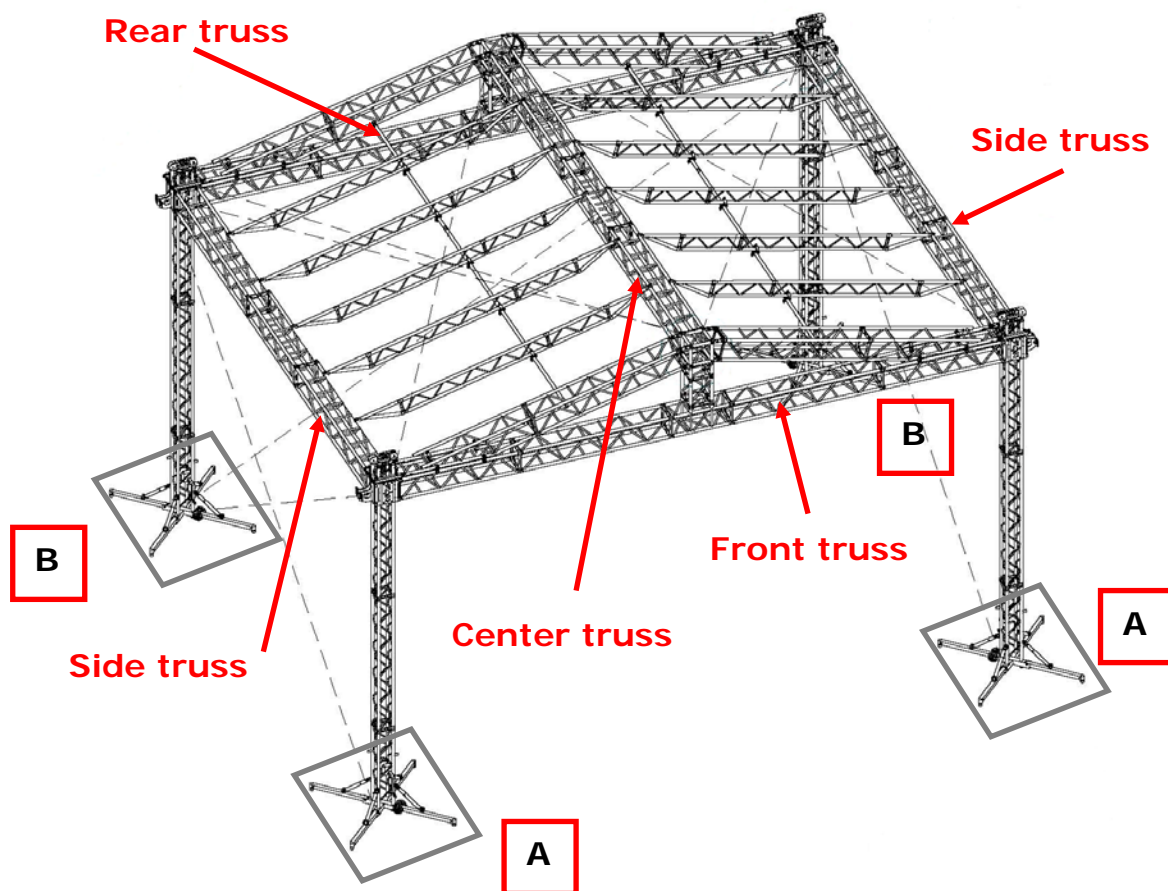


Attention: For cases different from the above, please refer to the calculation report.



Please refer to the relevant calculation report in order to know the ballast needs. The roof structure **MUST** have ballast for outdoor applications.

ROOF STRUCTURE RSD1008ST



4. PRESENTATION OF THE PRODUCT

Legenda:

Stage 10x08	Front truss	Rear truss	Center truss	Side truss
Outdoor	100 kg/m	80 kg/m	80 kg/m	60 kg/m
Indoor	150 kg/m	150 kg/m	100 kg/m	100 kg/m



Attention: For cases different from the above, please refer to the calculation report.



Please refer to the relevant calculation report in order to know the ballast needs. The roof structure **MUST** have ballast for outdoor applications.

ROOF STRUCTURE
RSD0806ST – RSD1008ST

4.5 LIST OF COMPONENTS

The 'RSD0806ST and RSD1008ST' is supplied in a disassembled version.
The component contained in the packaging are shown in the following table:

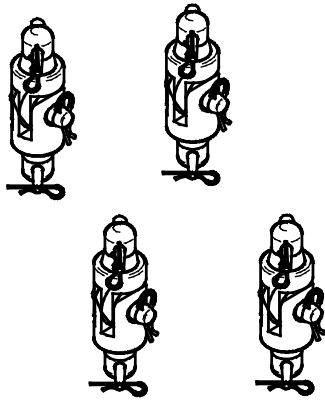
LIST FOR RSD0806ST

Id.	Code	Part description	Quantity
1	LT QX40SA300	ST 40cm square L=300cm reinforced truss	6
2	LT QX40SA200	ST 40cm square L=200cm reinforced truss	4
3	LT QX40SA150	ST 40cm square L=150cm reinforced truss	8
4	LT QX40SA050	ST 40cm square L=50cm reinforced truss	2
5	LT QX40SAT3	ST 40cm square – 3 way tee	2
6	LT QXFC	Quick connection set for Q Series	35
7	LT QXKFC	4 special steel half spigot with screw	4
8	LT HFX30SATER	Terminal FX30 w/hook	16
9	LT QX40K8	6 way box corner (8 nodules)	2
10	LT HKR	2 ways roof's pitch kit for Dado	2
11	LT HOX40SATER	ST40S gable truss for ST roof	4
12	LT FX30SA250	ST 29 cm flat – cm 250 truss	8
13	LT HCL5104	ALI4851 swivel coupler 48-51mm - swl 500kg	24
14	LT KHLP	Cylindrical pin + safety R – clip 3mm	8
15	LT RAB506	Aluminum pipe cm 300 with bushes	2
16	LT RAB507	Aluminum pipe cm 200 with bushes	2
17	LT RAB600	Aluminum pipe cm 95,80 with bushes	2
18	LT HCL51L01F	ALI4251 flat half coupler 42-51mm W/alum. Half spigot - swl 500kg	4
19	LT TL3Q30	Towerlift 3 module base 1,5 mt with winch	4
20	LT TLU30TW	Towerlift 3 top	4
21	LT QX30SA250	ST 29cm square - cm 250 reinforced truss	8
22	LT QXICU	Set of 4 aluminum jointed spigot for "X" and "D" truss	4
23	LT TLU30SR1	30cm tower – Universal Sleeve block for roof system	4
24	LT HSP0806W	PVC white cover for 8x6 double pitch roof	1
25	LT HTUBE300	300cm tube for sheet border	4
26	LT HTUBE300J	300cm joint tube for sheet border	4
27	LT HTUBE200J	200cm joint tube for sheet border	2
28	LT RGBR23502K	Belt ratchet – 2ton – 35cm – EWL 2m	20

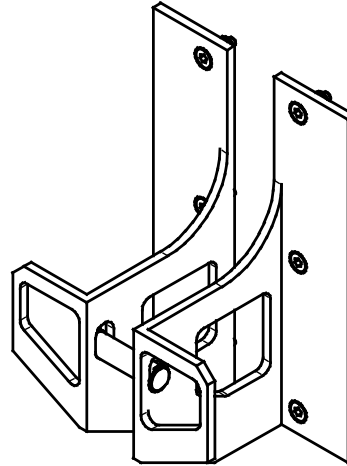
LIST FOR RSD1008ST

Id.	Code	Part description	Quantity
1	LT QX40SA300	ST 40cm square – cm 300 reinforced truss	6
2	LT QX40SA250	ST 40cm square – cm 250 reinforced truss	8
3	LT QX40SA200	ST 40cm square – cm 200 reinforced truss	7
4	LT QX40SA050	ST 40cm square – cm 50 reinforced truss	2
5	LT QX40SA025	ST 40cm square – cm 25 reinforced truss	2
6	LT QX40SAT3	ST 40cm square - 3 way tee	2
7	LT QXFC	Quick connection set for Q Series	52
8	LT QXKFC	4 special steel half spigot with screw	4
9	LT QX40K8	6 way box corner (8 nodules)	2
10	LT HKR	2 ways roof's pitch kit for Dado	2
11	LT HQX40SATER	ST40S gable truss for ST roof	4
12	LT HXF30SATER	Terminal FX30 w/hook	20
13	LT FX30SA250	ST 29cm flat - cm 250 truss	10
14	LT FX30SA103	ST 29cm flat - cm 103 truss	10
15	LT HCL5104	ALI4851 swivel coupler 48-51mm - swl 500kg	26
16	LT KHLP	Cylindrical pin + safety R – clip 3mm	8
17	LT RAB506	Aluminium pipe cm 300 with bushes	2
18	LT RAB507	Aluminium pipe cm 200 with bushes	4
19	LT RAB600	Aluminium pipe cm 95,80 with bushes	2
20	LT HCL51L01F	ALI4251 flat half coupler 42-51mm W/alum. Half spigot - swl 500kg	4
21	LT TL3Q30	Towerlift 3 module base 1,5 mt with winch	4
22	LT TLU30TW	Towerlift 3 top	4
23	LT QX30SA250	ST 29cm square – cm 250 reinforced truss	8
24	LT QXICU	Set of 4 aluminum jointed spigot for "X" and "D" truss	4
25	LT TLU30SR1	30cm tower – Universal Sleeve block for roof system	4
26	LT HSP1008W	PVC white cover for 10x8 double pitch roof	1
27	LT HTUBE300	300cm tube for sheet border	4
28	LT HTUBE300J	300cm joint tube for sheet border	4
29	LT HTUBE200J	200cm joint tube for sheet border	6
30	LT RGBR23502K	Belt ratchet – 2 Ton – 35mm – ELW 2mm	24

4.6 OPTIONAL COMPONENTS



LT QXICU



LT TLU30MS

5. INSTALLATION PROCEDURE

5.1 INTRODUCTION

The product could be installed and uninstalled a lot of times during its service. In order to preserve the functionality, the integrity and the safety of the product, it must to use fully trained, competent and suitably experienced people and organization in the installation and dismounting operations.

LITEC Italia is not responsible for all the things which can happen during the installation of the complete structure. The correct installation of the complete structure is a full responsibility of the installer who must guarantee the correctness of the installation procedure and he has to observe the regulations in force about the security of the work.

5.2 PRELIMINARY CONTROLS OF THE INSTALLATION AREA

Before installing the product, the installation area must respect all the security necessary conditions.

The following conditions must be respected:

The installation ground must be flat, solid and capable to guarantee the maintenance of the verticality of the tower.

If this condition is not guaranteed, it will be necessary to use wooden boards to divide the load and to reduce the specific pressure to the admissible value.

The wooden boards must be put under the supporting point of the tower to the ground. A capable and agreed technician must evaluate the situation carefully in order to guarantee a correct installation of it.

Nobody and any obstacles must be present in the working area during the installation, use and dismounting procedures of the product

5.3 CONTROL OF THE INTEGRITY OF THE COMPONENTS OF THE PRODUCT

Before any installation of the tower, the good conditions of the components of the product must be verified by a competent person.

Especially:

The trusses, the base of the towers, the sleeve blocks, the top and the stabilizers bars should not have any deformations, dents and damages.

The pins, the screws and all the mechanical components should not have any signs of corrosion and damages.

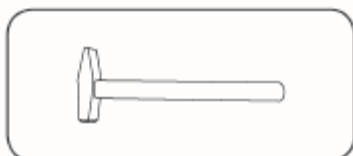
If any defects are visible, such as plastic deformations or material reductions of the chords and diagonals of the trusses, cracks in or near weld seams, development of slotted holes at connections or the fittings used to secure them or deformation of connectors, the parts affected must not be installed.

They must be marked in such a way that it is impossible to use them by mistake in the future. The truss elements must be assembled in the correct mounting position. When two truss elements are connected, the diagonal structure must be maintained.

5.4 EQUIPMENT

In order to guarantee the security of the people who install the product and to ensure the correct installation of it, we advise you to follow the installation procedure strictly as it is indicated in the following pages. It is necessary to use plastic or copper hammers, in order to avoid damages to the product.

A list of tools and protective clothes follows



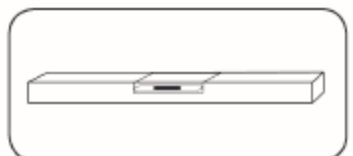
Plastic or copper hammer



Safety shoes



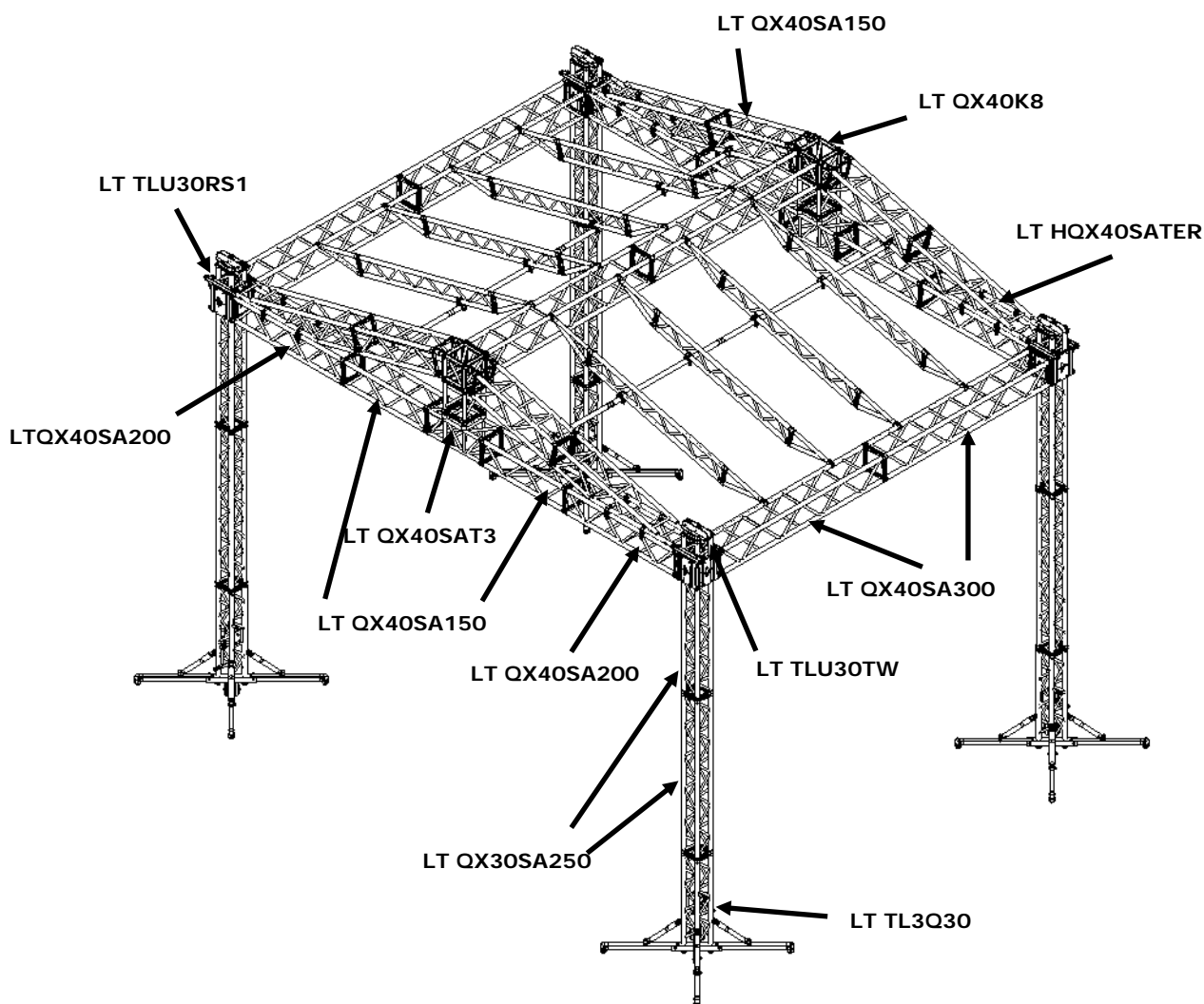
Protective gloves



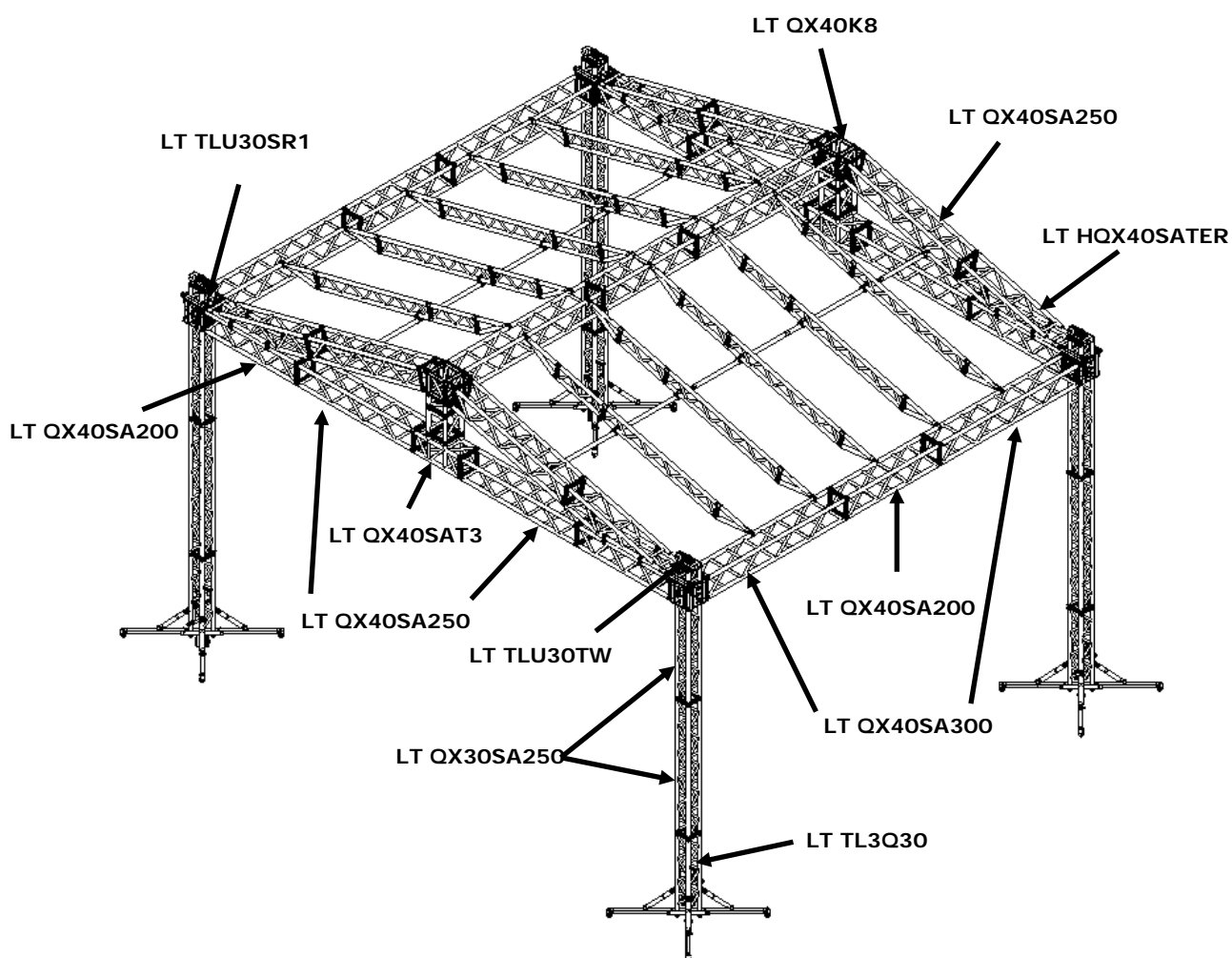
Spirit level

We advise you to use any different instruments and/or protective clothes requested by laws and/or national regulations about the industrial safety.

ROOF STRUCTURE RSD0806ST



ROOF STRUCTURE RSD1008ST



5.5 LEGEND

The installation procedure described in the following pages is about the product 'RSD0806ST and RSD1008ST'.

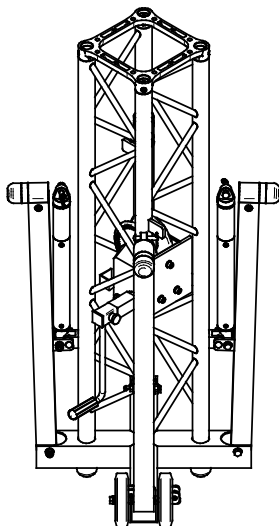
In order to guarantee an easy use and understanding, the procedure has been divided in different sections of steps. The following table shows the sections to be followed as regards the model of structure to construct.

STEP RANGE	RSD0806ST	RSD1008ST
From step 1 to step 7	✓	✓
From step 8 to step 20	✓	
From step 21 to step 34		✓
From step 35 to step 39	✓	✓
Step 40	✓	
Step 41	✓	
Step 42-45	✓	✓
Step 46-52	✓	✓

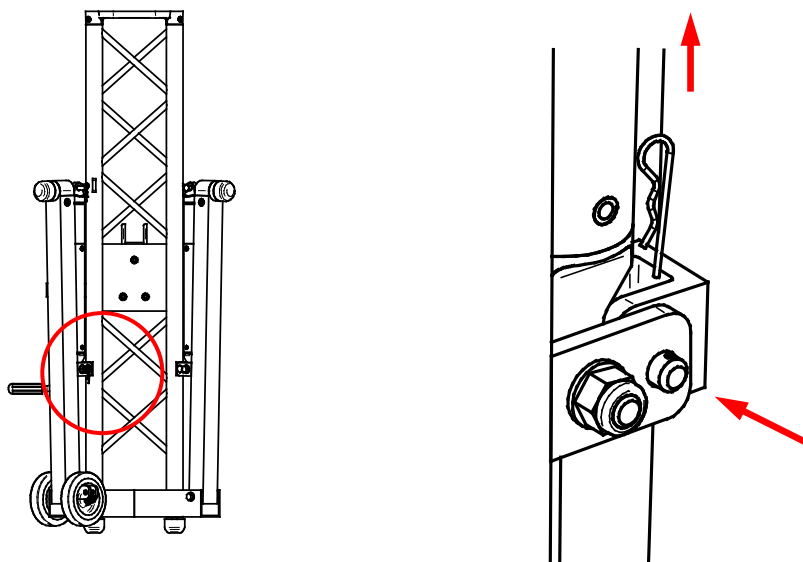
5.6 INSTALLATION PROCEDURE

Step 1 RSD0806ST and RSD1008ST: Place the module base LT TL3Q30 in the installation area considering the right orientation of the top of the tower. The first column must be placed on the highest point of the ground.

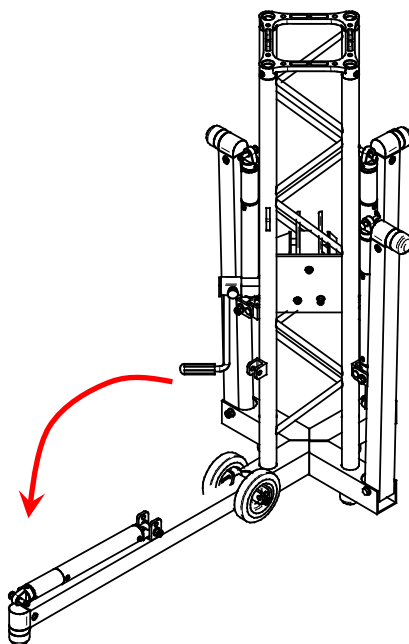
Attention: the rotation axis of the winch must be placed in the same way of the axis of the pulleys of the top.



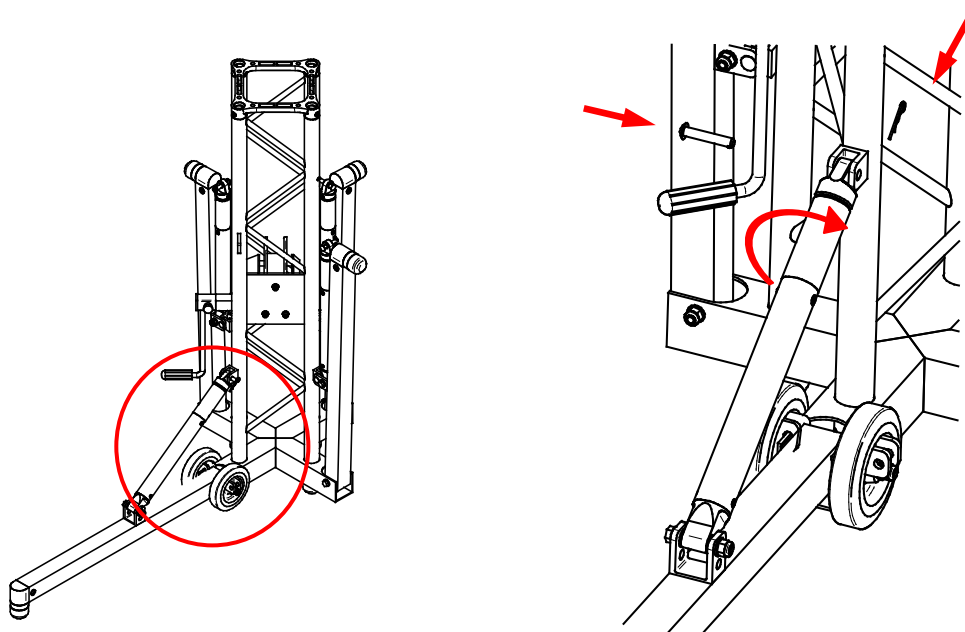
Step 2 RSD0806ST and RSD1008ST: Pull the split pin and the pin out



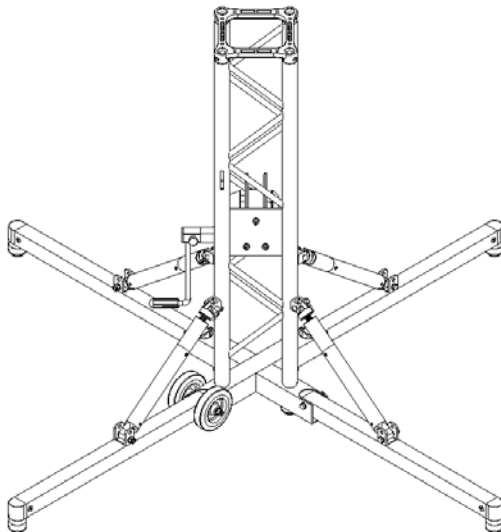
Step 3 RSD0806ST and RSD1008ST: Lower the outrigger



Step 4 RSD0806ST and RSD1008ST: Lift the stabilization bar and turn it up. Insert the stabilization bar in the flange and fix it with the pin and the split pin. Fix the stabilization bar unscrewing the superior part of the bar.

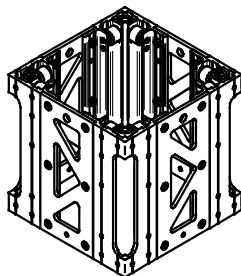


Step 5 RSD0806ST and RSD1008ST: Follow the operations described in the steps 2, 3 and 4 and pull the outriggers out and insert the other stabilization bars.

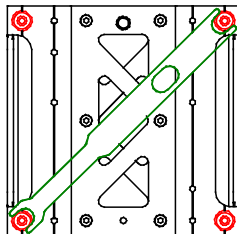


The following images refer to the sleeve block – code LT TLU30S.

Step 6 RSD0806ST and RSD1008ST: Take the sleeve block

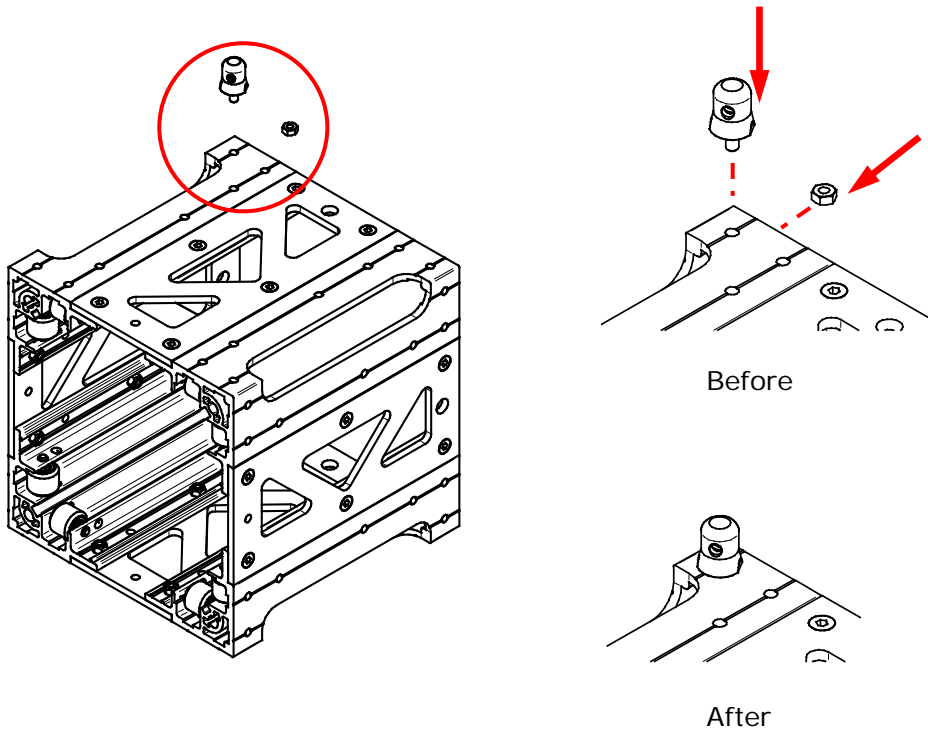


Assemble the half spigots (kit QXKFCT) as it is indicated in the following pictures. The configuration depends on the type of truss that needs to be connected to the sleeve block.

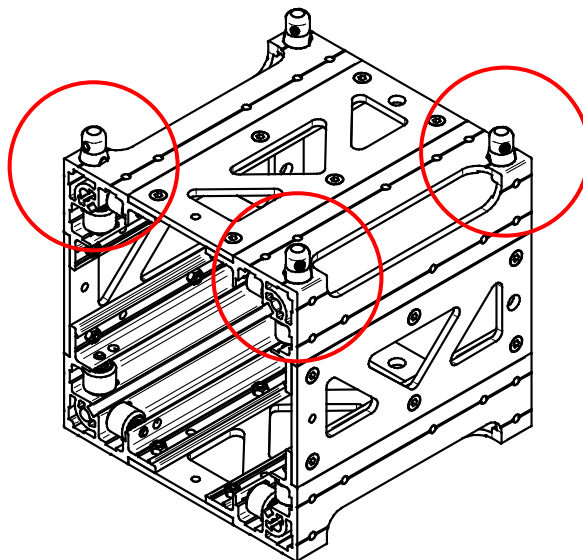


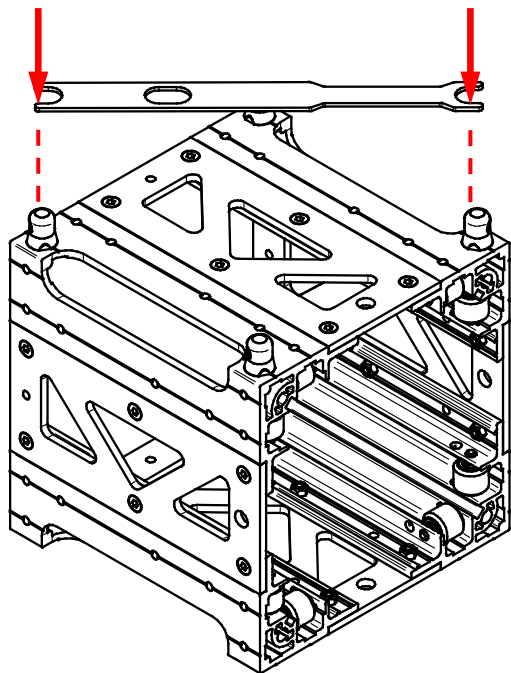
Position of the half spigots to connect trusses type QX40SA.

Insert the half-spigot in the hole shown in the following pictures, and screw it on the nut to be inserted on the groove of the inner side of the sleeve block.

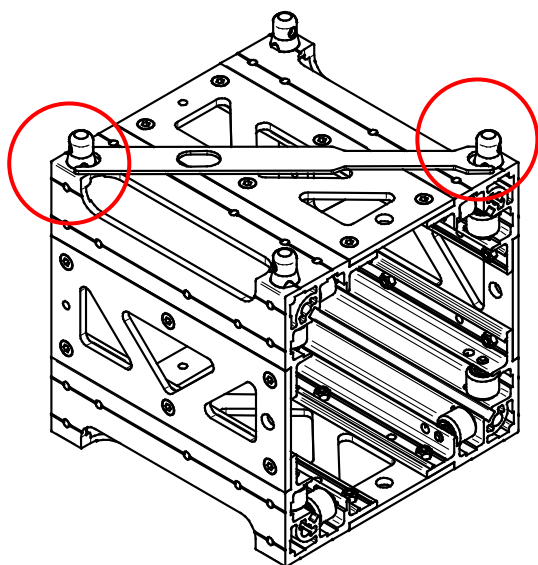


Repeat the sequence said above in order to insert other three half-spigots.





Use the key LT TZ40K01 in order to line up the axis of the spigots along the diagonal and orientate the spigots with the flare of 3° towards the external side of the sleeve block.



Tighten the screws using a hexagonal key.

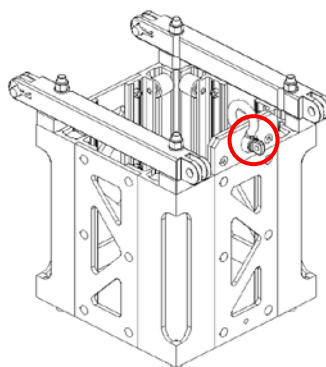
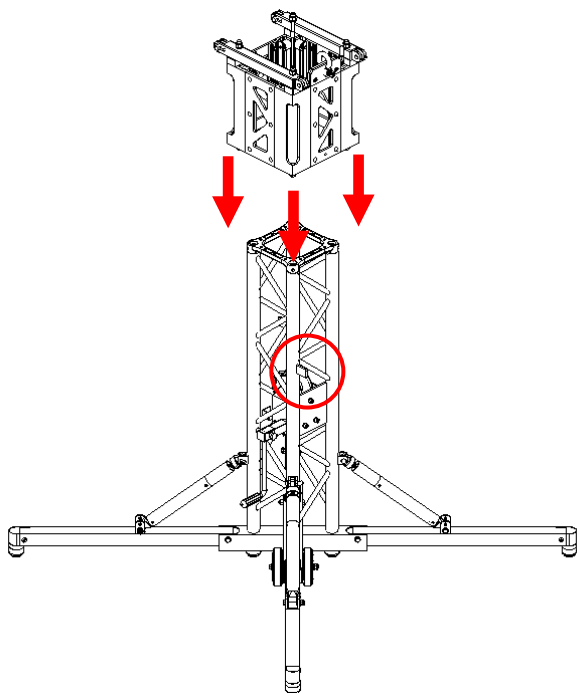
Repeat the same operation also for the other two half-spigots.

Step 7 RSD0806ST and RSD1008ST: Insert the sleeve block orienting the holes used for the lifting of the block towards the top. The sleeve block must be oriented following the disposition of the trusses to be connected. Use a spirit-level to control the verticality of the tower and check the horizontality of the four outriggers.

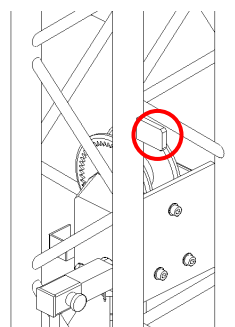


Attention: the sleeve block to take into account from now on is LT TLU30SR1.

LT TLU30SR1



The hole useful for the lifting must be oriented towards the top as it is shown in the picture.



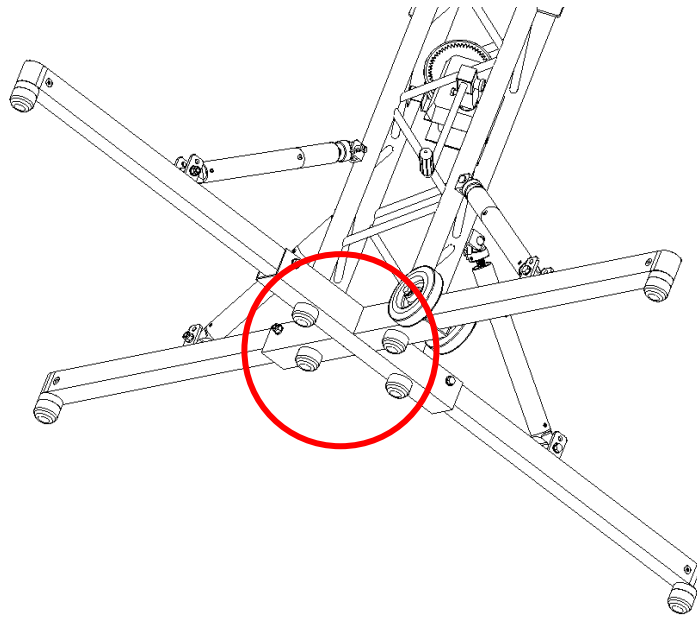
Stop blocking stroke of the sleeve block



Attention: The verticality of the tower must be warranted by the exclusive working on the four feet placed under the base of the tower QX30SA. The user must insert wooden plates with sufficient thicknesses to ensure the planarity of the ground and the verticality of the tower. The weight of the tower must be supported only from these four feet. The stabilization bars have the function to ensure the stability of the tower but not the verticality. The feet of the outriggers can support a maximum load equal to 3KN.

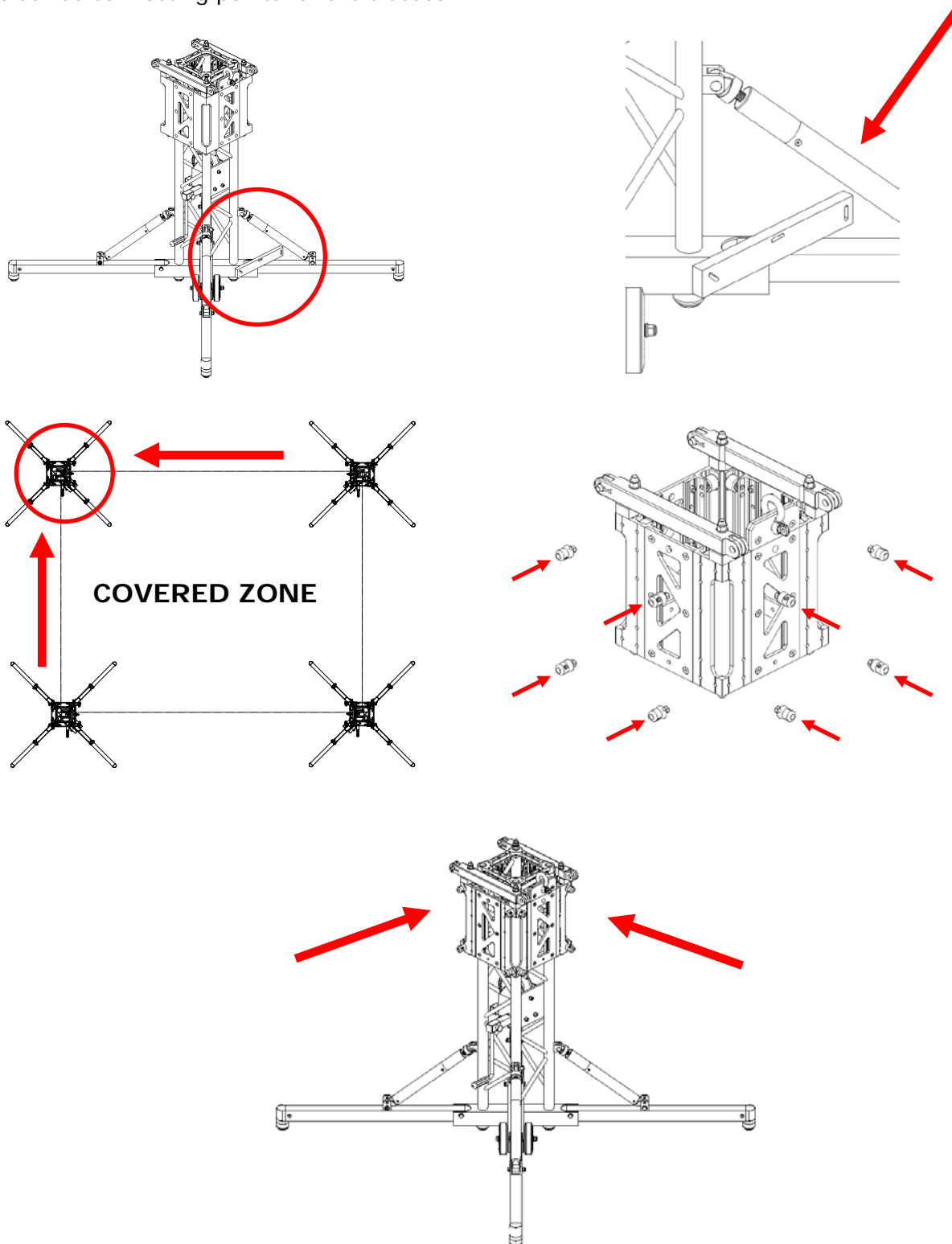


Attention: The user is responsible of the verticality of the tower and he has to choose the plates with the right thickness.

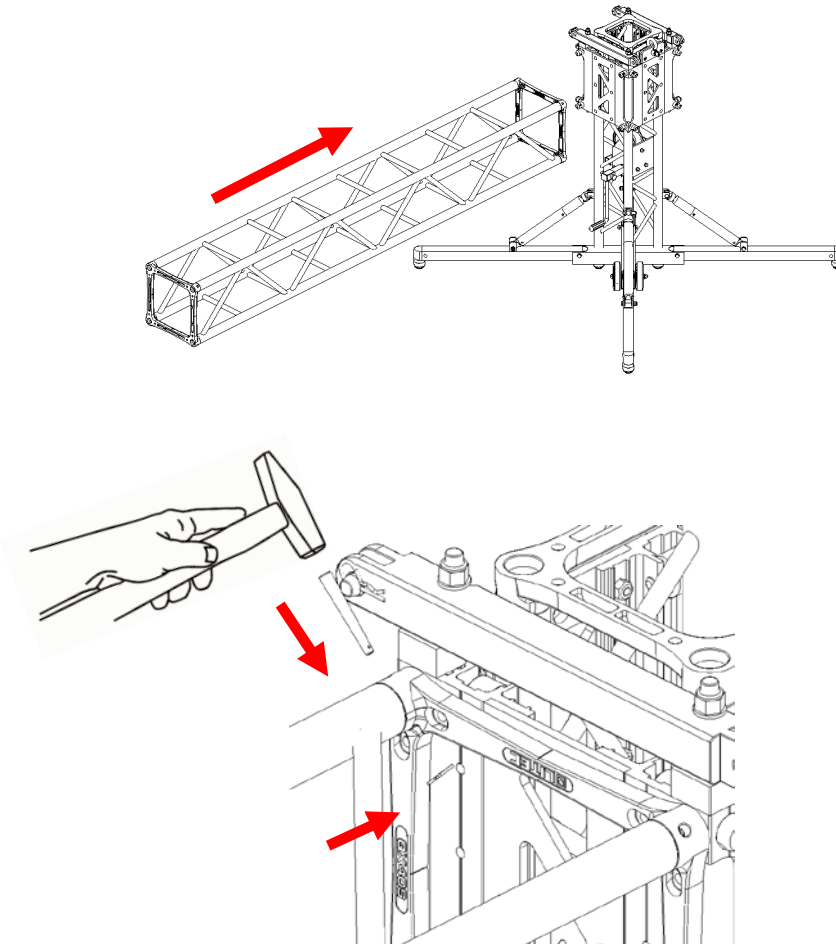


Attention: The load must be supported by these 4 fixed feet. In order to guarantee the verticality of the tower, some panels useful to create thickness may be put under the feet.

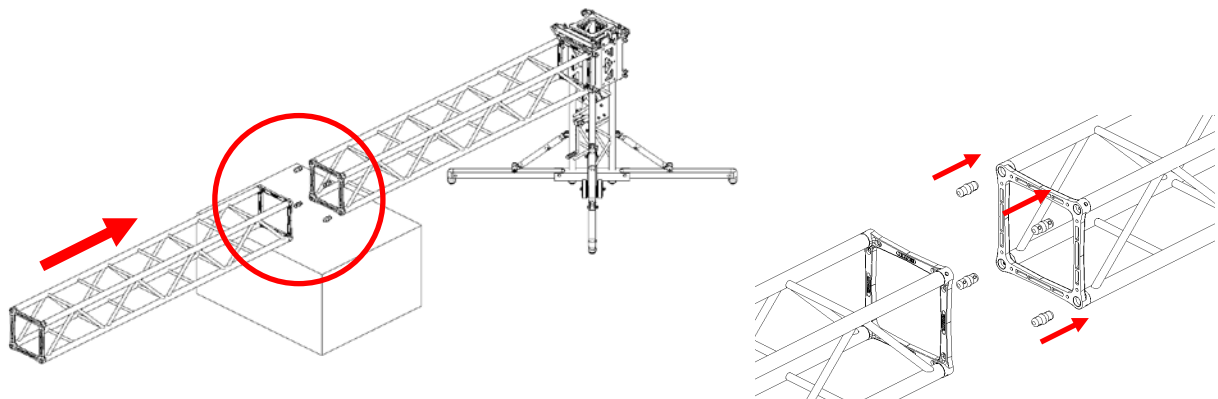
Step 8 RSD0806ST: Check the perfect equilibrium of the tower by a spirit-level and follow the step Nr 7 if it is necessary to adjust the level of the tower. Use the inner sides of the sleeve block as connecting points for the trusses.



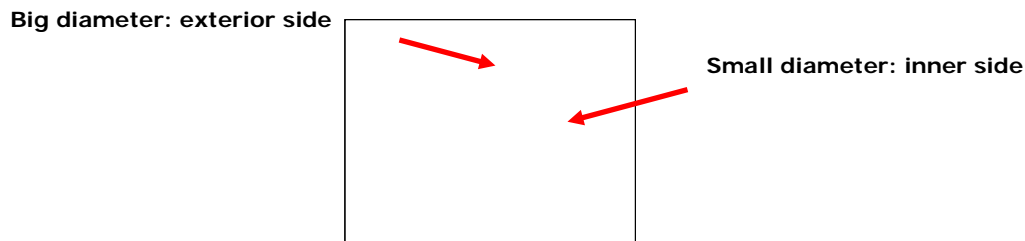
Step 9 RSD0806ST: Insert the LT QX40SA300 truss and block it by pins and split pins.



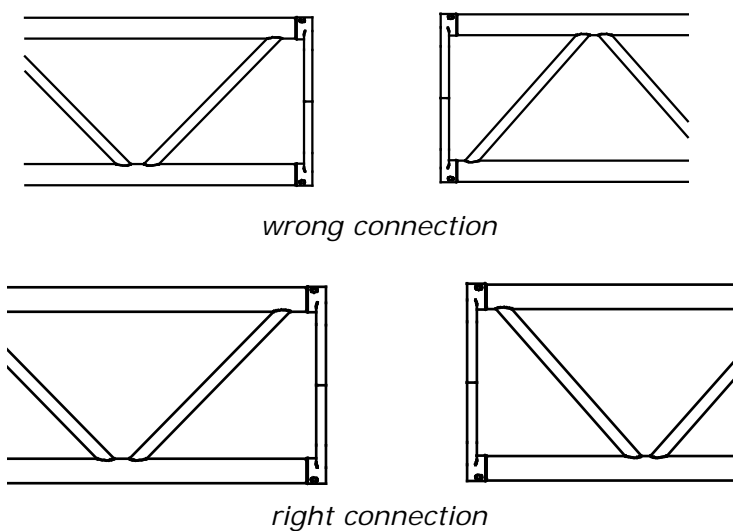
Step 10 RSD0806ST: Using the kit LT QXFC spigots to the truss, and connect another truss LT QX40SA300 to the first one by the spigots.



- a) Orientate the spigots so that the holes which have a big diameter are turned round towards the exterior.



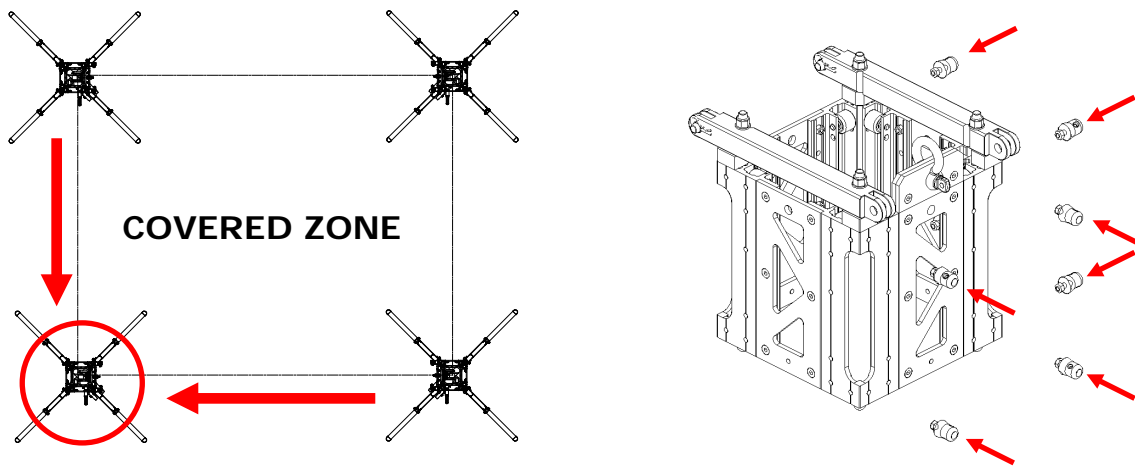
- b) Check the regularity of the asymmetry of the diagonals of the trusses as regards the connecting section:



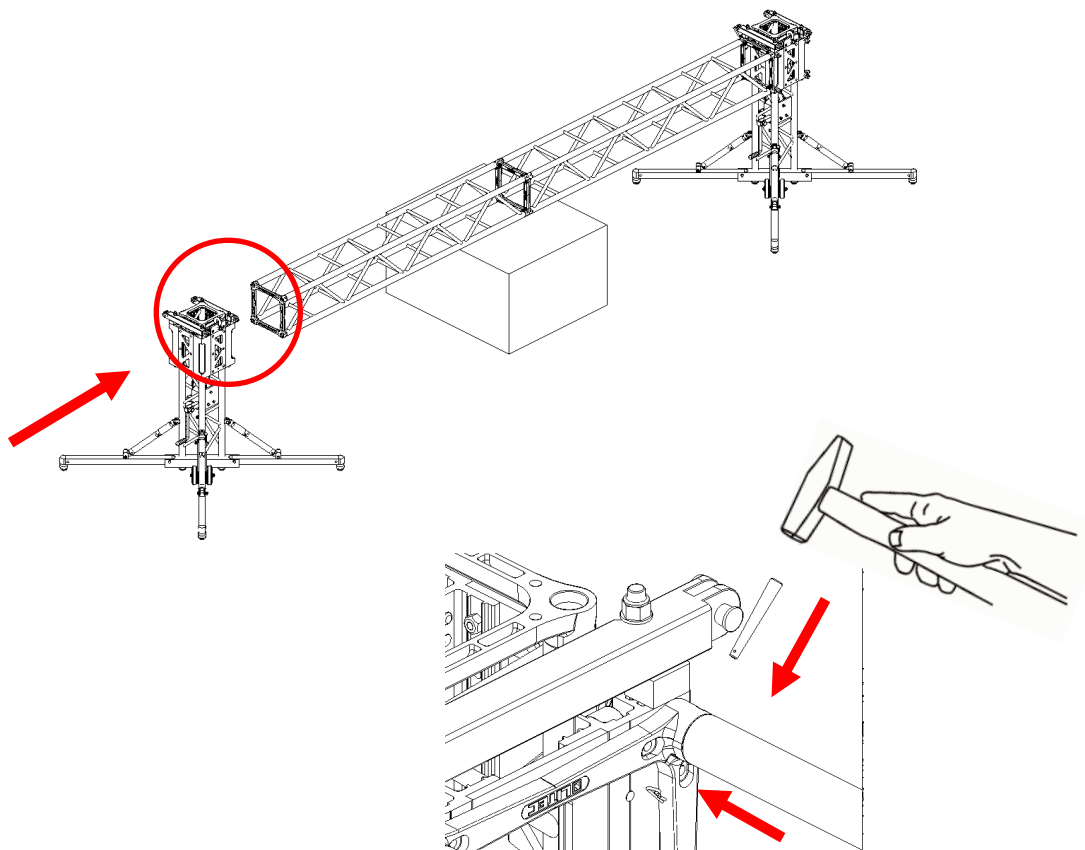
- c) Then fix it by pins and split pins.



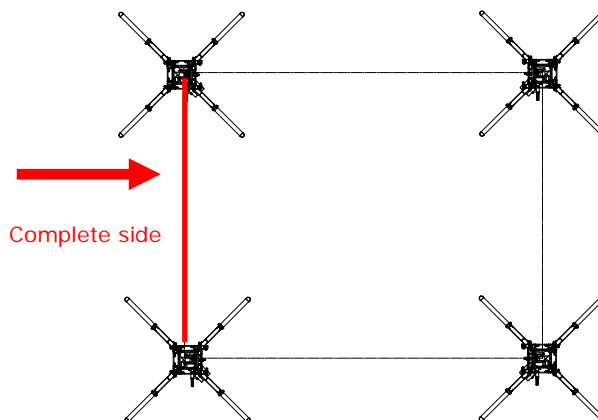
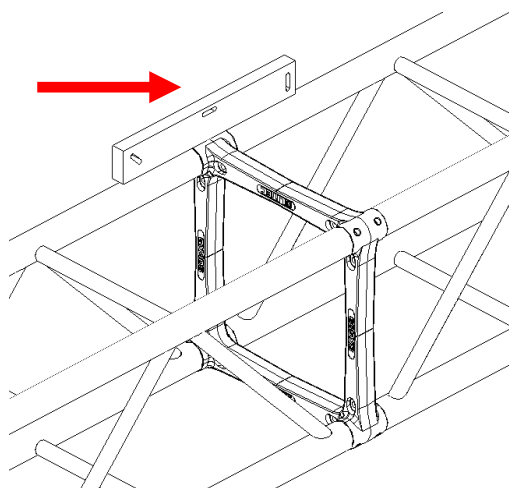
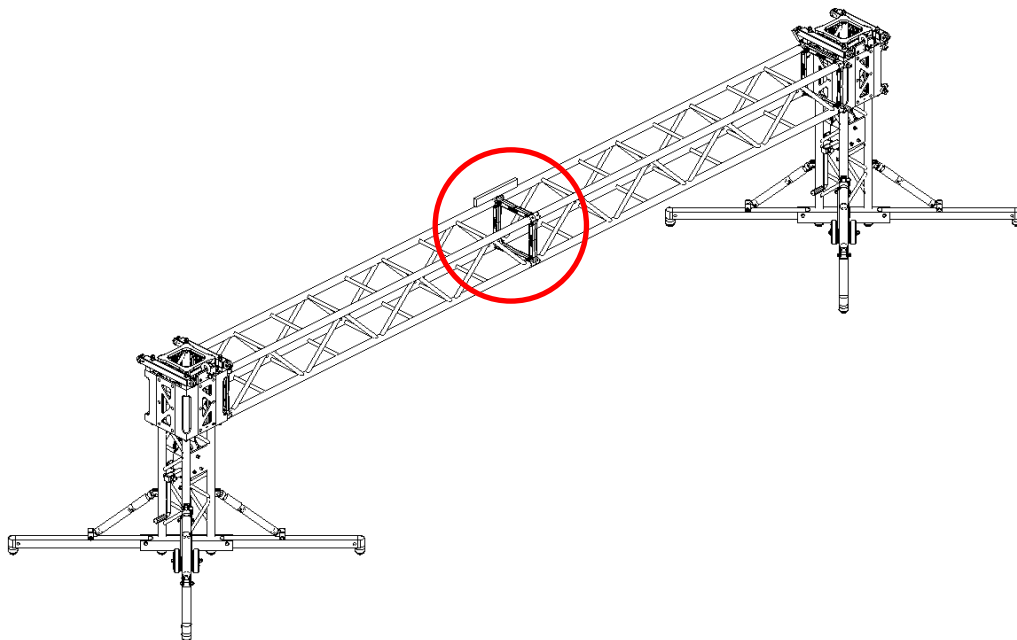
Step 11 RSD0806ST: Insertion of the second tower. Preparation of the half spigots on the inner sides of the sleeve block.



a) Connection and fixing by pins and split pins.

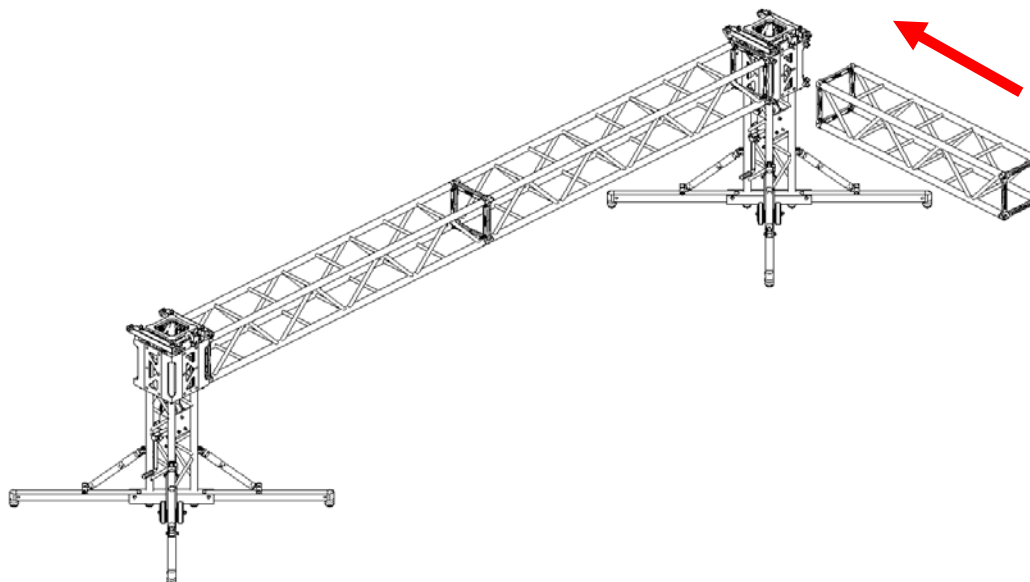


The first side is completed with the setup of the second tower; then check the level of the side by the spirit level.

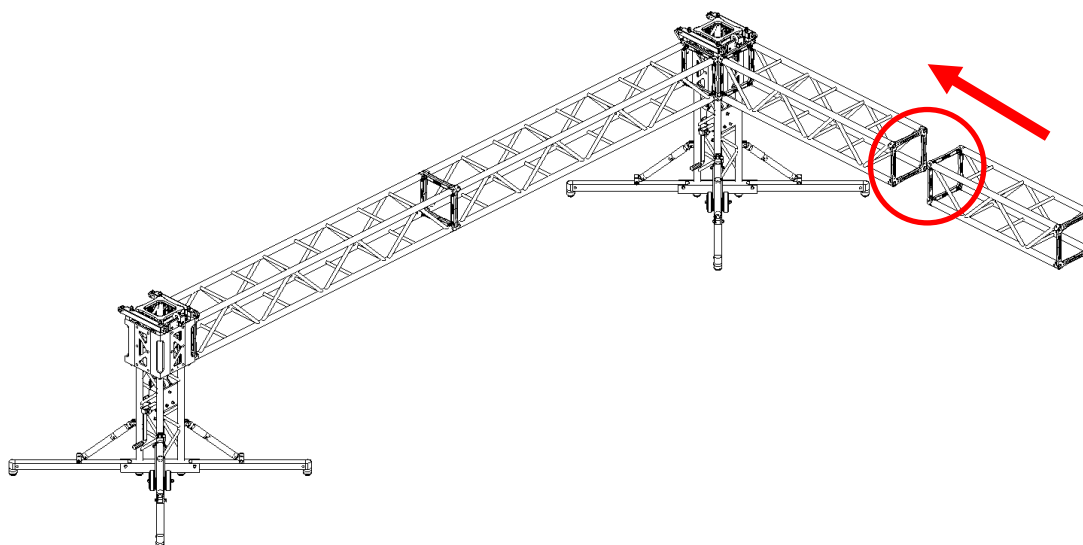


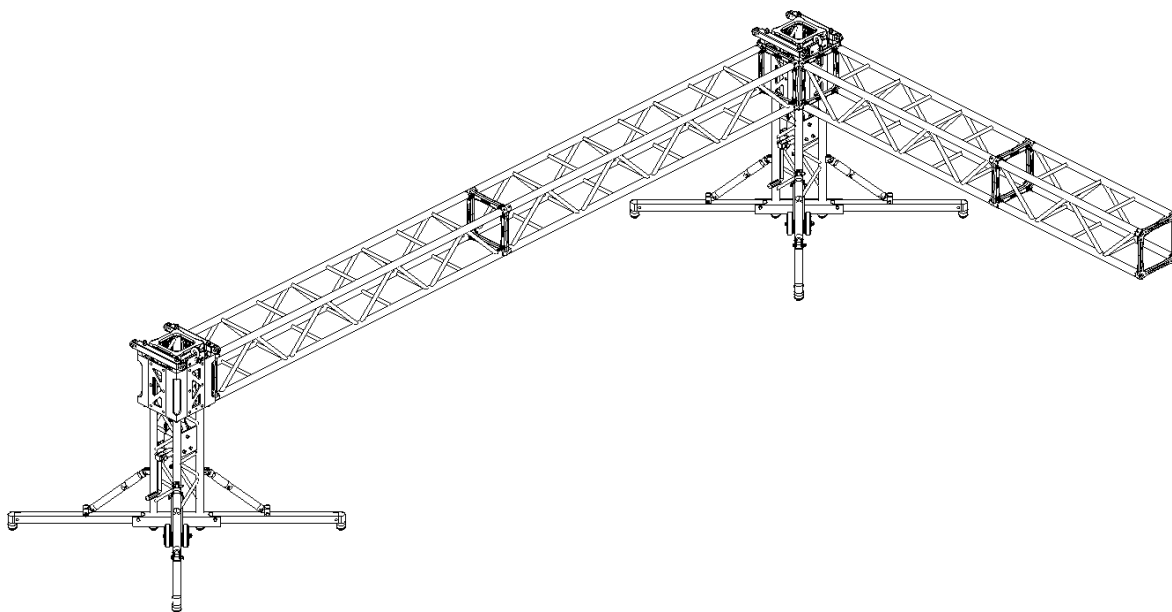
Step 12 RSD0806ST: Construction of the base of the first Gable Truss.

a) Insert the first truss LT QX40SA200.

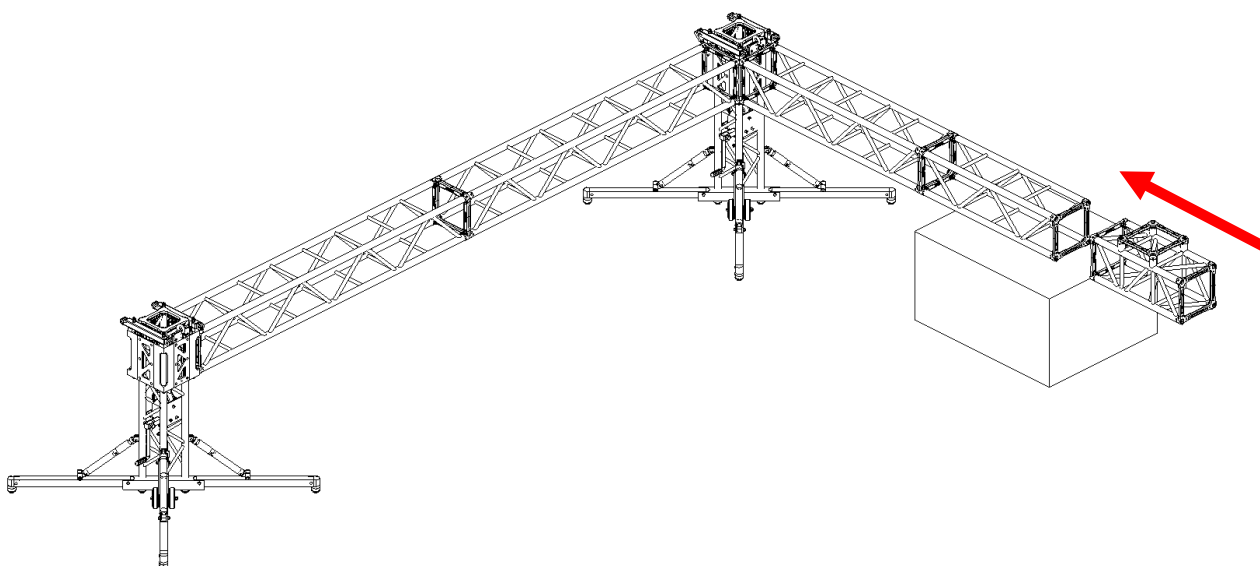


b) Insert the second truss LT QX40SA150, repeat the instructions of the step Nr 10 in order to apply the half spigots kit (LT QXFC kit) and keep regular the asymmetry of the lateral diagonals (see step 10 a and step 10 b). Then, block the second truss by the pins and the split pins.

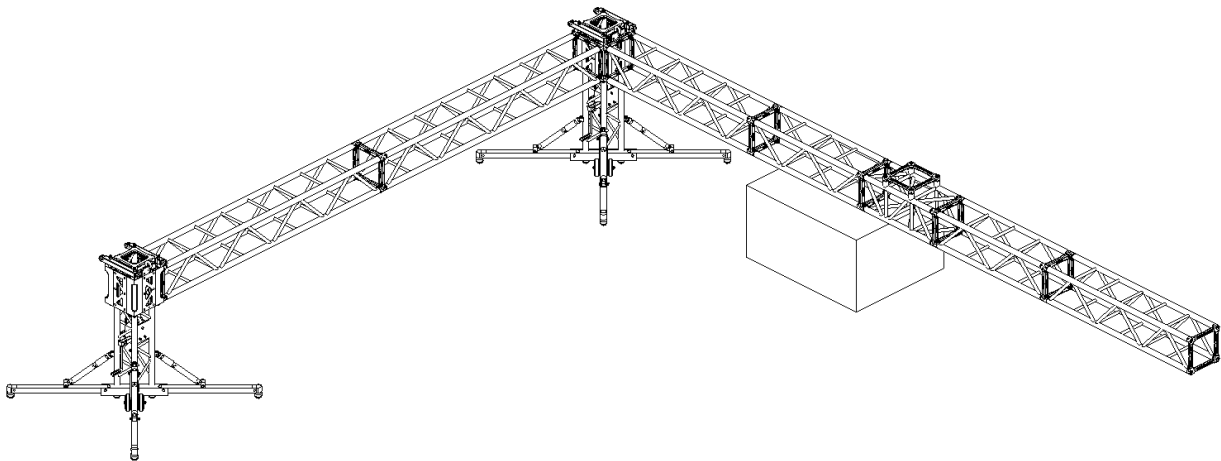
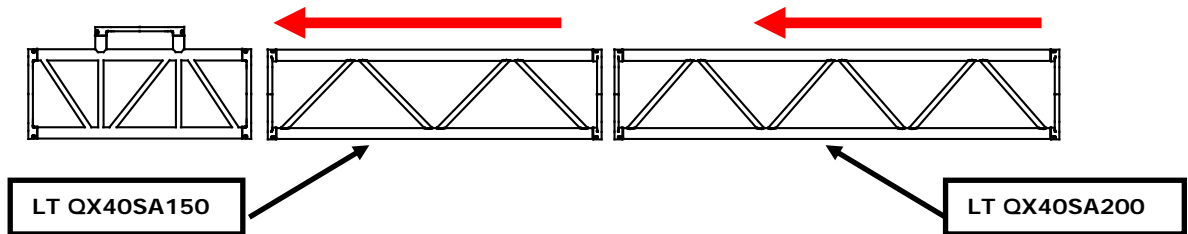




- c) Application of the component LT QX40SAT3: control the continuity diagonal design. Insert a supporting block in order to avoid a deformation of the phase because of its load.

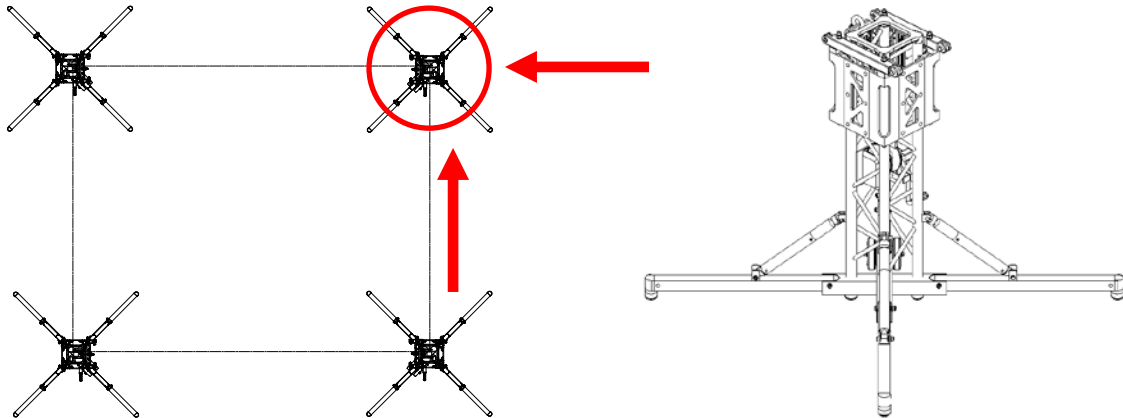


- d) Add the components LT QX40SA150, LT QX40SA200 and connect them by the spigots (kit LT QXFC), pins and spilt pins.

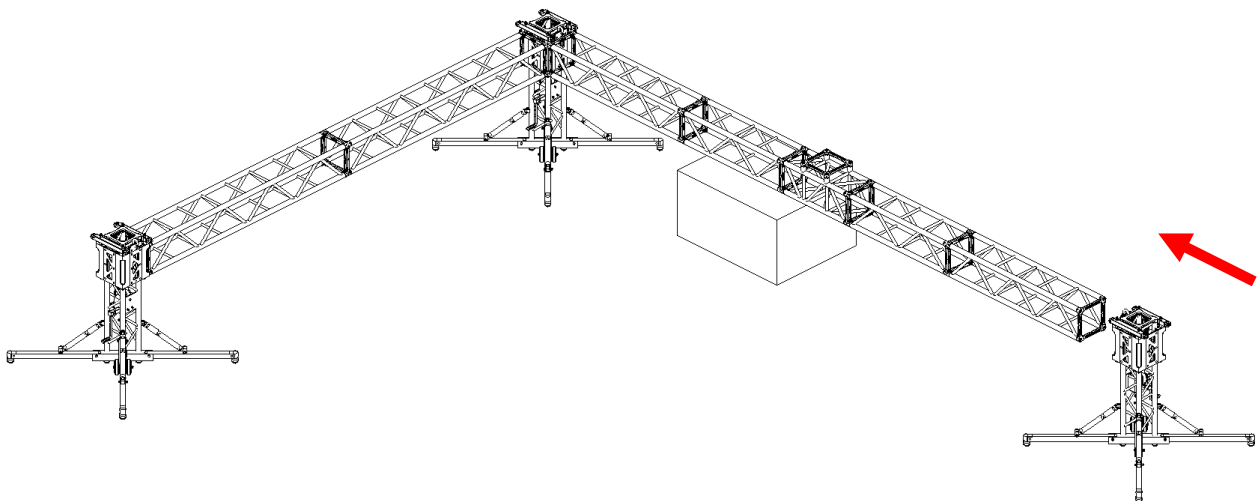


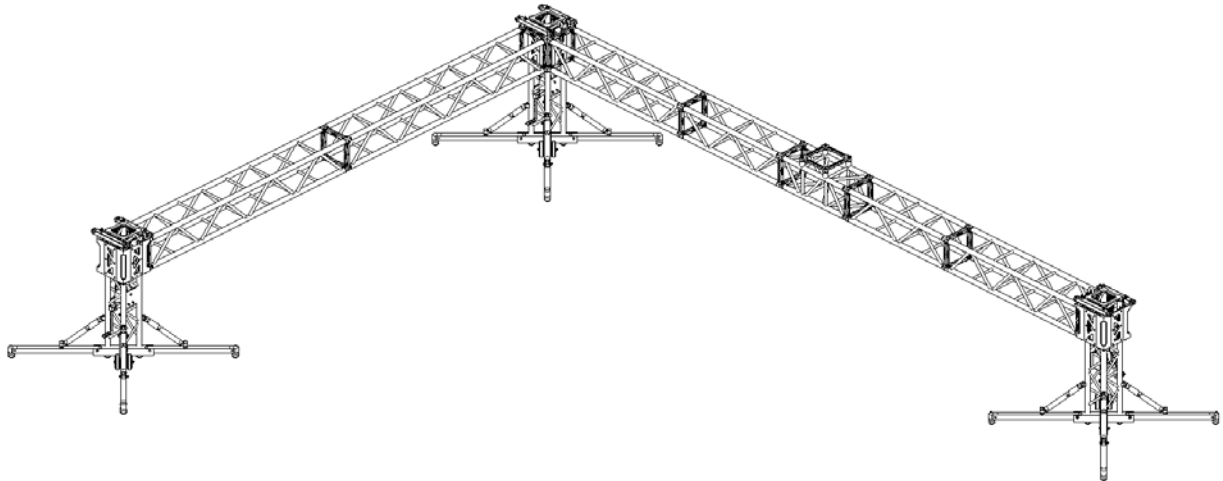
Step 13 RSD0806ST: Connect the third tower and follow the instructions of the step 11.

a) Choose the sides and insert the spigots.



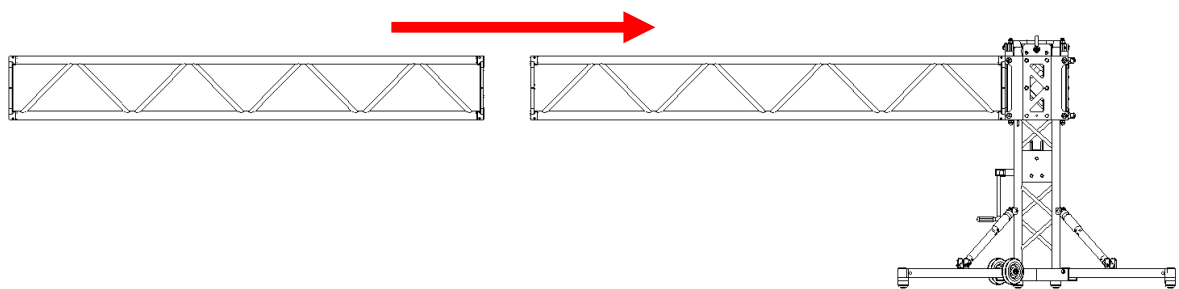
b) Block the tower to the truss.



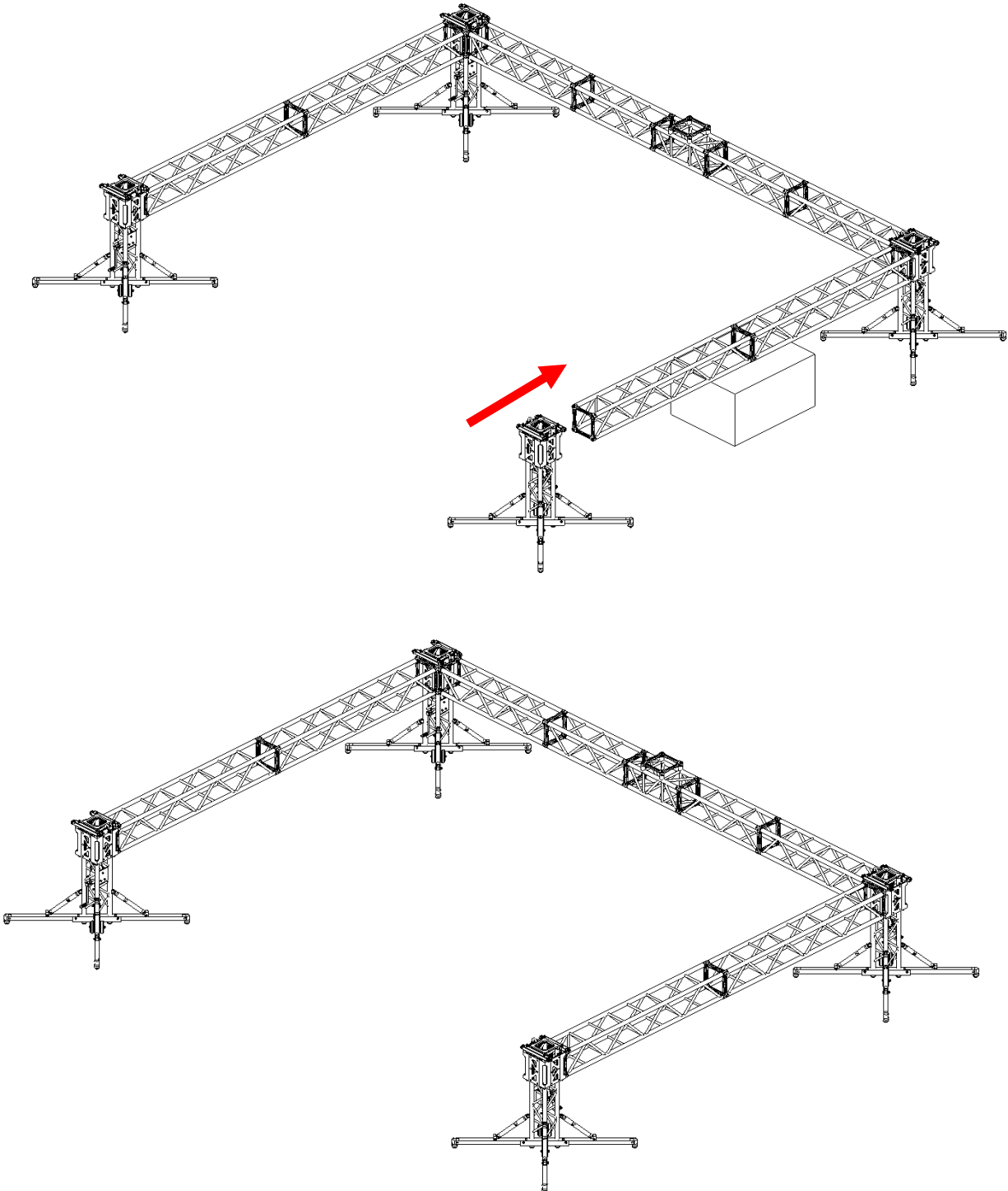


Step 14 RSD0806ST: Construction of the second truss. Check the regularity of the continuity diagonal design between the trusses (repeat step 10 b).

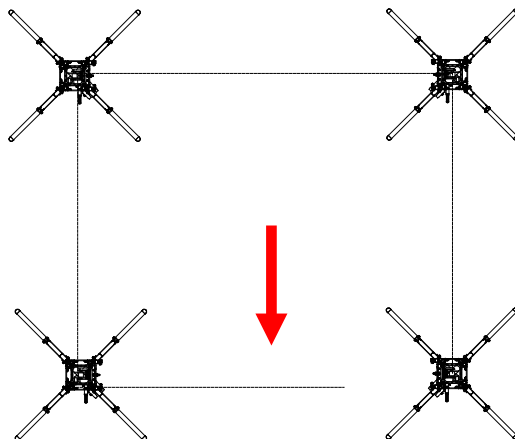
- a) Insert the truss LT QX40SA300 after the application of the spigots as it is shown in step 10 a (kit LT QXFC).



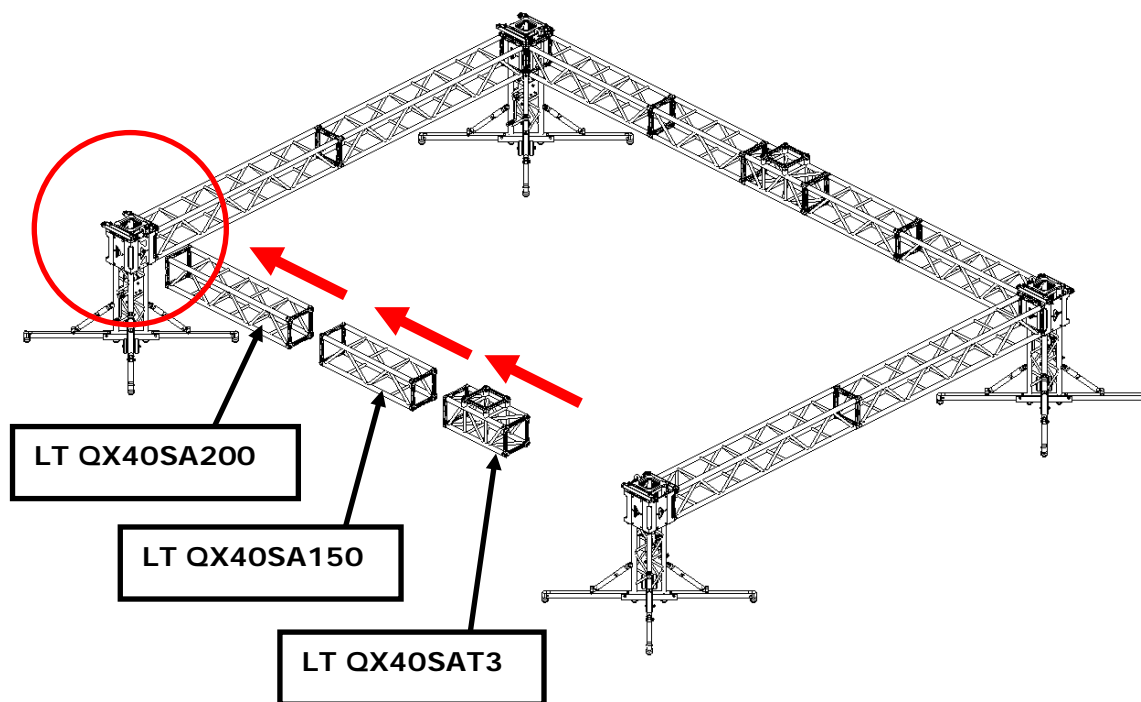
- b) Connect the fourth tower after the placing of a supporting block to the constructed transom in order to avoid the flexion of it.



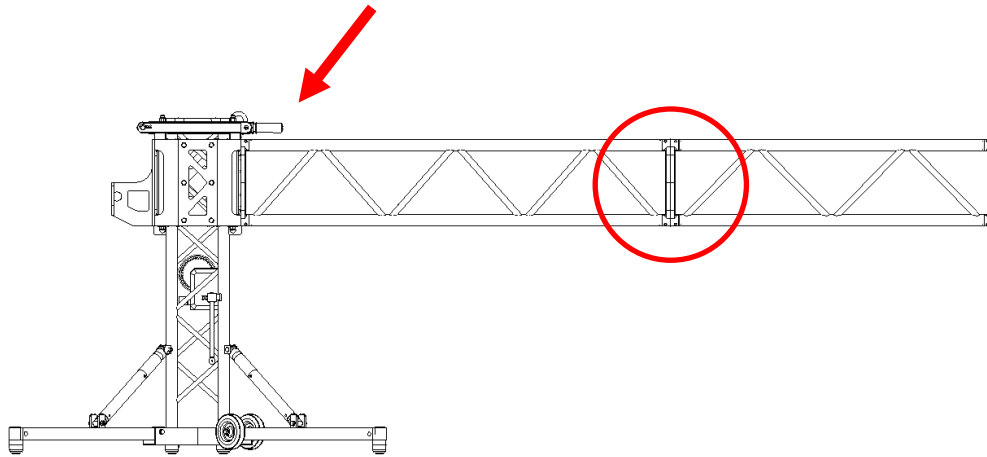
Step 15 RSD0806ST: Construction of the last architrave.



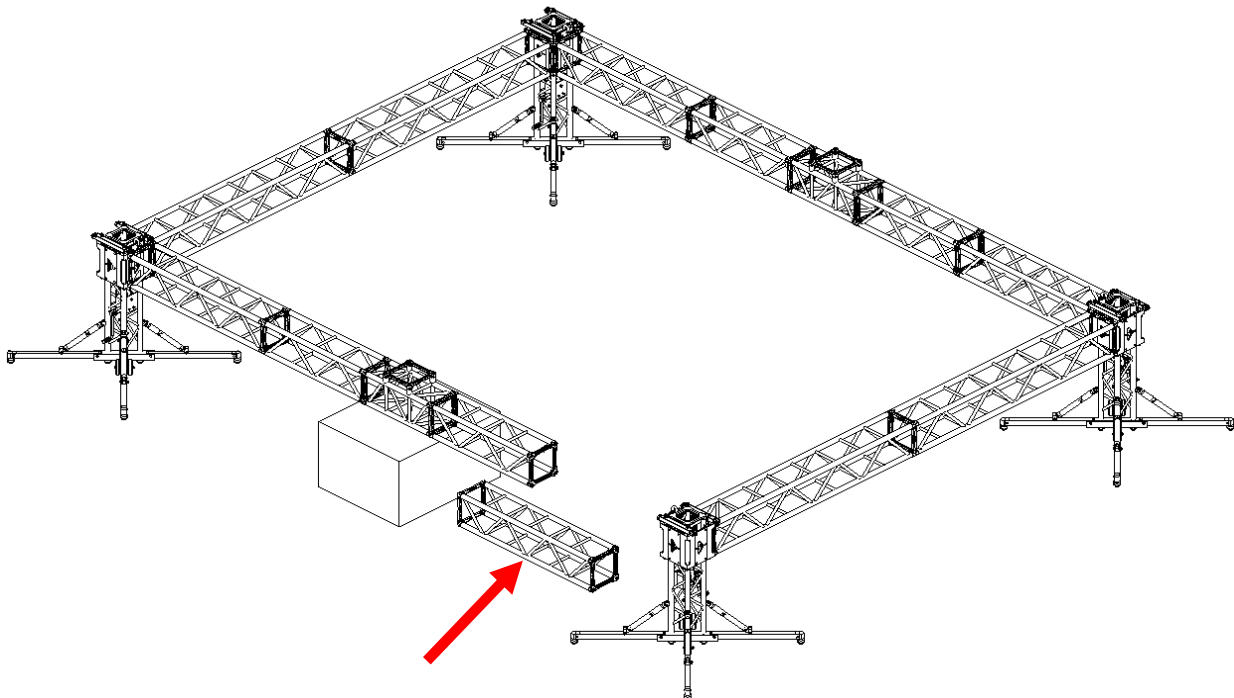
a) Insert the trusses.



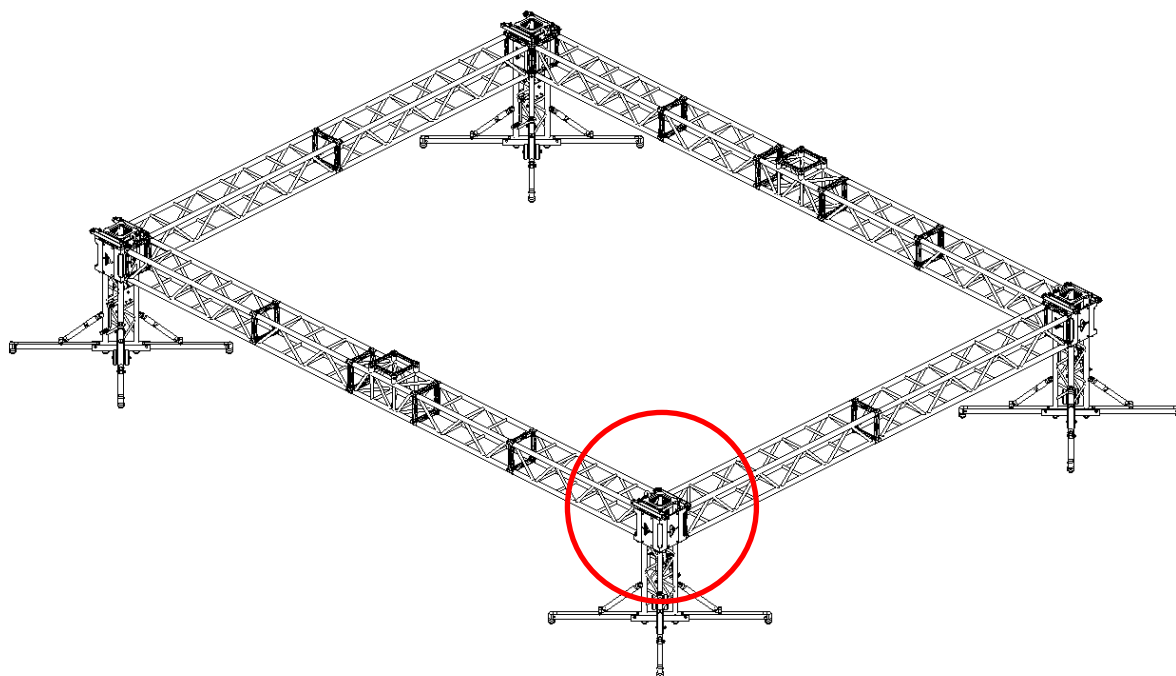
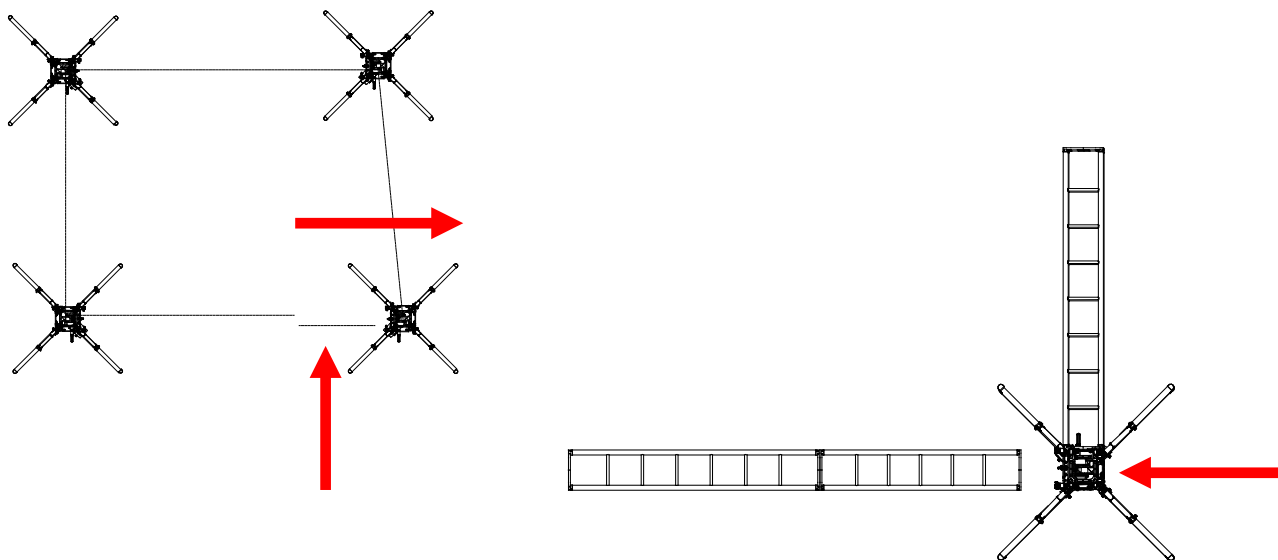
Connect the spigots between the truss and the tower (see step 9), and among the trusses (see step 10 a). Pay attention to the continuity diagonal design (step 10 b).



b) Lay down the partial tower in order to avoid its flexion.

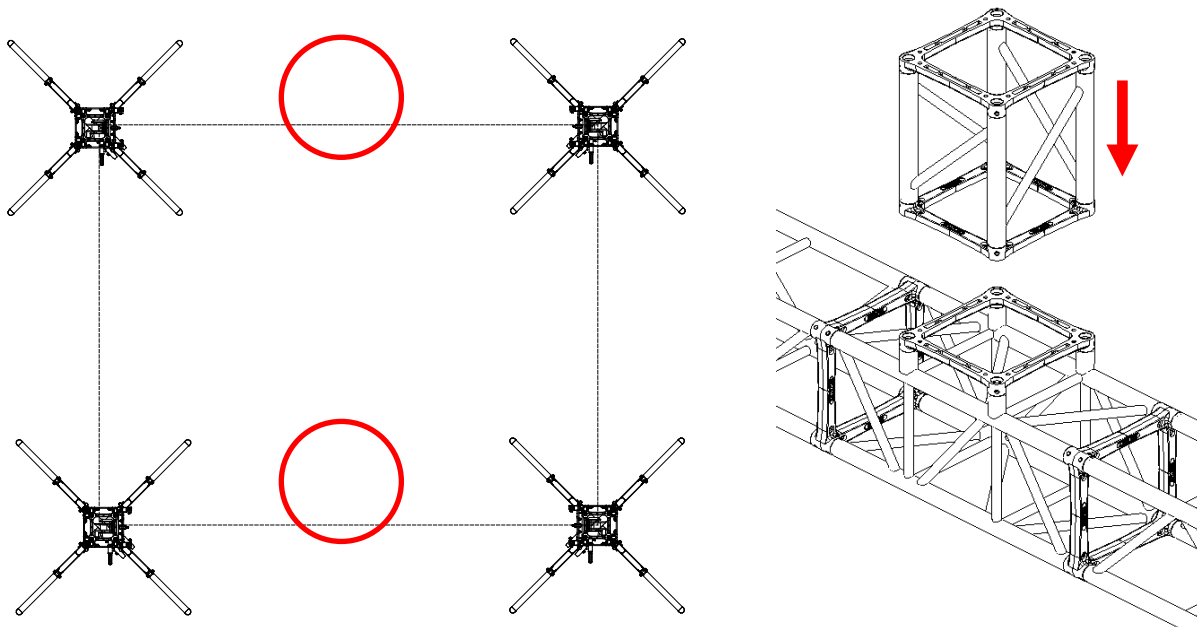


- c) Point the last truss LT QX40SA200 to the spigots on the architrave, so draw up the fourth tower and block it.

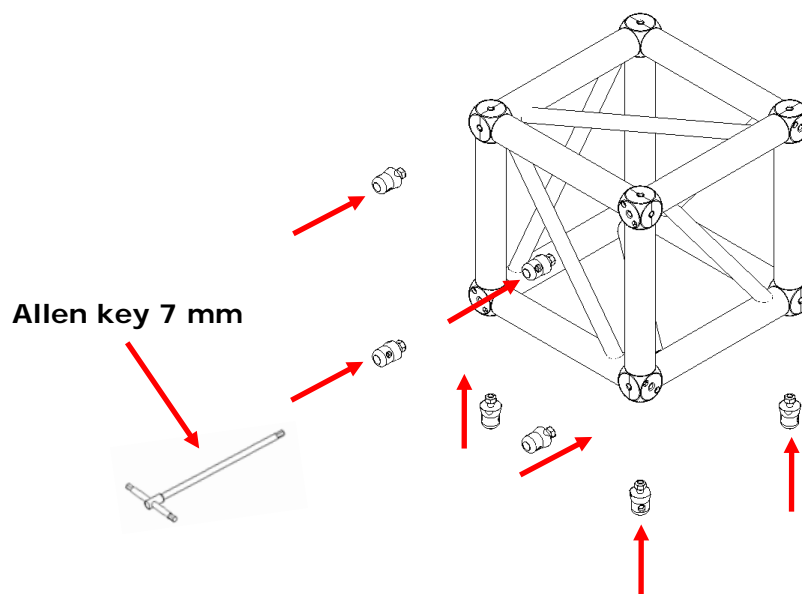


Step 16 RSD0806ST: Installation of the vertical trusses.

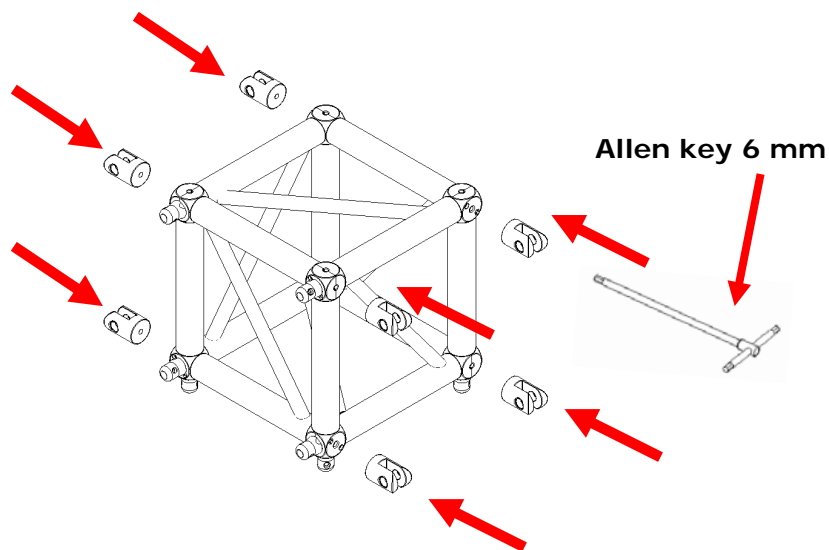
a) Connection LT QX40SA050 and LT QX40SA025.



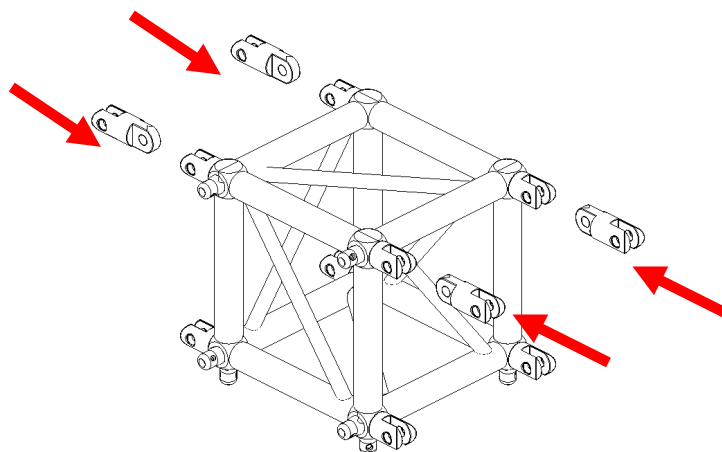
b) Installation of the spigots on the cube LT QX40K8.



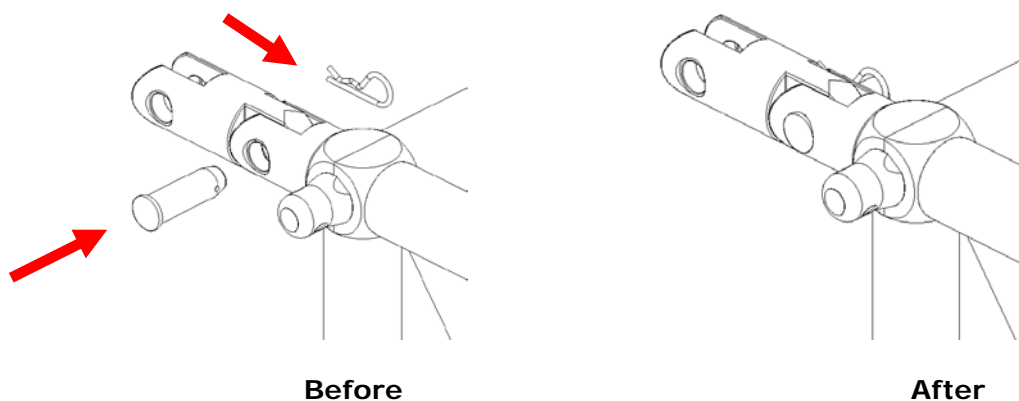
c) Insert the forks on the cube (kit LT HKR). Firstly, fix them to the lower part of the four corners.

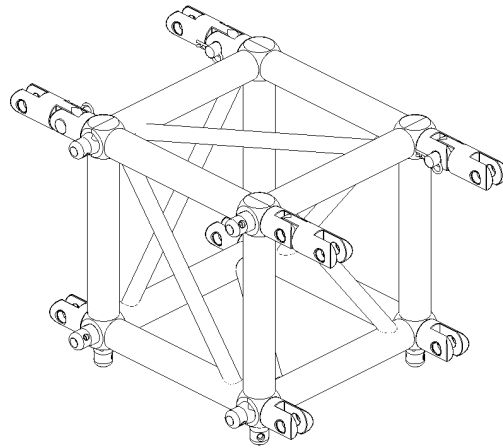


d) So, fix the spacers on the top parts.

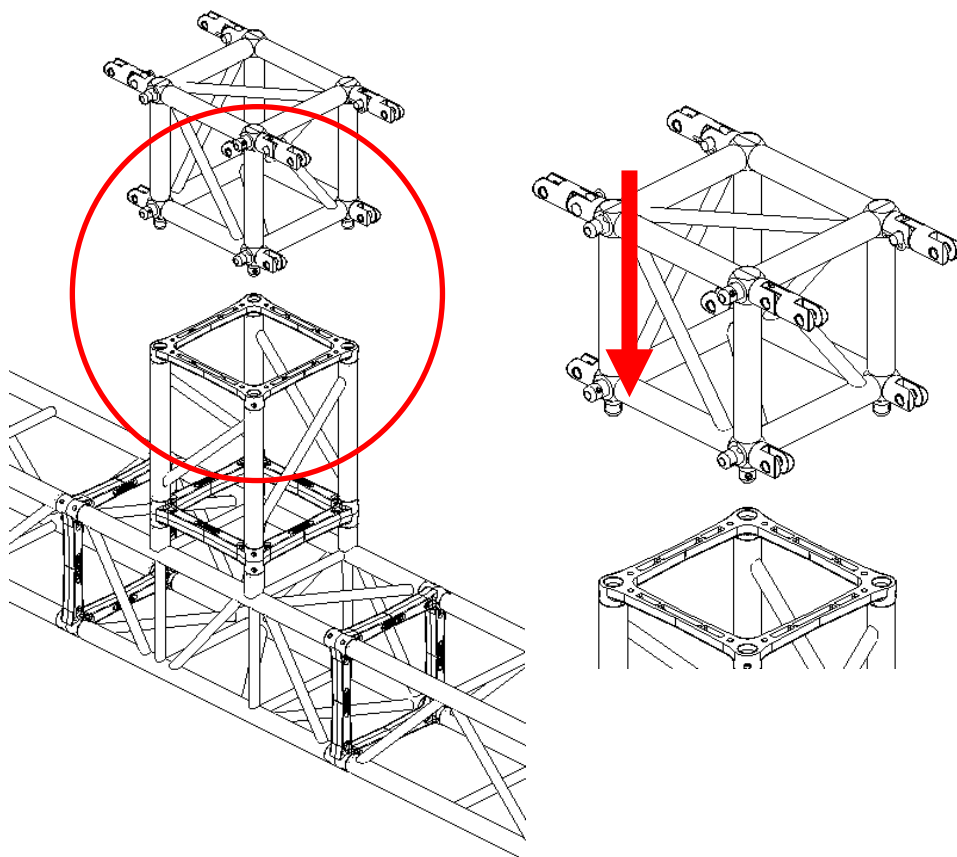


e) Then, fix it with Ø 20mm pins and split pins.





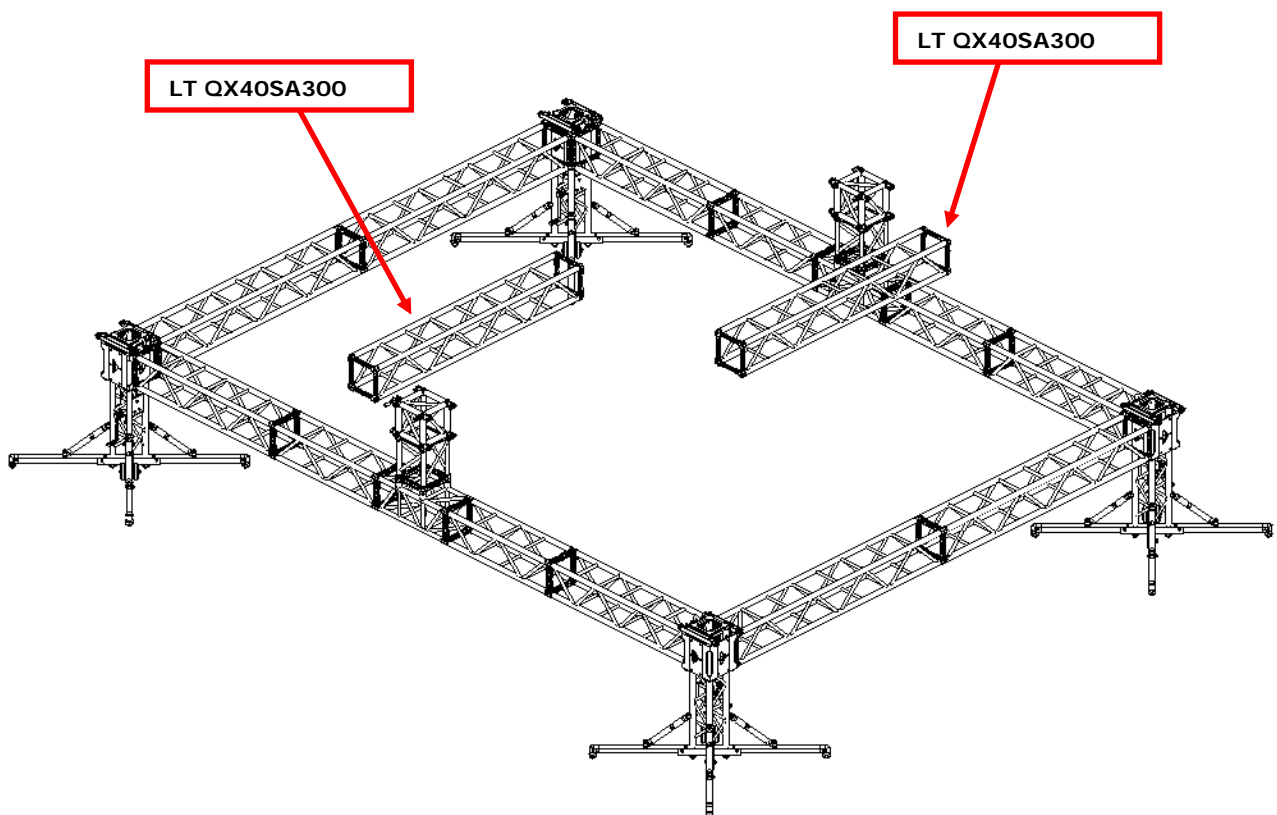
- f) Connect the Assembled Dado on the vertical truss. Repeat the operation on the other side.

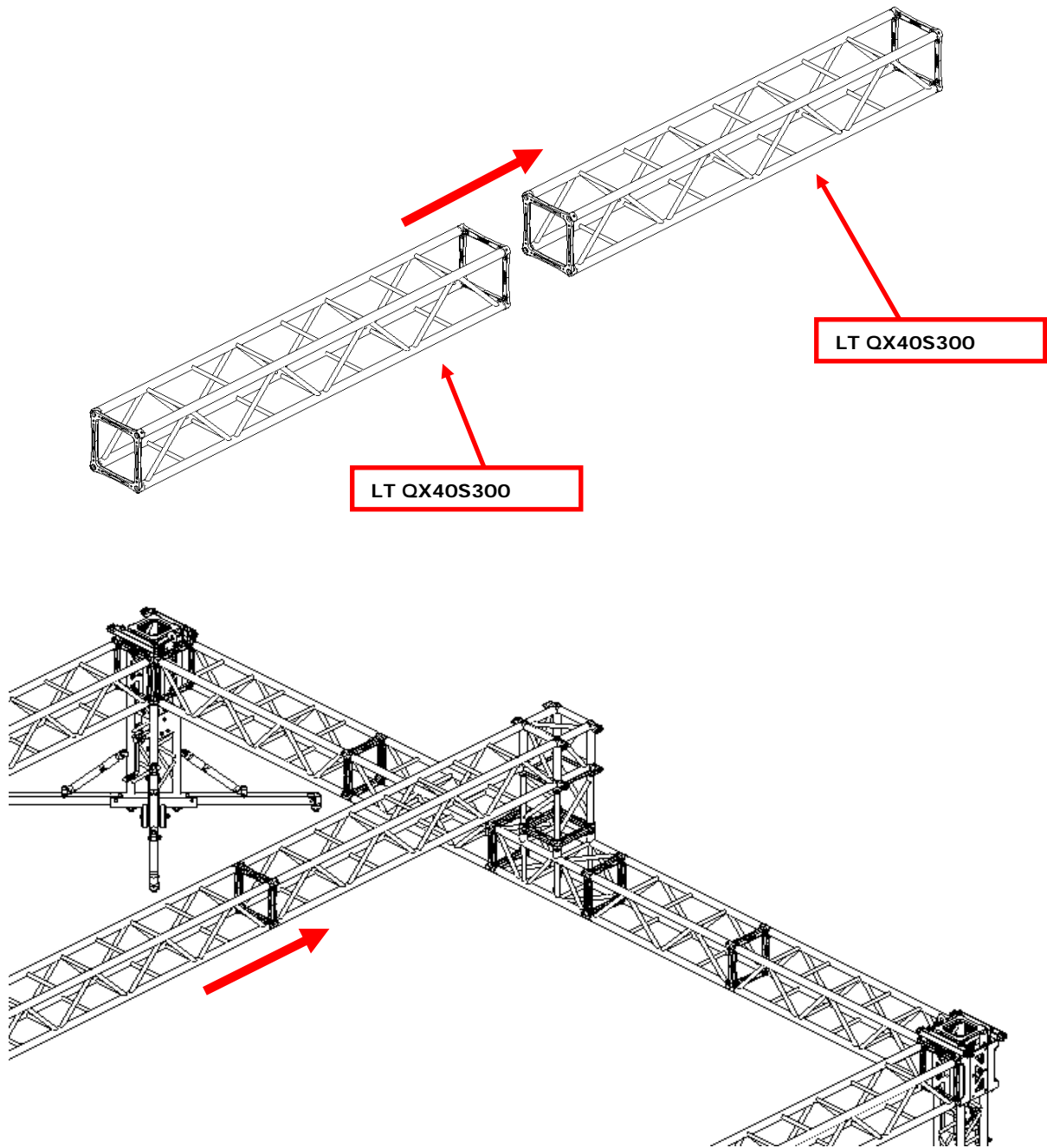


Step 17 RSD0806ST: Apex truss setup.

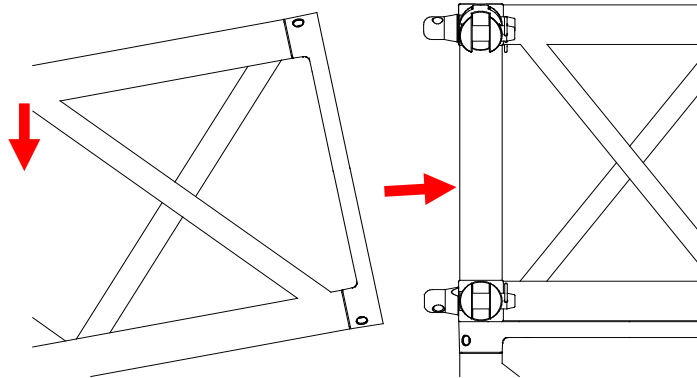
Place the pieces inside the ring:

- Two trusses LT QX40SA300.
- Connect them by the spigots following the instructions of steps 9 – 10 - 11.

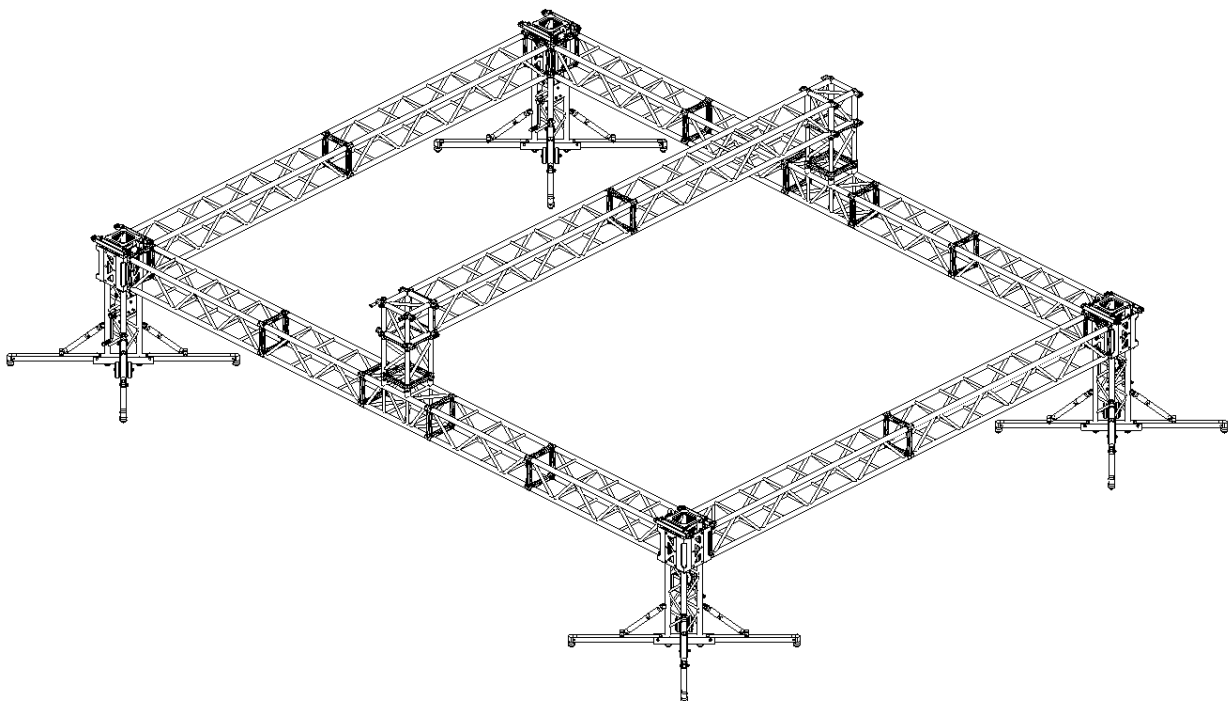
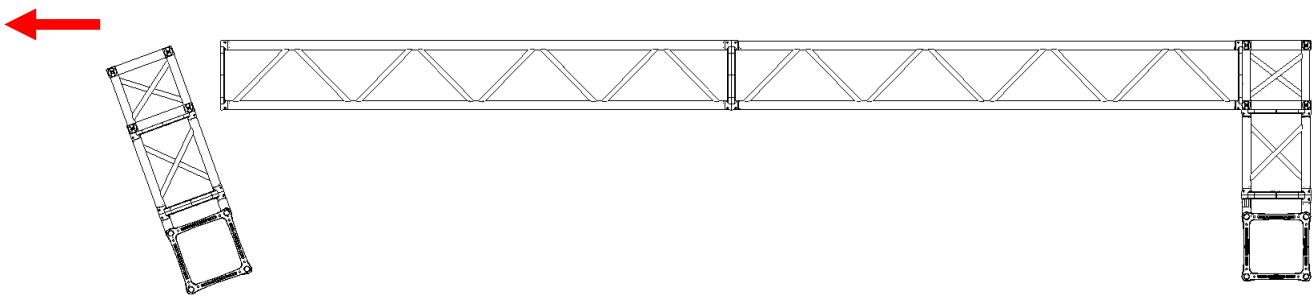




Lift and connect the lower spigots of the truss to the blocking spigots, so insert the truss between the vertical towers.

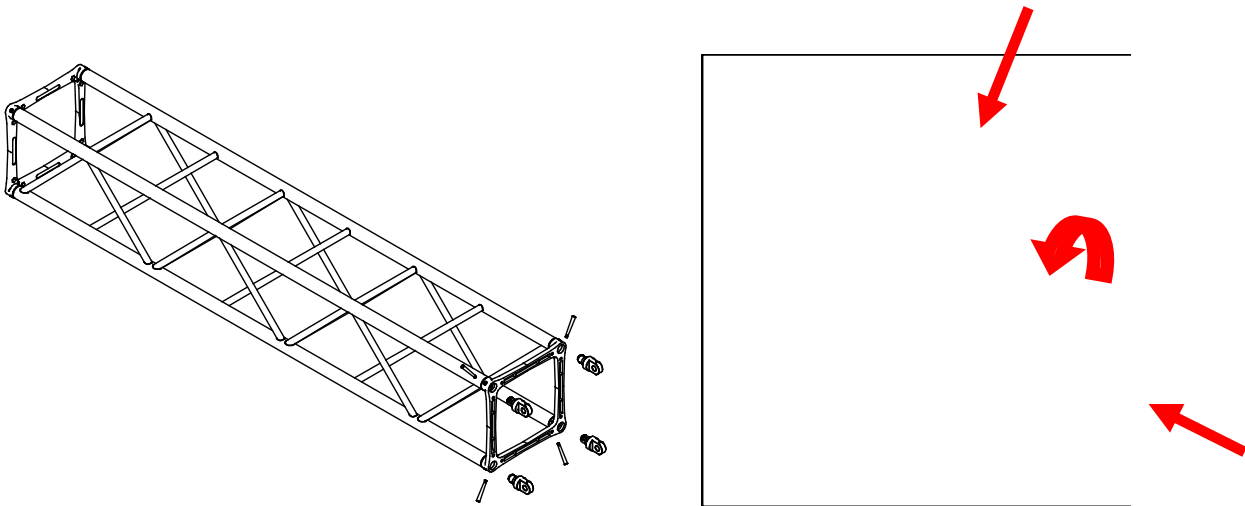


It is necessary to force to let the truss enter.

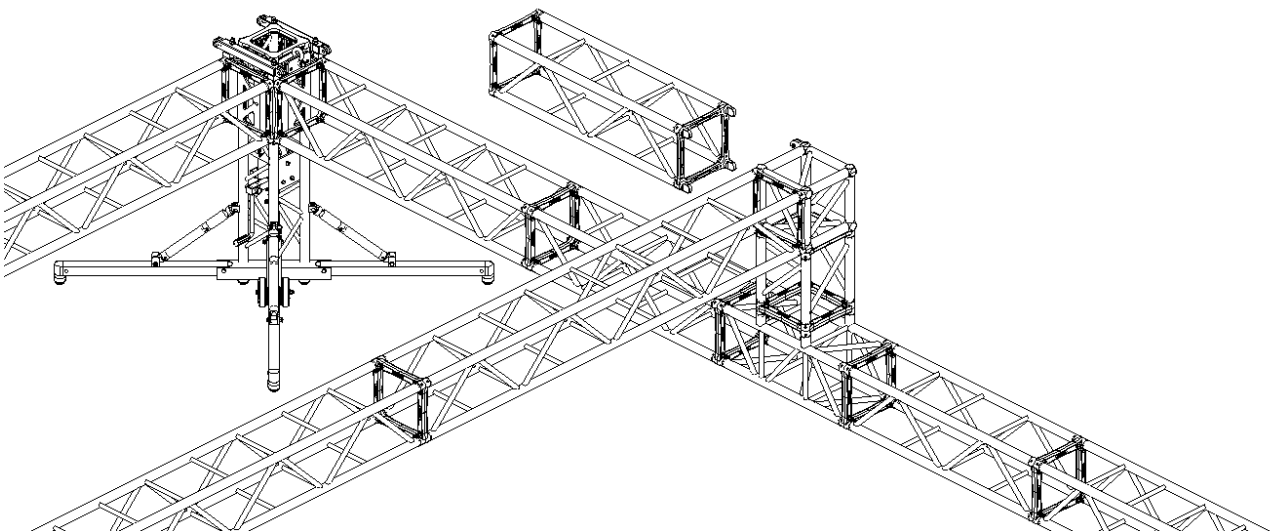


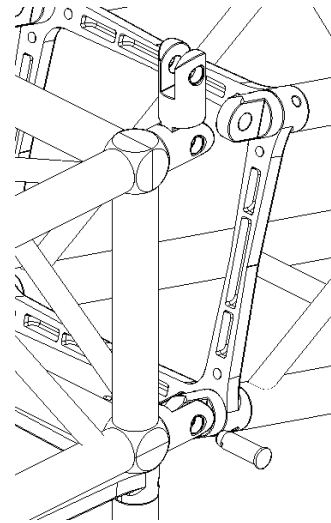
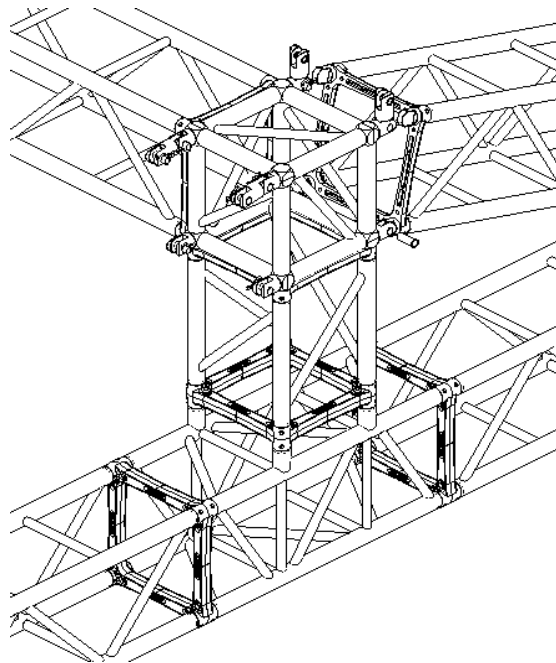
Step 18 RSD0806ST: Construction of the Gable Truss

- a) Prepare the diagonal truss (LT QX40SA150). Orientate the spigots properly for the fork connection.

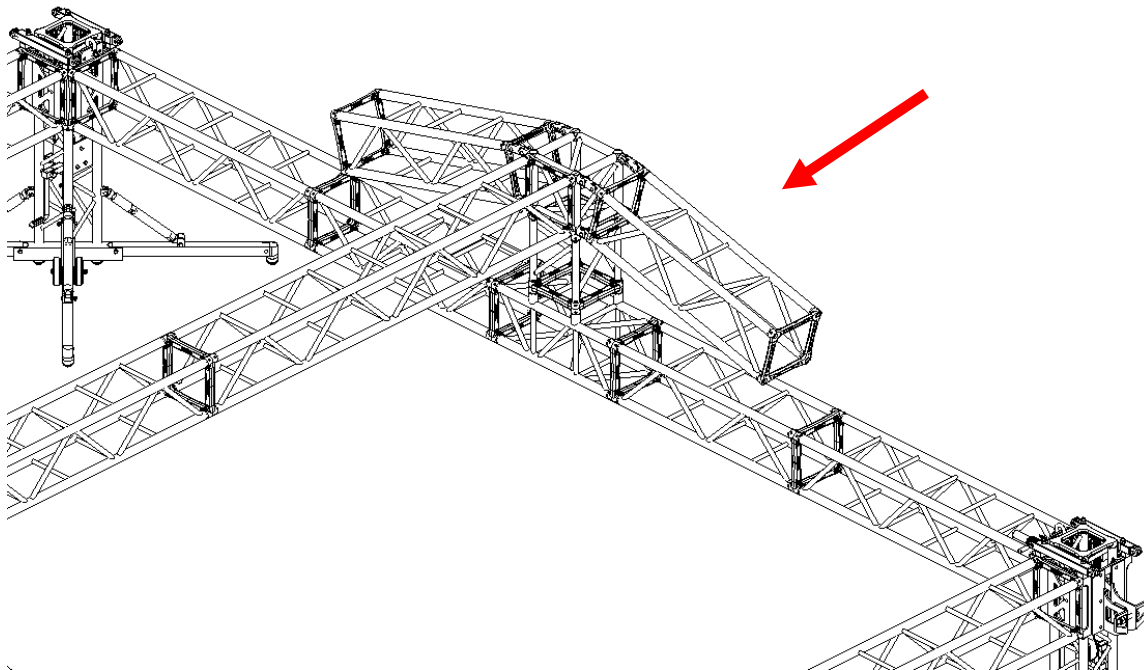


- b) Connect the truss (LTQX40SA150) to the Assembled Dado.

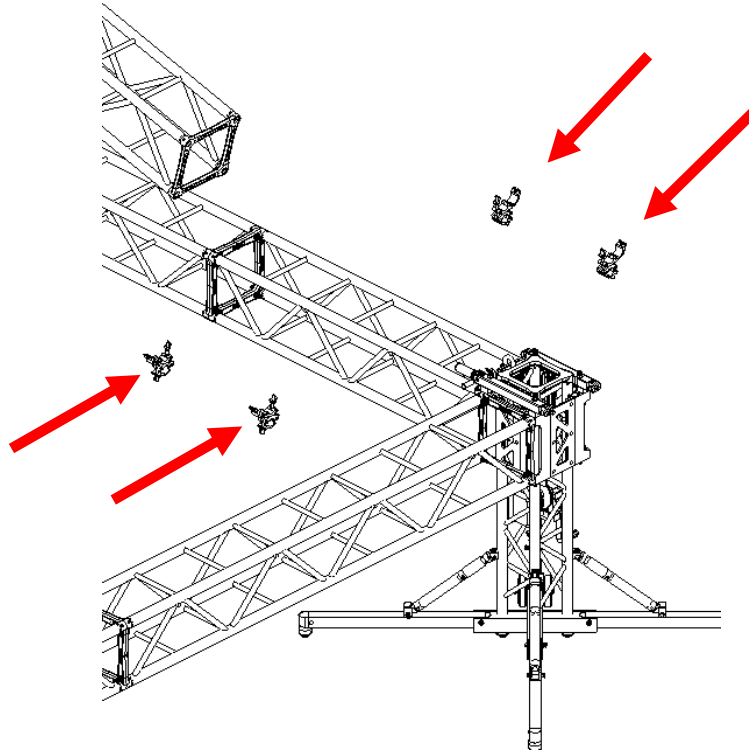




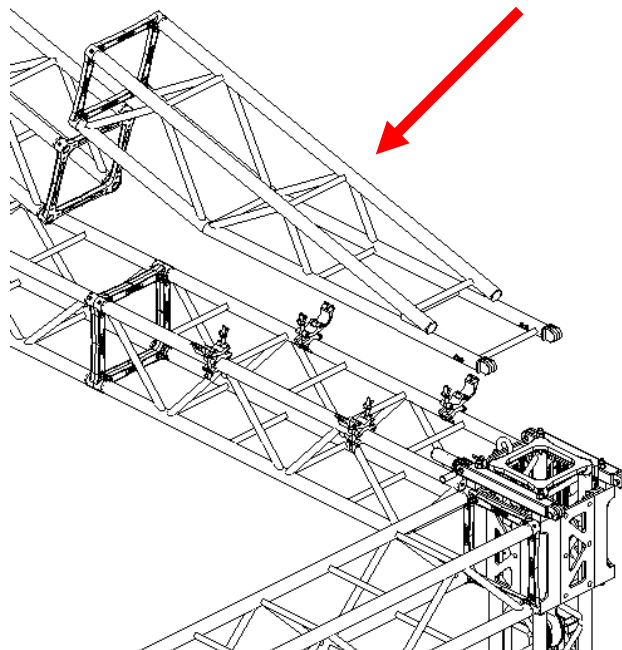
c) Repeat the same operation on the other side.

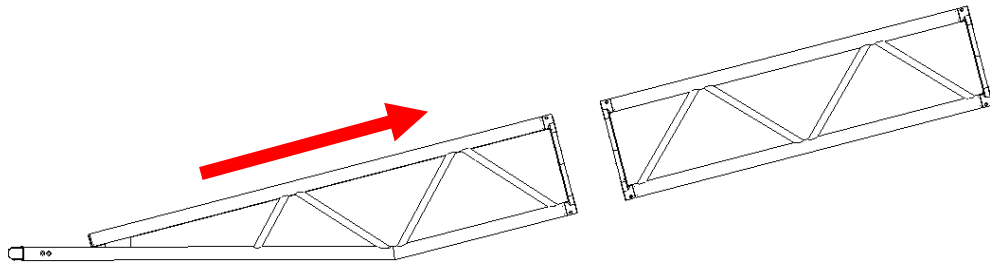


- d) Connect the couplers, fix them by the closing screws which are turned towards the inner side.

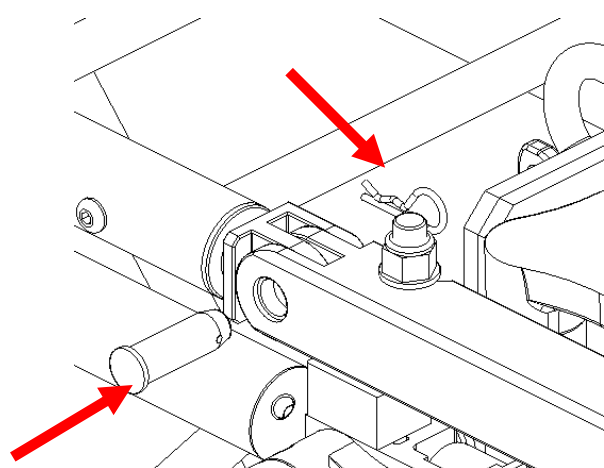
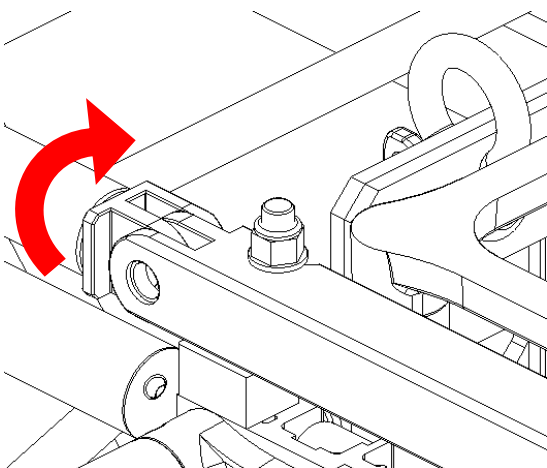
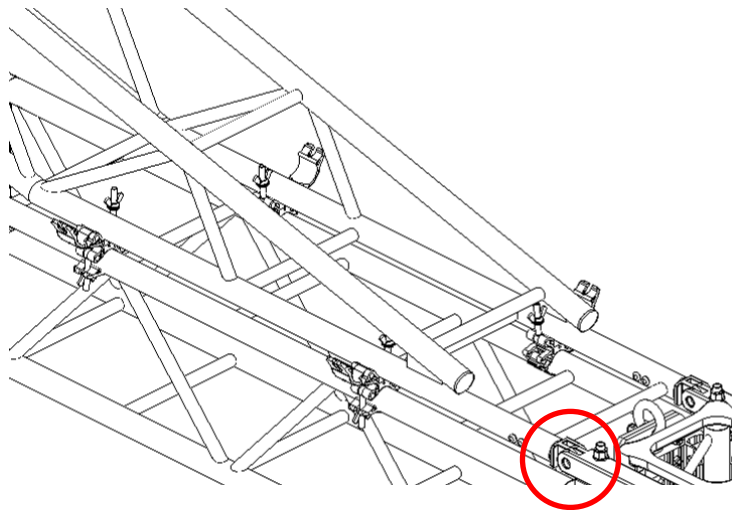


- e) Place the lower side of the tympanum (LT HQX40SATER) on the couplers and connect it to the spigots placed on the truss (LT QX40SA150).





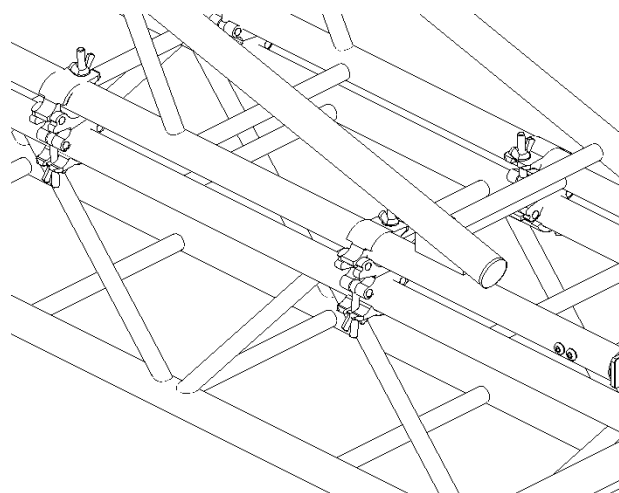
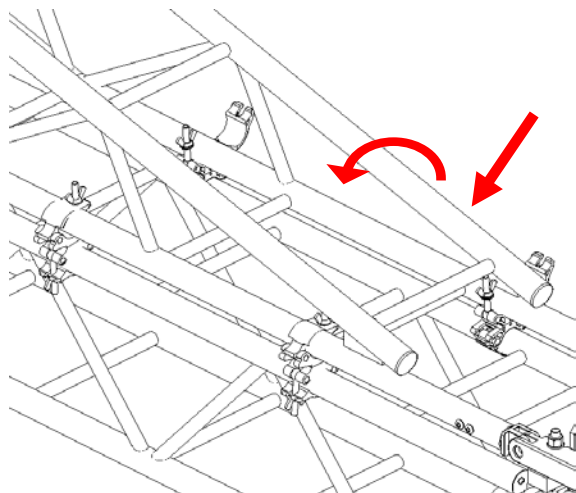
- f) Fix the Gable Truss (LT HQX40SATER) to the sleeve block forks. Adjust the screw fork in order to match the hole of the sleeve block fork.



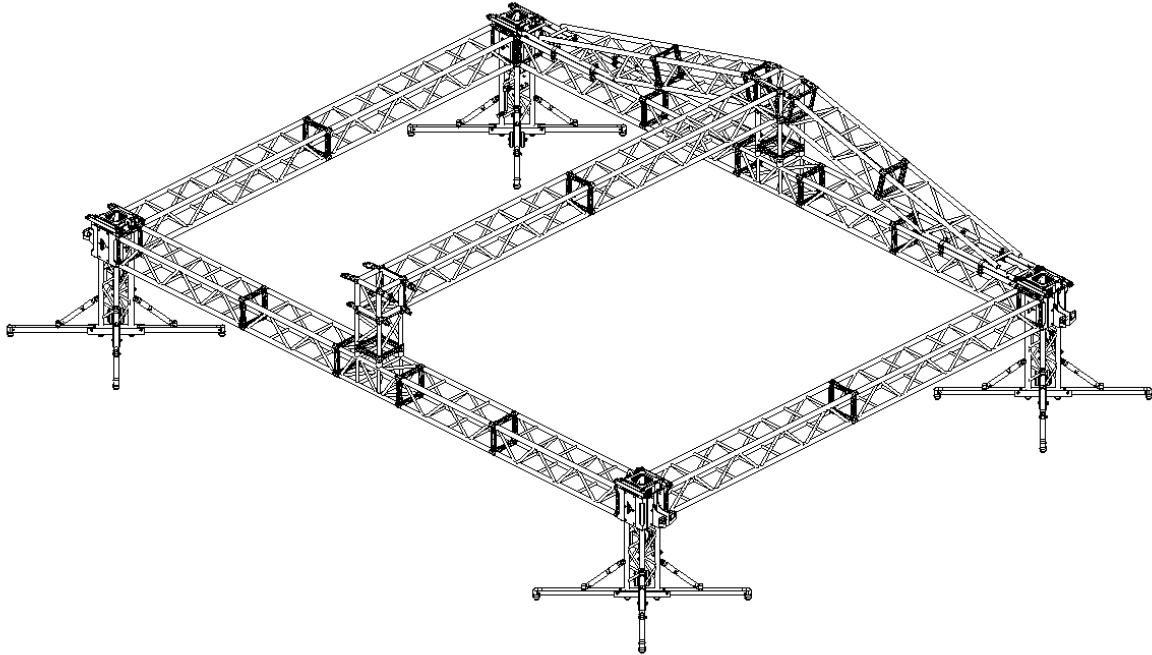
g) Connect the forks rotating the spacer (LT HKR).



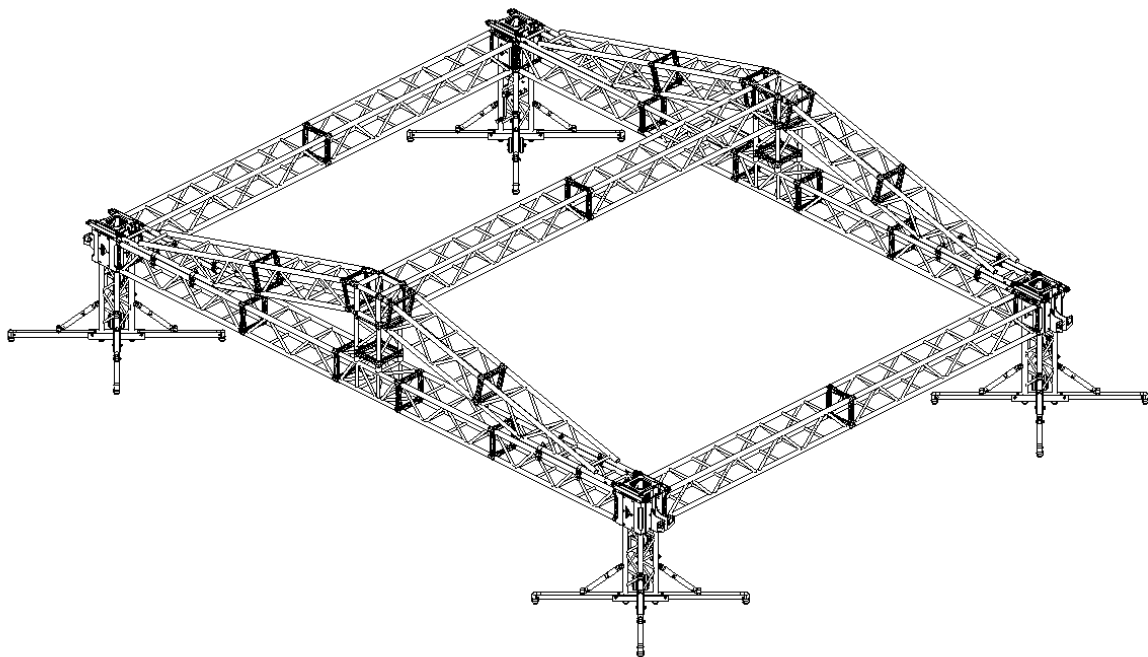
h) Close the coupler top side.



- i) Repeat the operations of the points a), b), c), d), e), f), g) and h) of the step 18 on the opposite side. It is necessary to force the elements in order to let them to place.

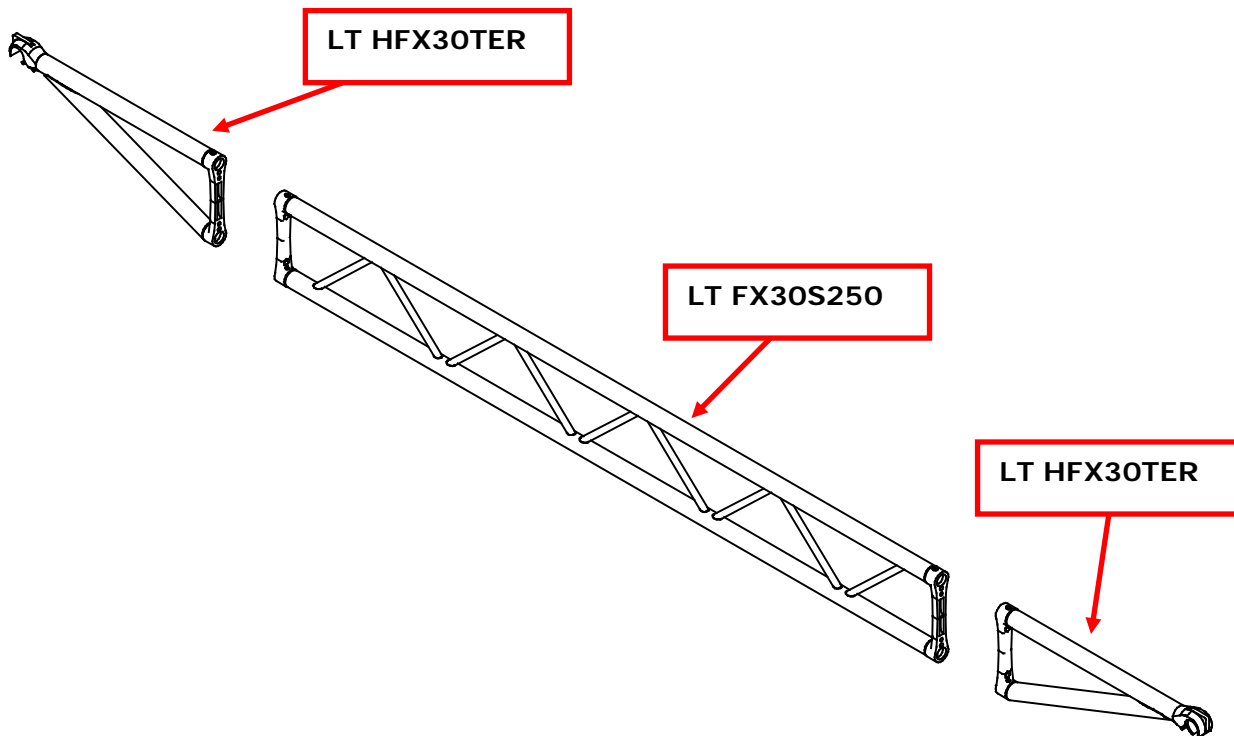


- j) Repeat the last points said above for the roof construction of the opposite side.

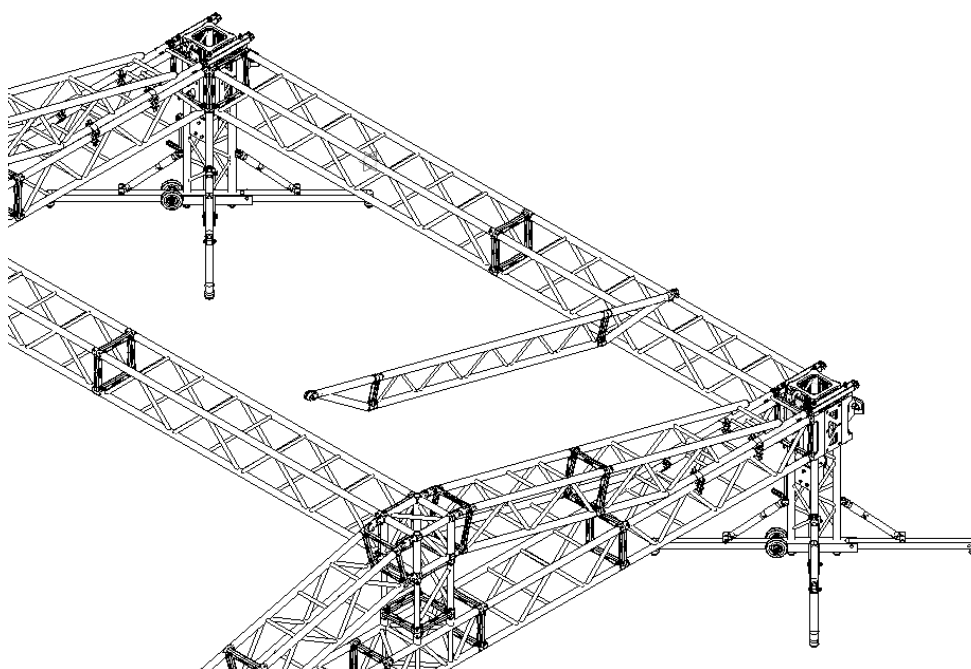


Step 19 RSD0806ST: Ladder truss setup

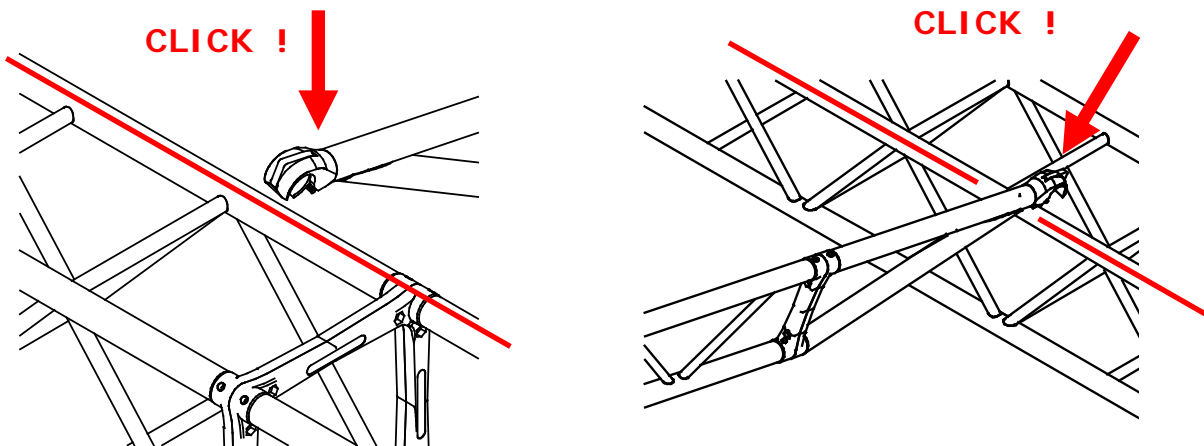
- a) Connection of the components with the spigots, pins and split pins.



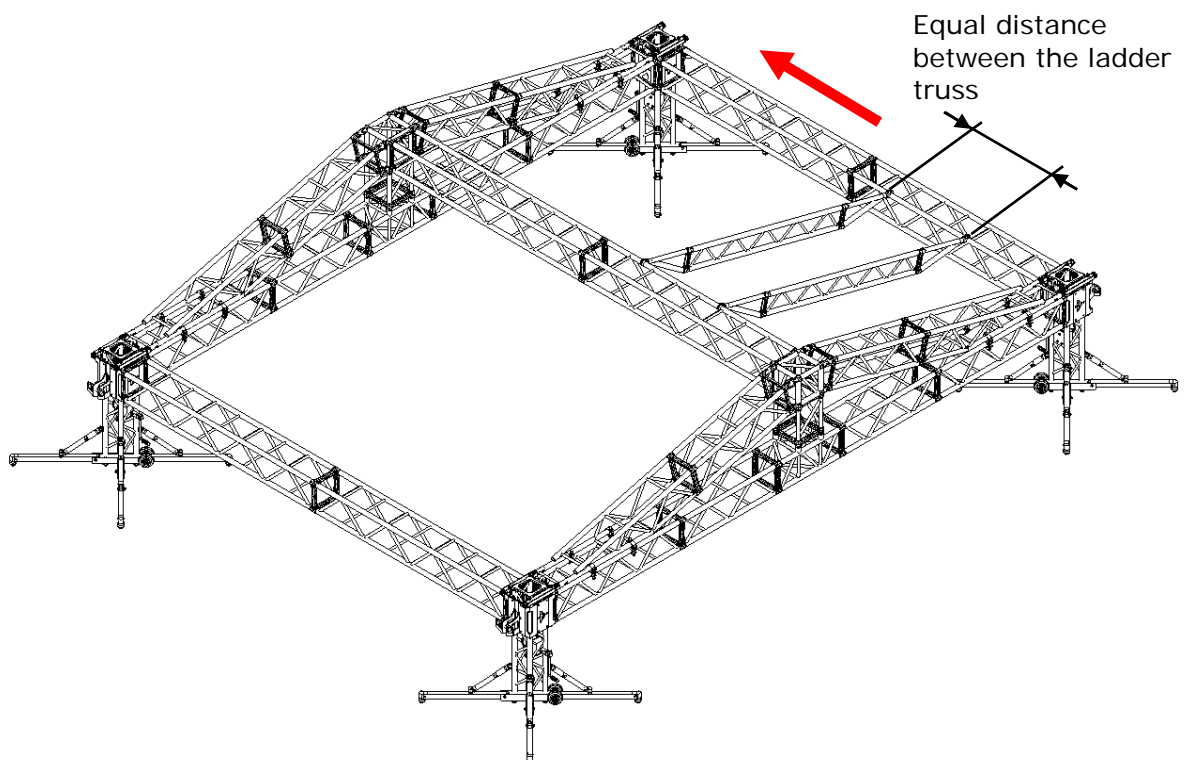
- b) Application of the ladder truss to the structure.

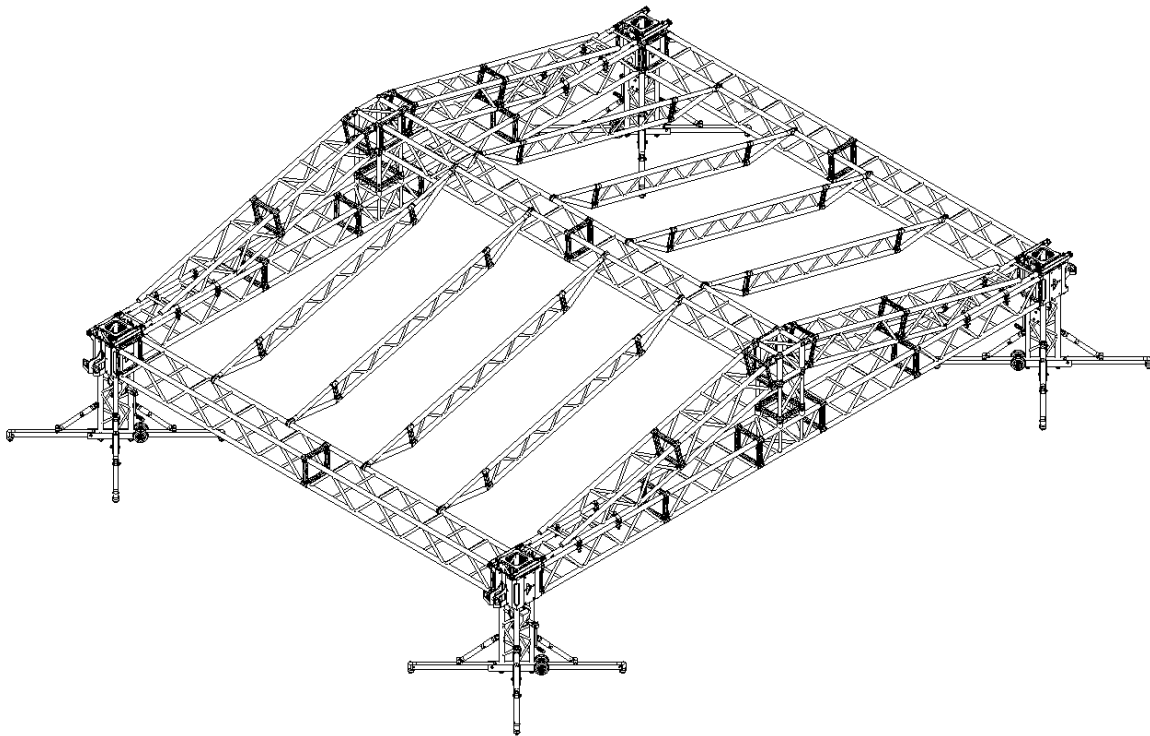


c) Fix firmly both the rafter side: press on the snap hook until you hear "click".



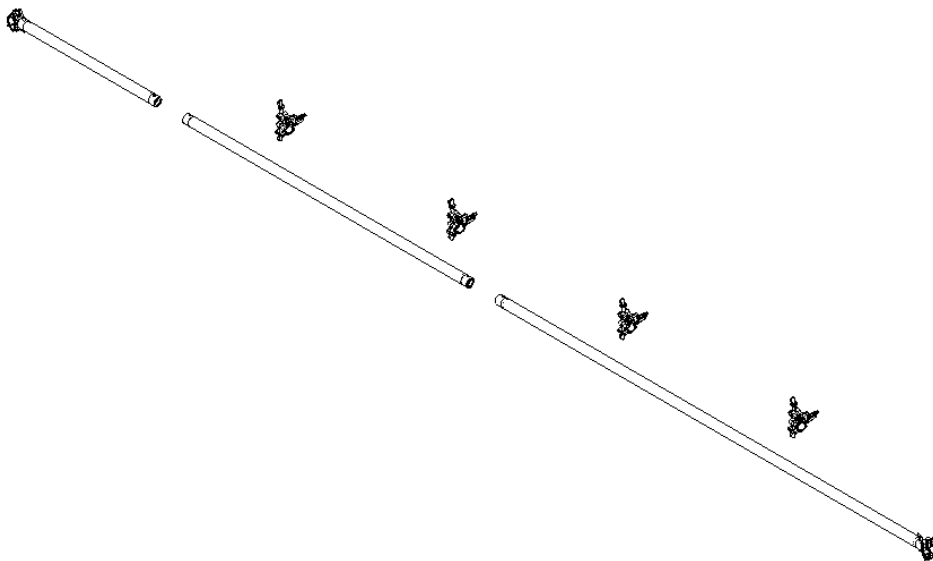
d) Apply the other rafters in the same way in order to complete the two roof pitches.



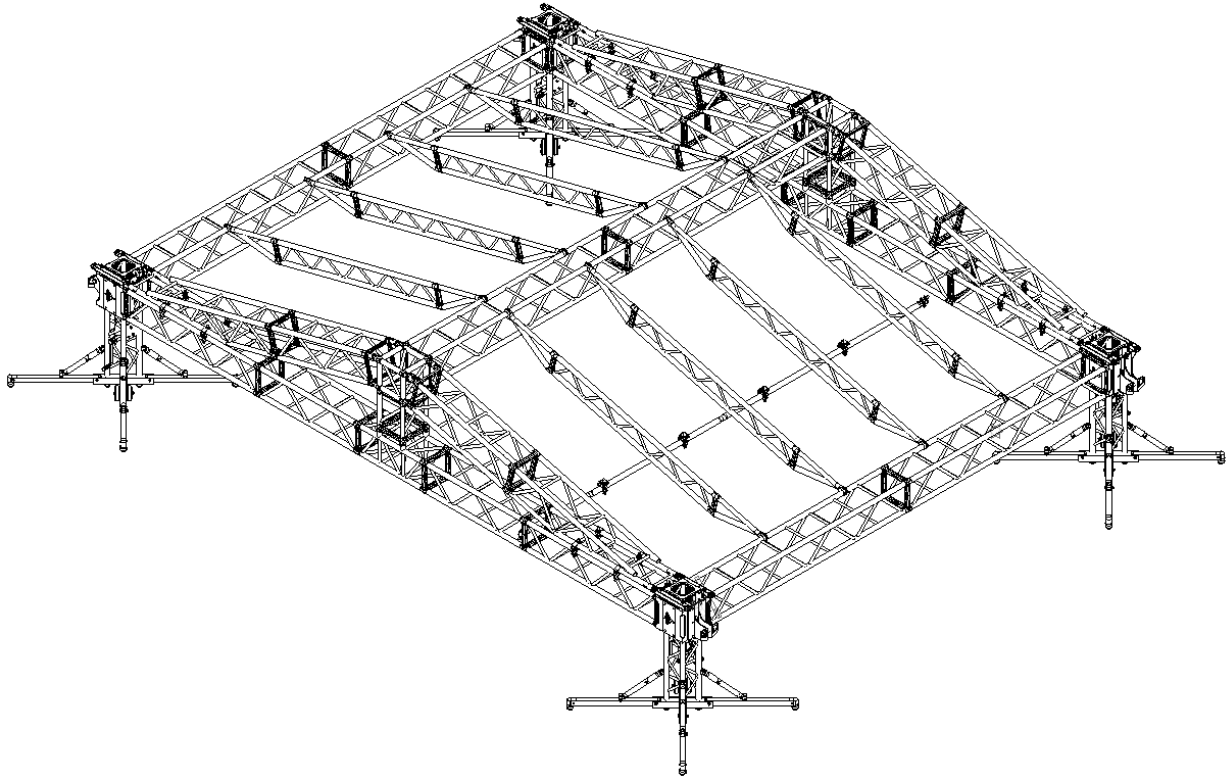


Step 20 RSD0806ST: Reinforcing arm setup.

a) Connection of the components.

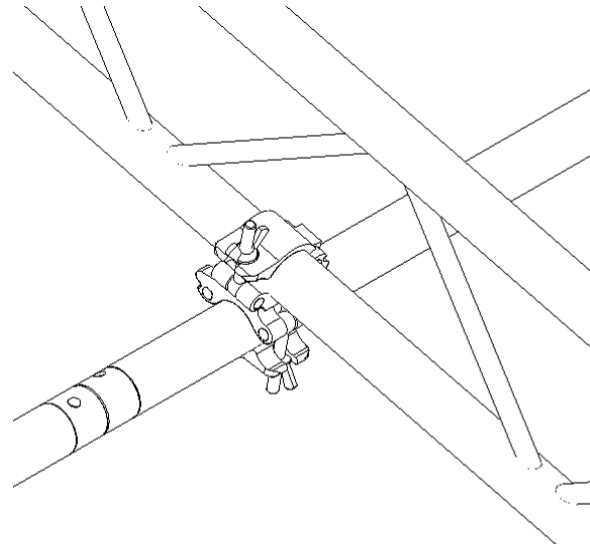
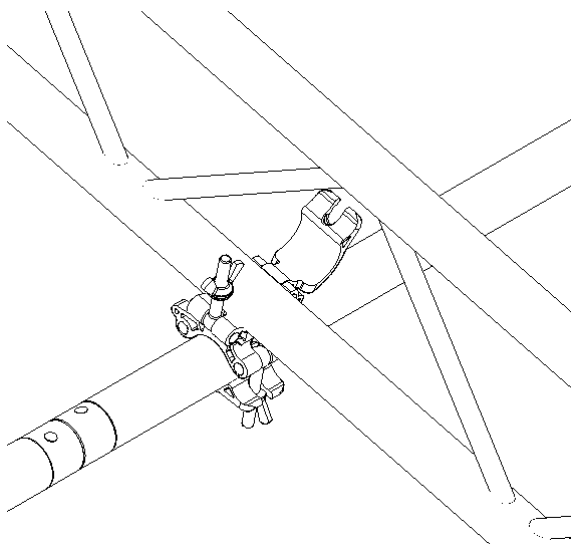


b) Connect the reinforcing arm to the roof pitch.

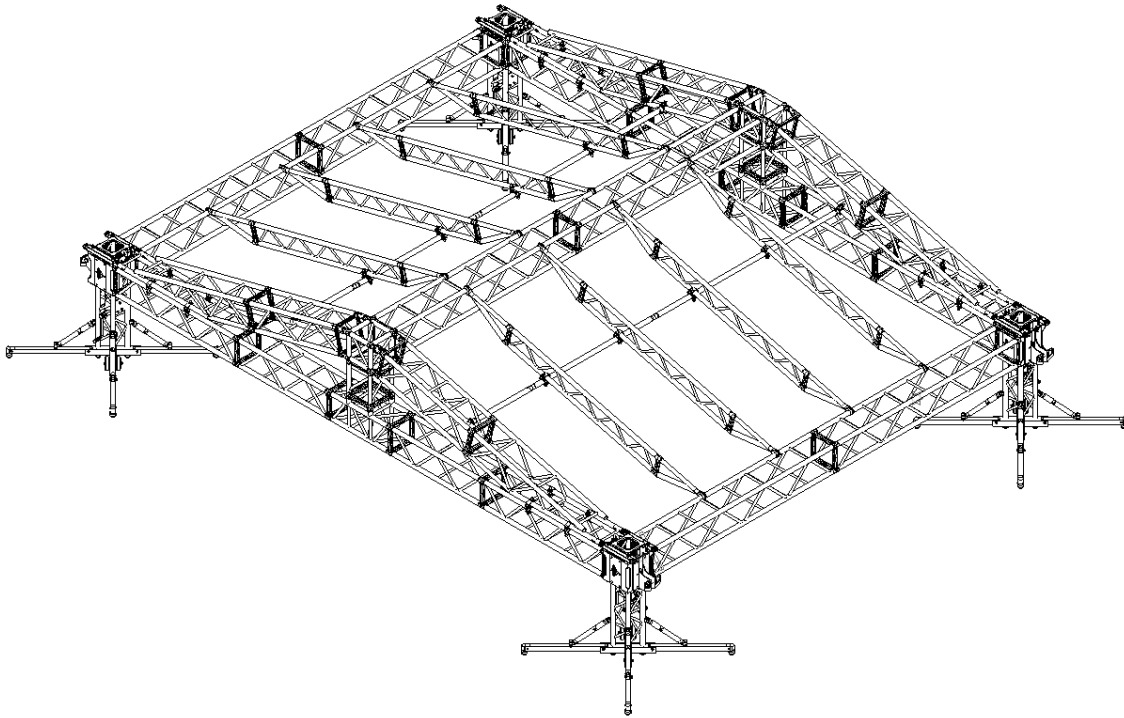


Before

After

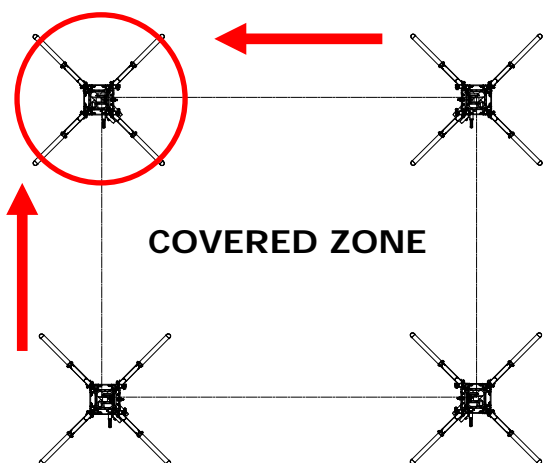
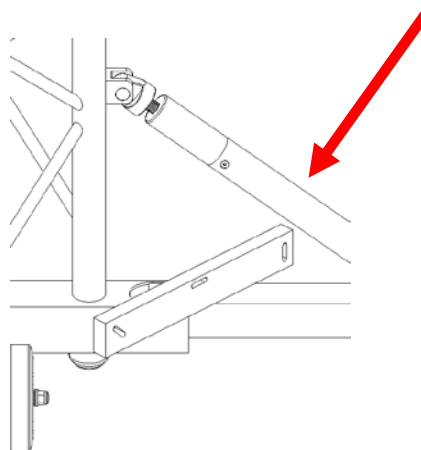
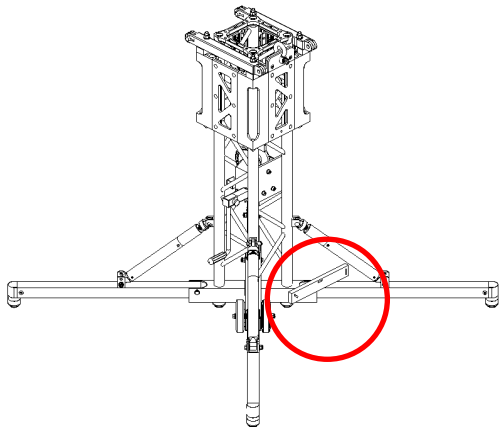


c) Apply the other reinforcing arm in the same way.

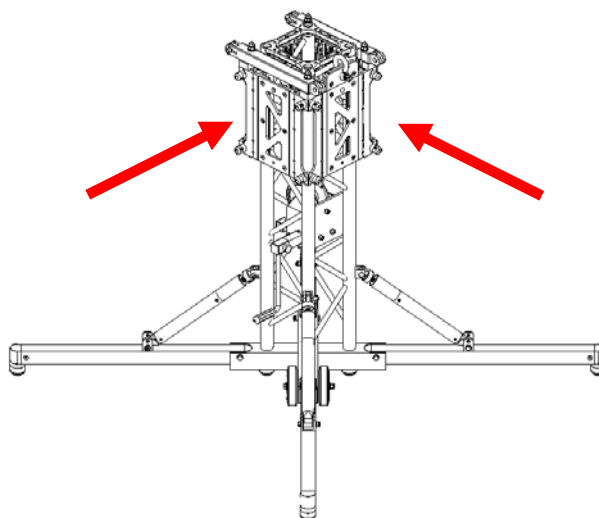
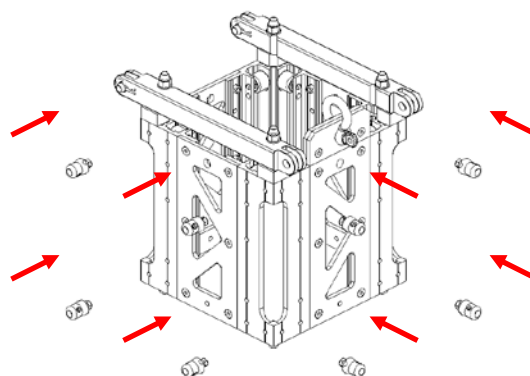


Go to Step 35.

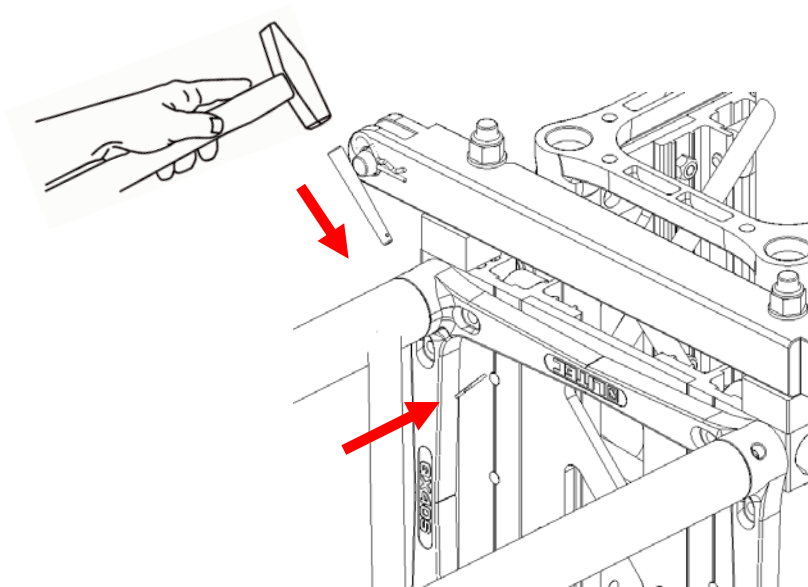
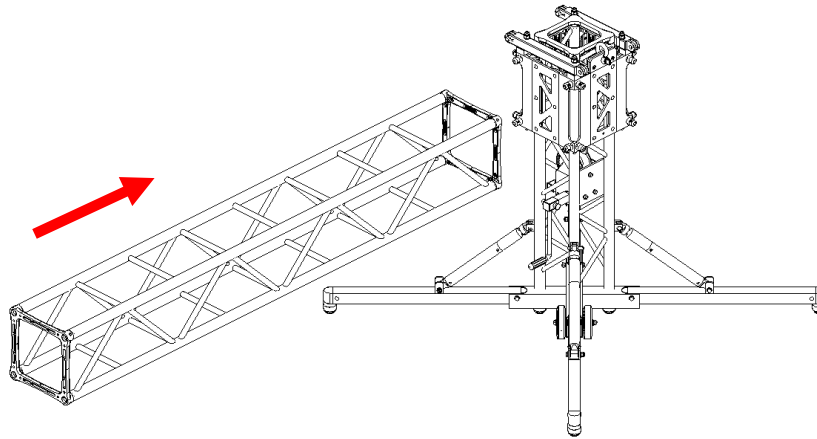
Step 21 RSD1008ST: Check the perfect equilibrium of the tower by a spirit-level and follow the step Nr 7 if it is necessary to adjust the level of the tower. Use the inner sides of the sleeve block as connecting points for the trusses.



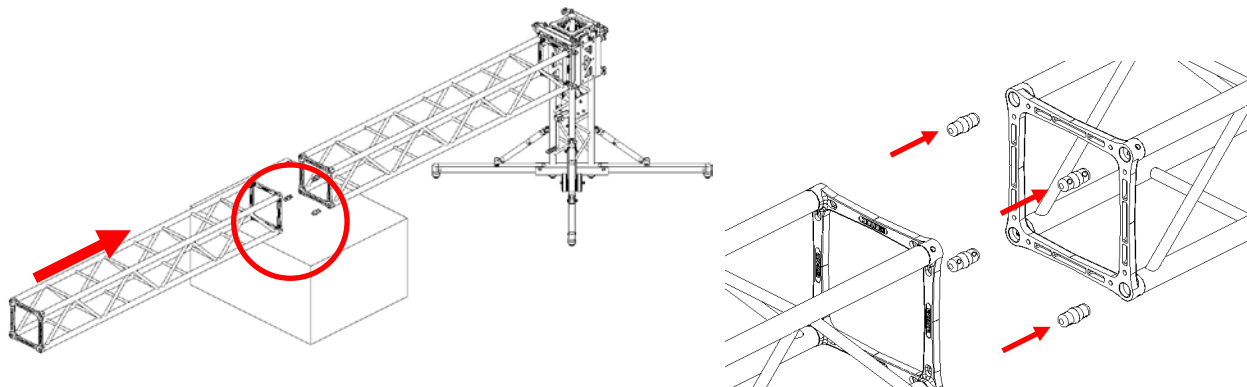
LT TLU30SR1



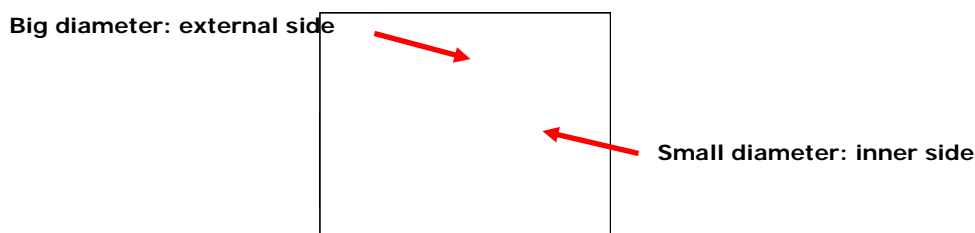
Step 22 RSD1008ST: Insert the truss LT QX40SA300 and block it by pins and split pins.



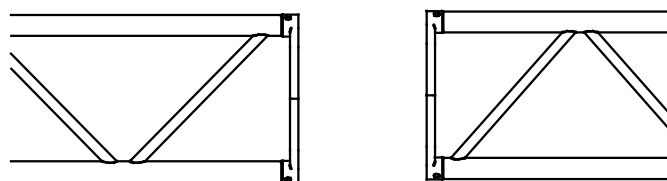
Step 23 RSD1008ST: Using the kit LT QXFC spigots to the truss, and connect another truss LT QX40SA200 to the first one by the spigots.



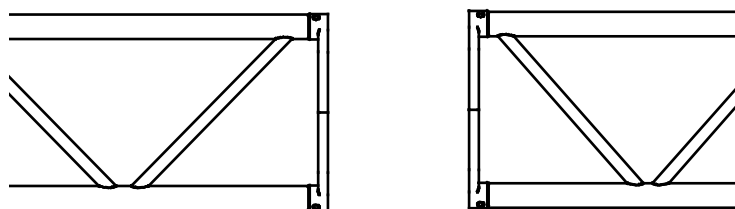
- a) Orientate the spigot so the holes which have a big diameter are turned round towards the exterior.



- b) Check the regularity of the asymmetry of the diagonals of the trusses as regards the connecting section:



Wrong configuration

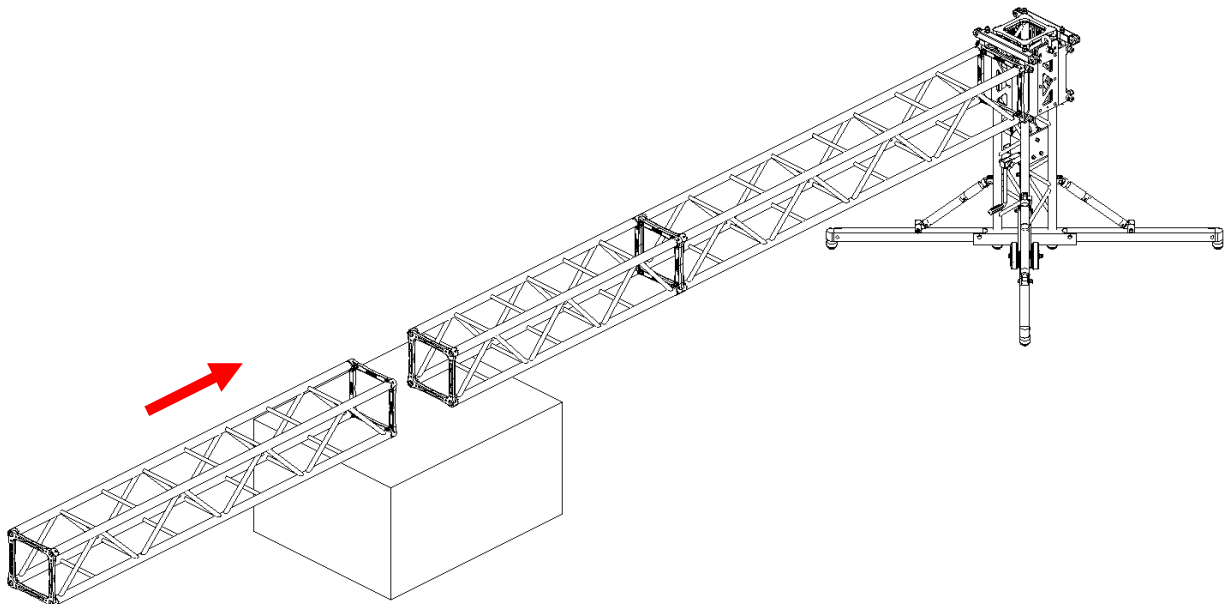


Right configuration

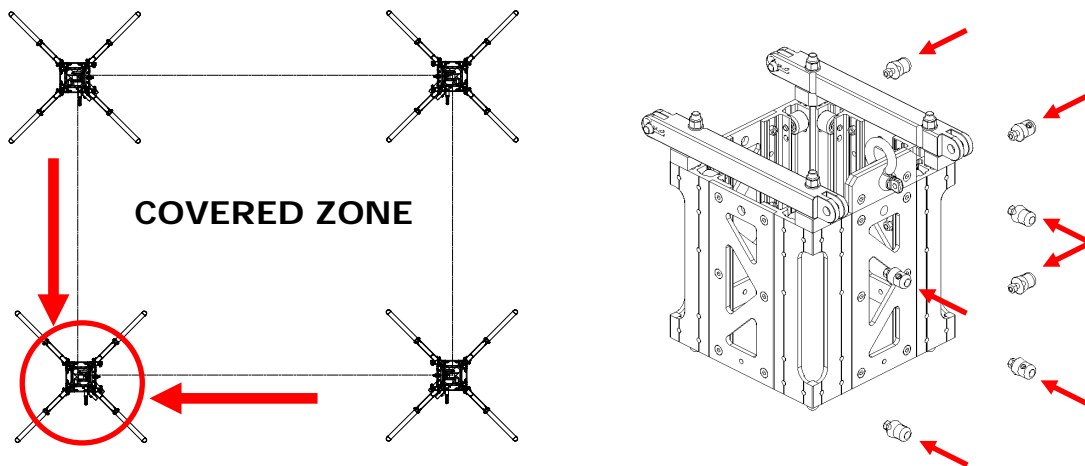
- c) Then fix it with pins and split pins.



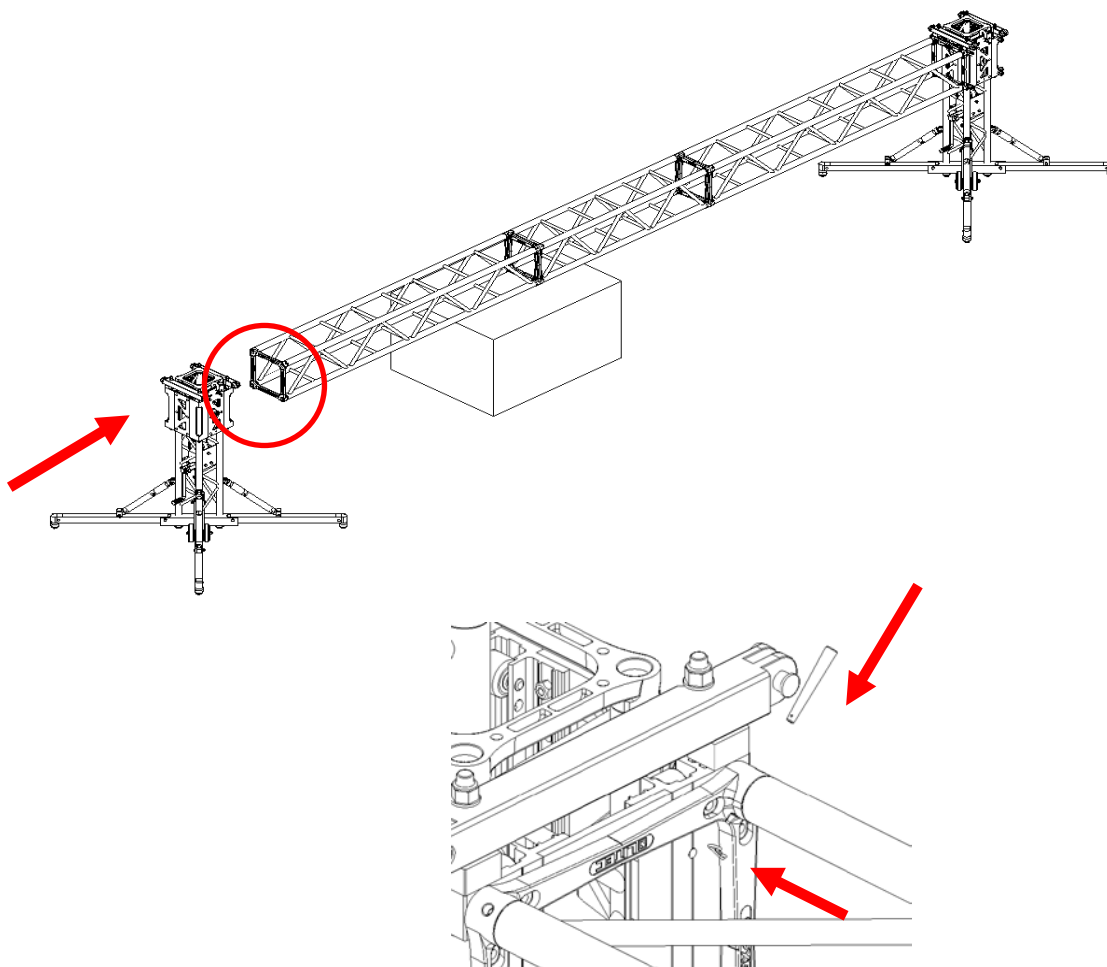
Step 24 RSD1008ST: Repeat the instructions described in step 23. So, insert the LT QX40SA300 in order to complete the lateral truss.



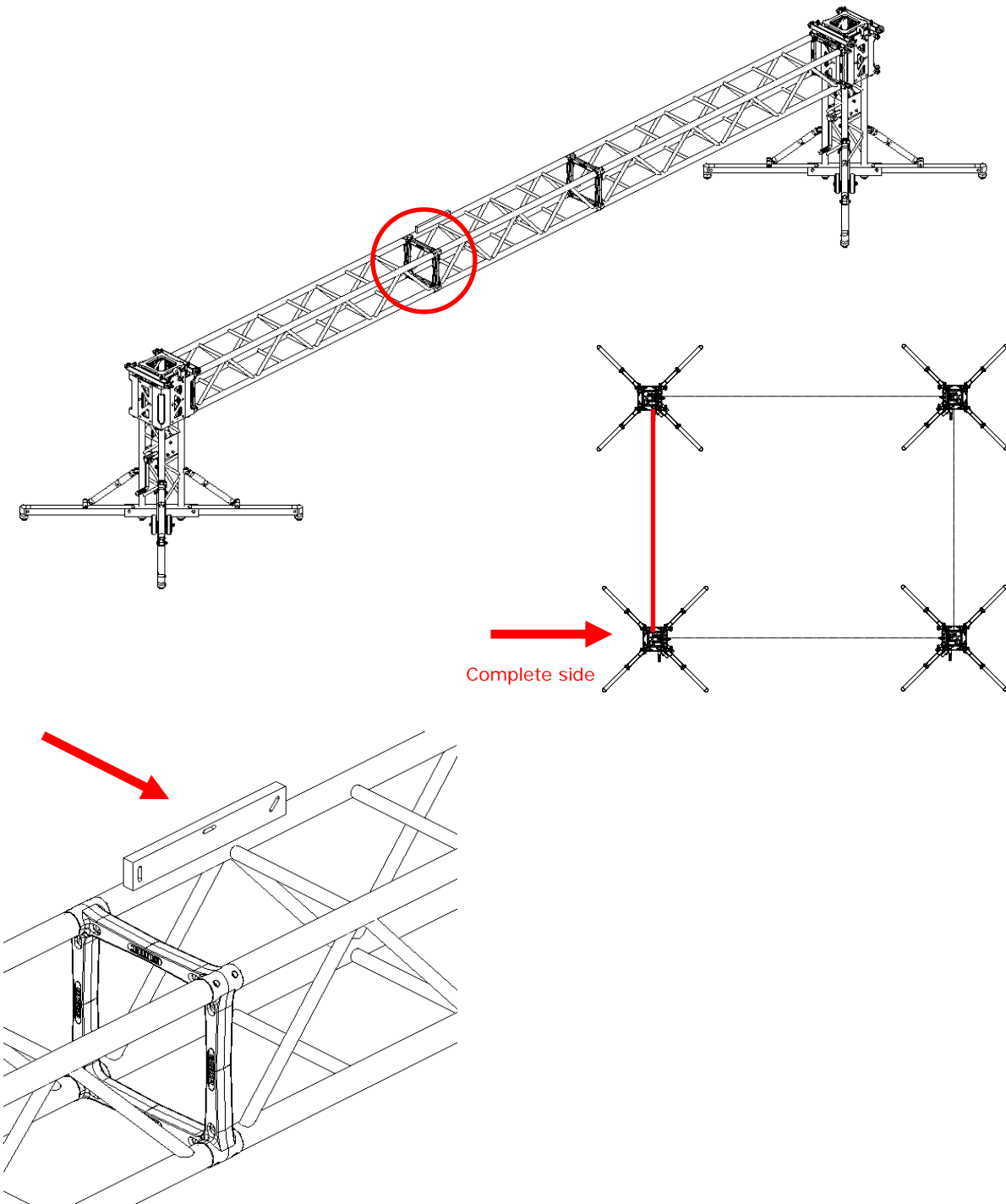
Step 25 RSD1008ST: Connect the second tower. Prepare the half spigots on the inner sides of the sleeve block.



a) Connection and fix operations by pins and split pins.

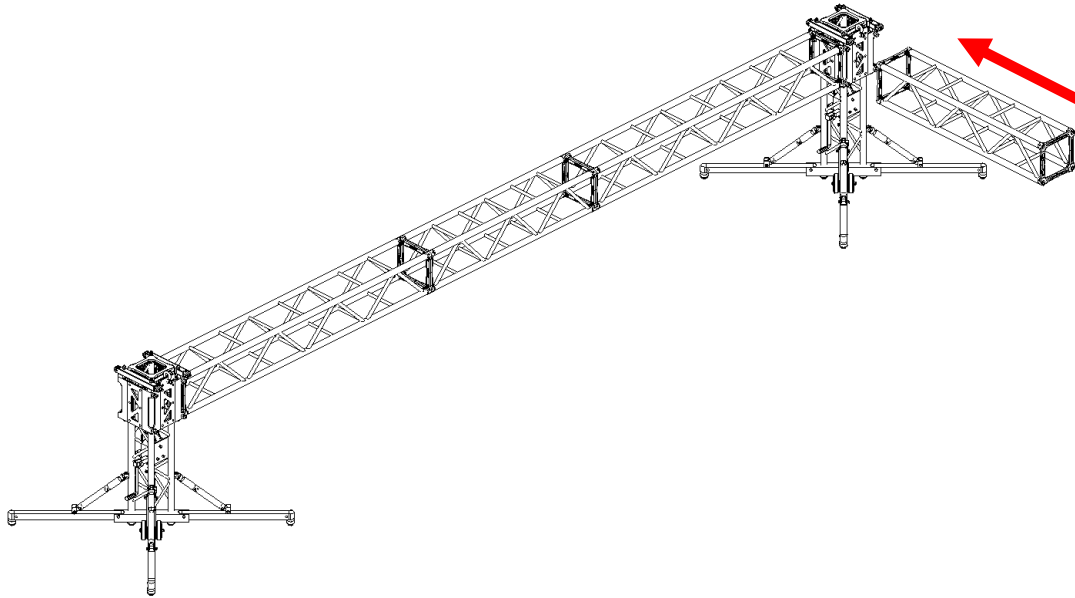


- b) The first side is completed with the setup of the second tower; then check the level of the side by the spirit level.

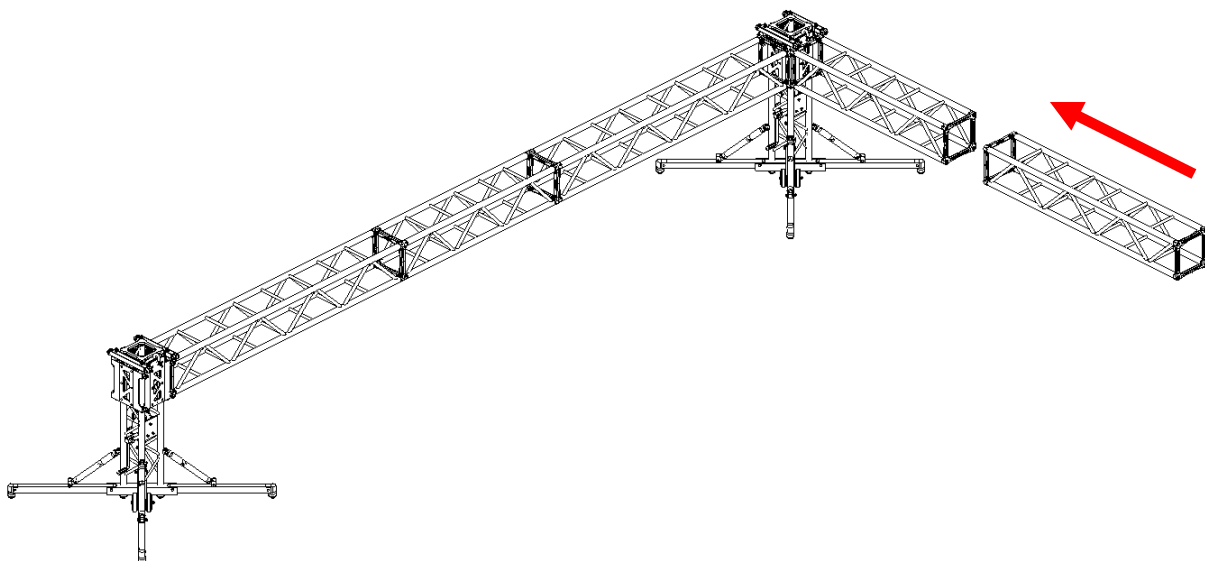


Step 26 RSD1008ST: Construction of the base of the first Gable Truss.

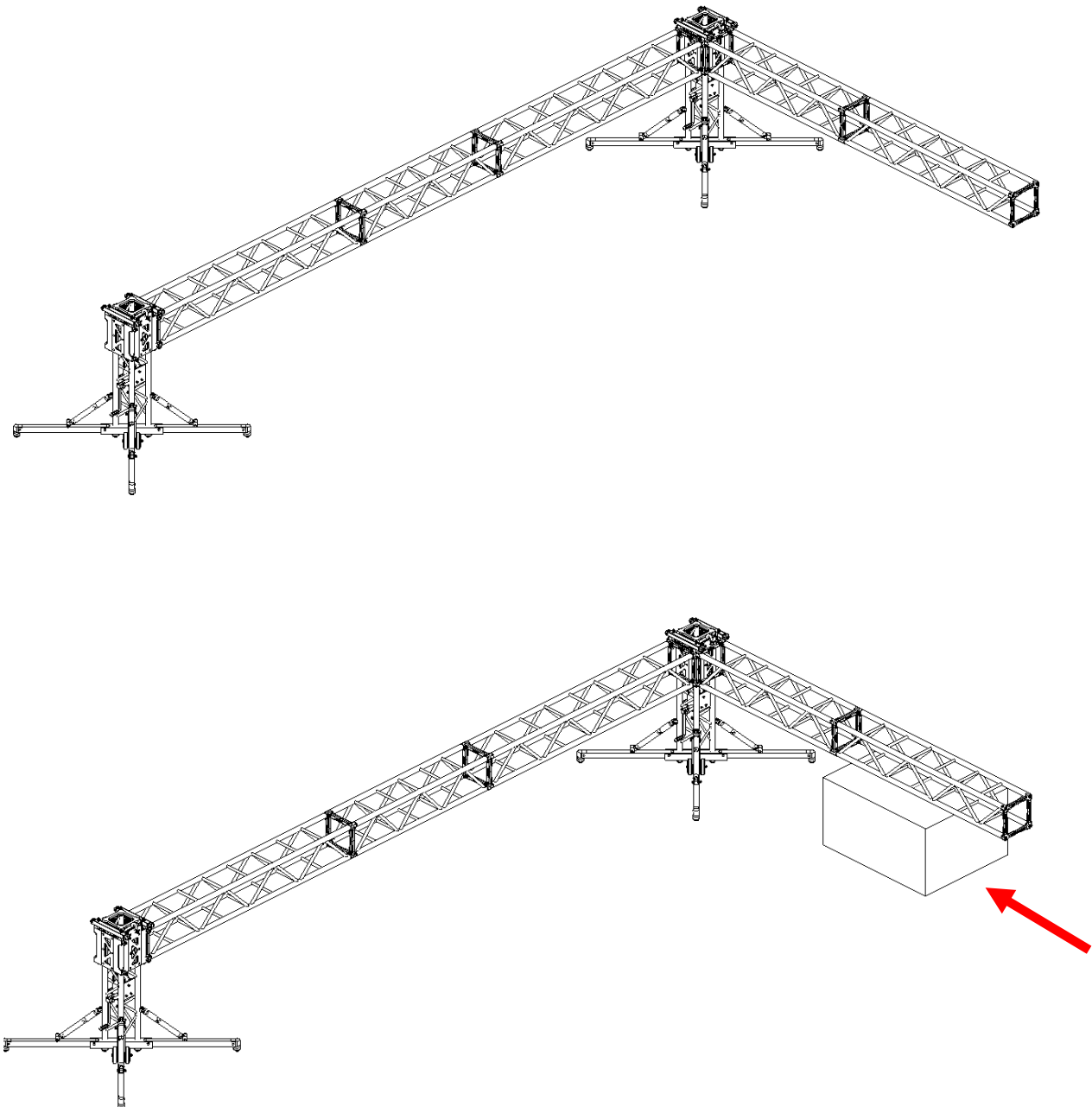
- a) Insert the first truss LT QX40SA200.



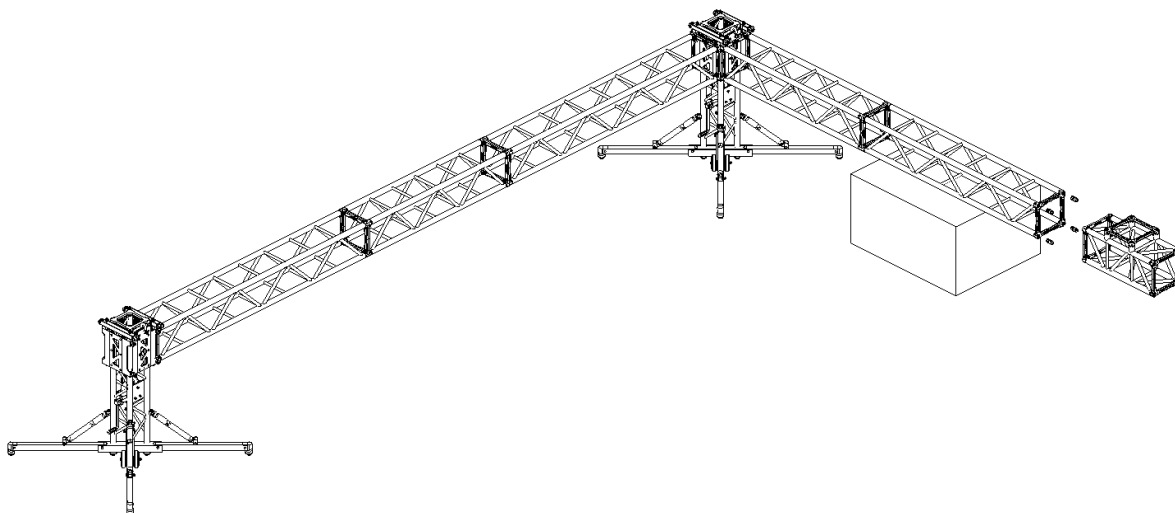
- b) Insert the second truss LT QX40SA250, repeat the instructions of the step Nr 23 in order to apply the half spigots kit (LT QXFC kit) and keep regular the asymmetry of the lateral diagonals (see step 23 a and step 23 b). Then, block the second truss by the pins and the split pins.



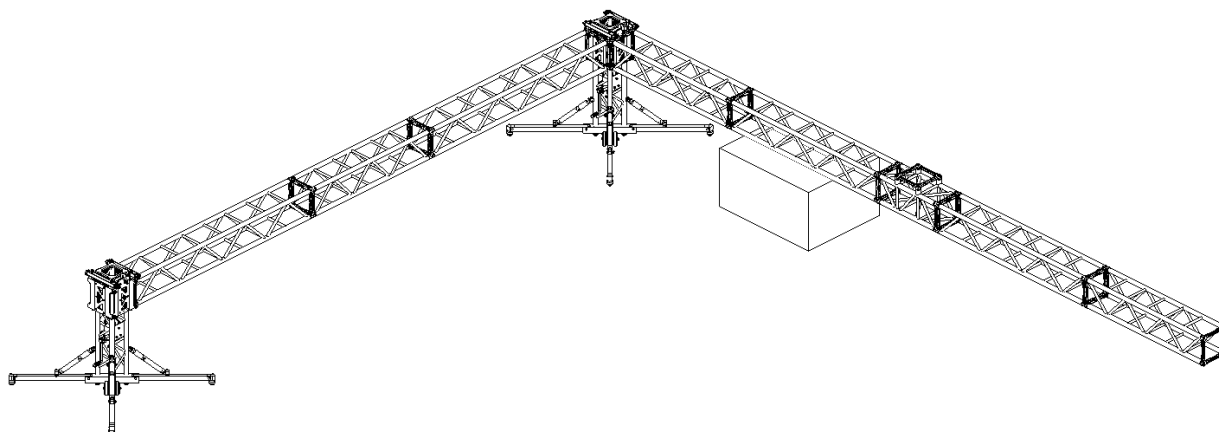
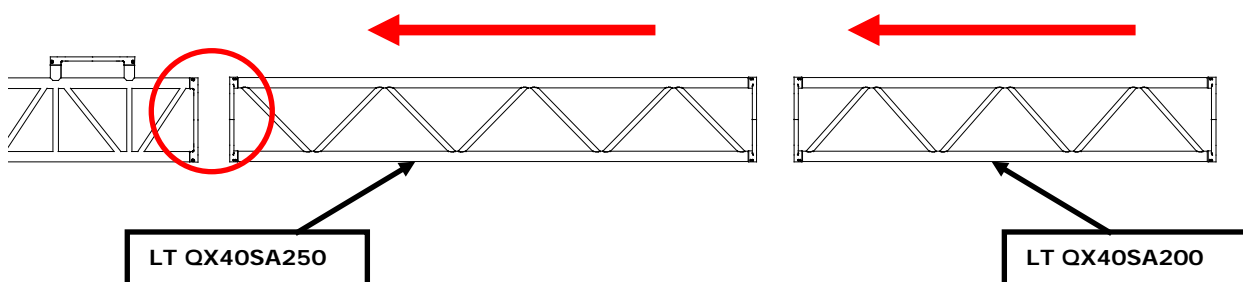
- c) Insert a supporting block in order to avoid a deformation of the phase because of its load (see step 24).



d) Application of the component LT QX40SAT3; control the asymmetry of the diagonals

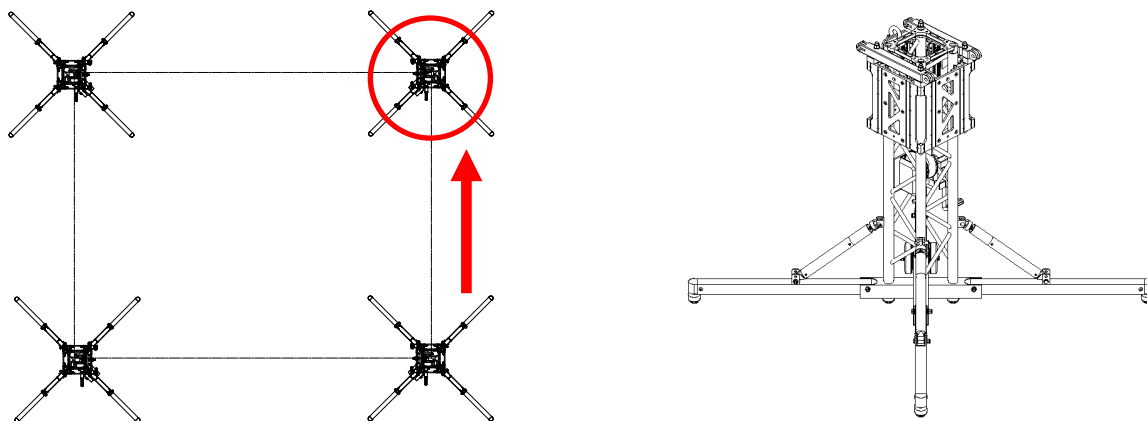


e) Add the elements LT QX40SA250, LT QX40SA200 connect them to spigots, that is the kit LT QXFC (see again the step 23).

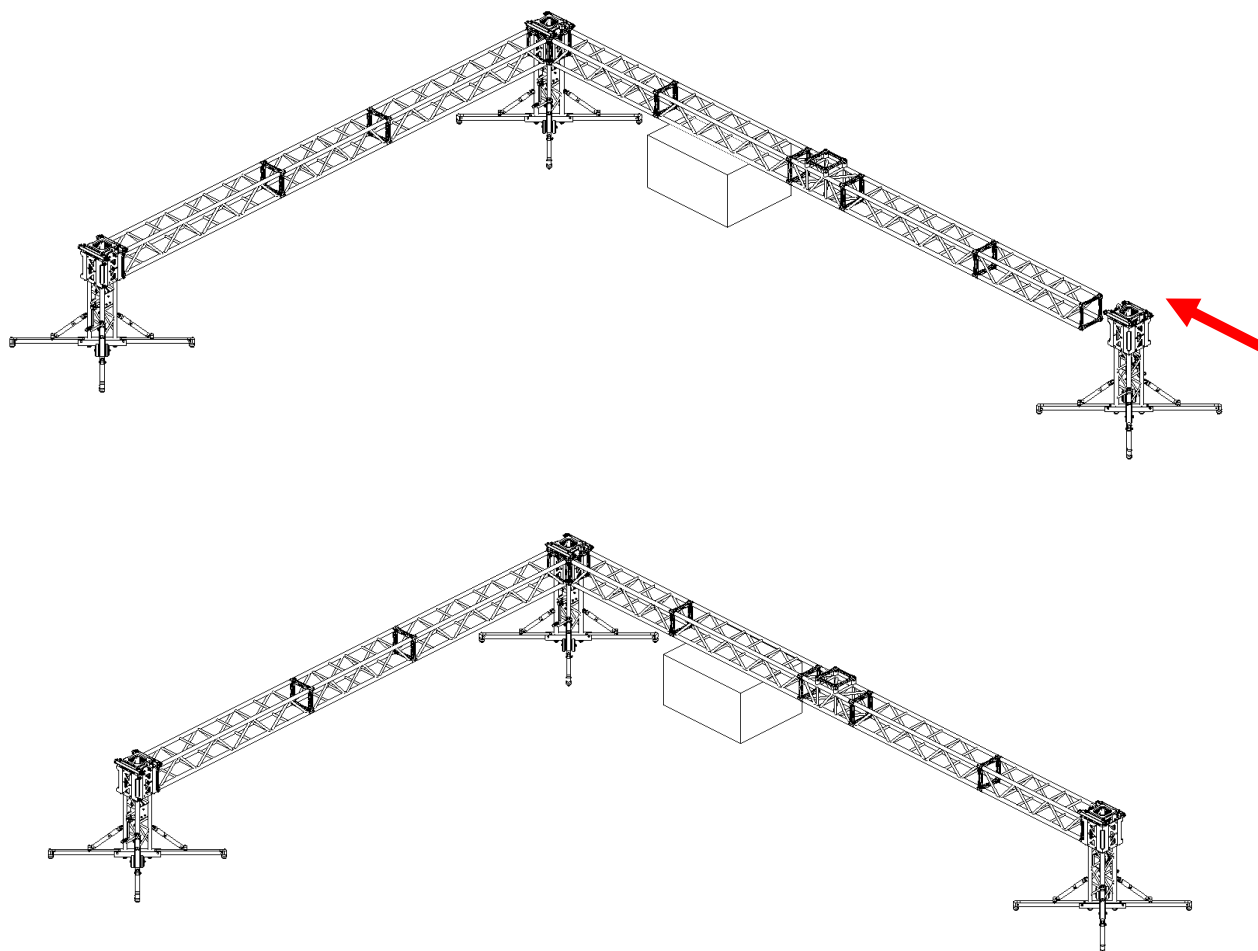


Step 27 RSD1008ST: Connect the third tower, follow the indications at the step 25.

a) Choose of the sides and insertion of the half spigots.

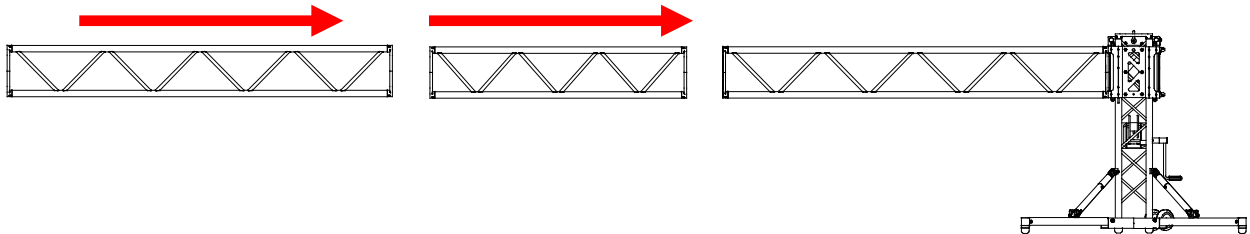


b) Block the tower to the truss.

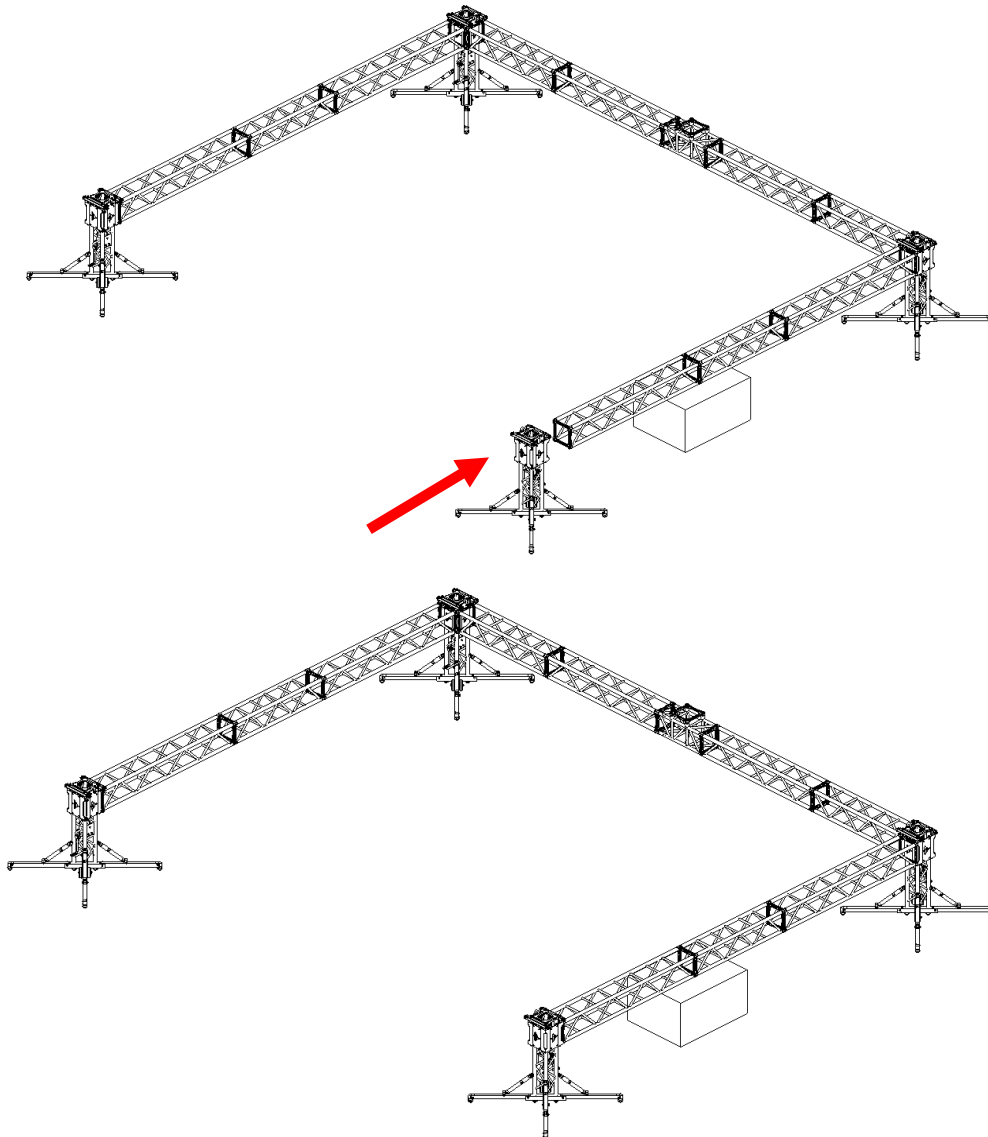


Step 28 RSD1008ST: Construction of the second truss. control the asymmetry of the diagonals between the trusses (see again step 23 b).

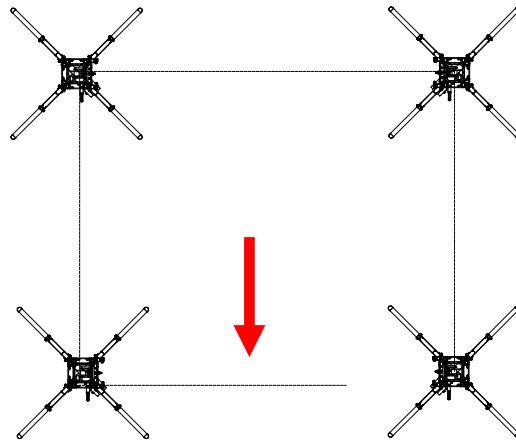
- a) Insert the truss LT QX40SA200 into the truss LT QX40SA300 after the application of the spigots as it is shown in step 23 a.



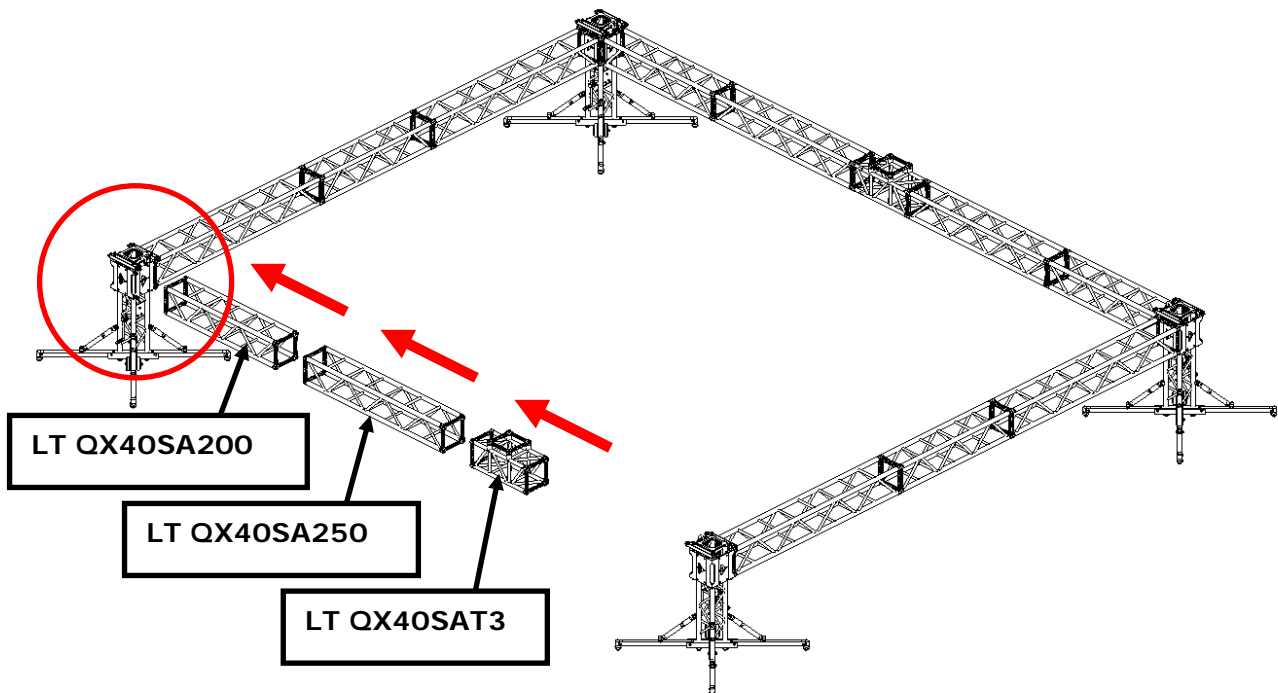
- b) Insert the fourth tower after the placing of a supporting block to the constructed transom in order to avoid the flexion of it.



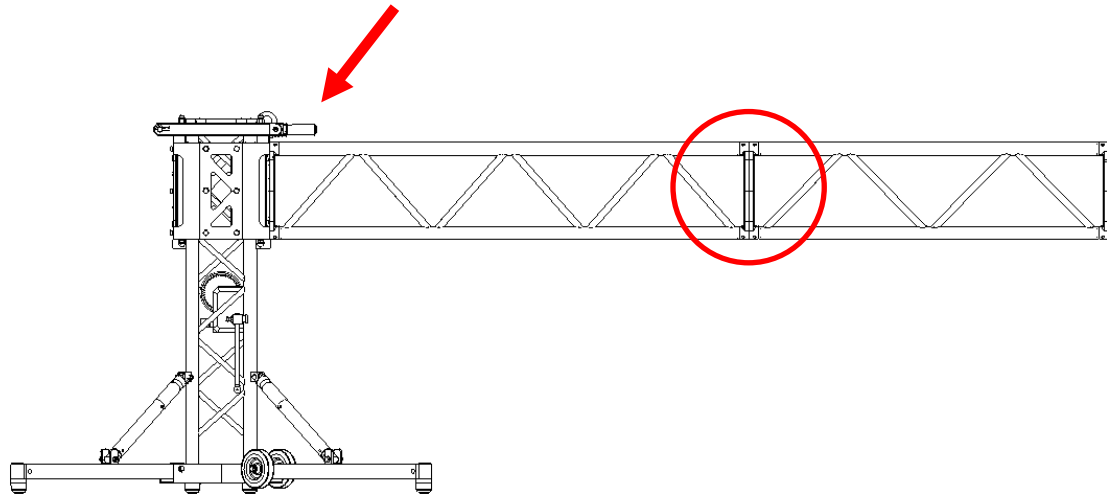
Step 29 RSD1008ST: Construction of the last architrave.



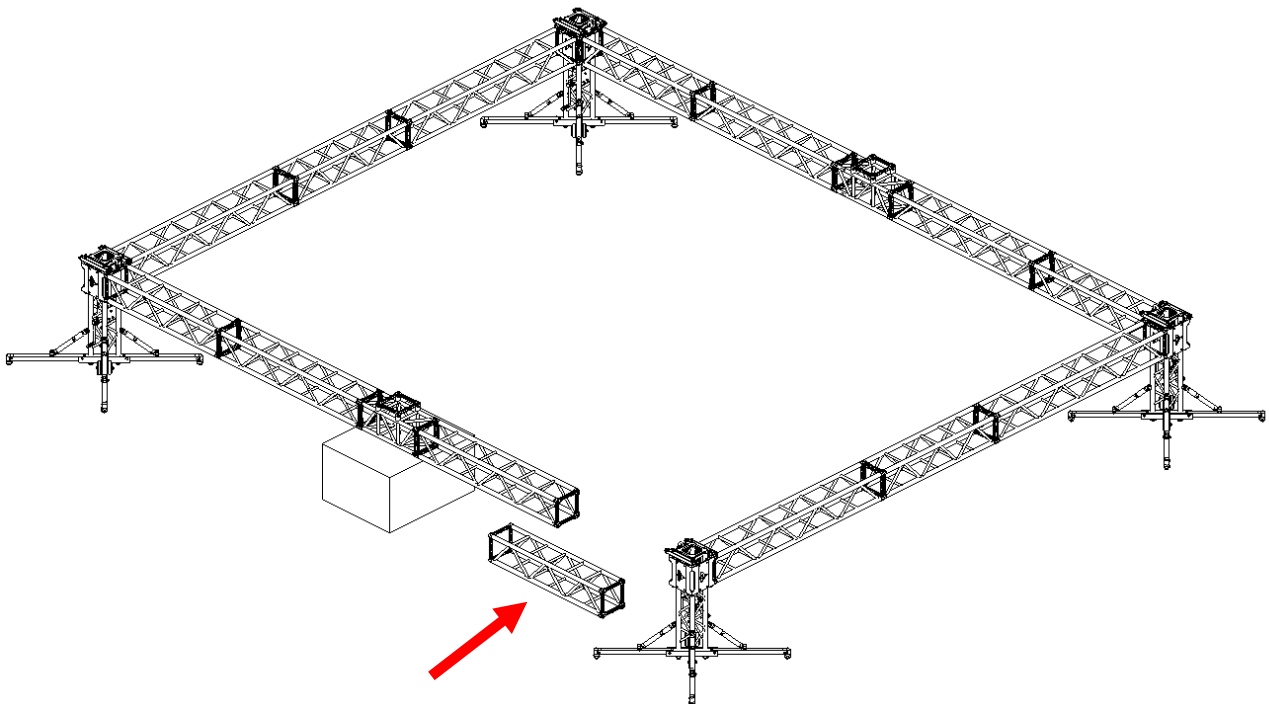
a) Insert the trusses.



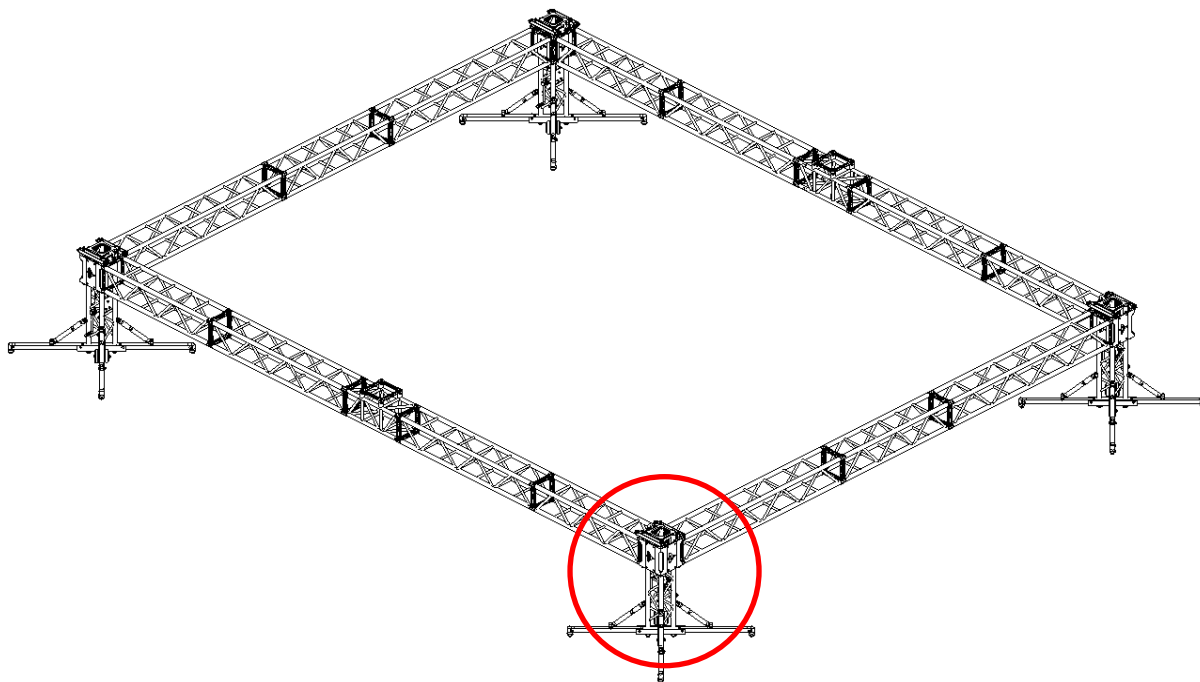
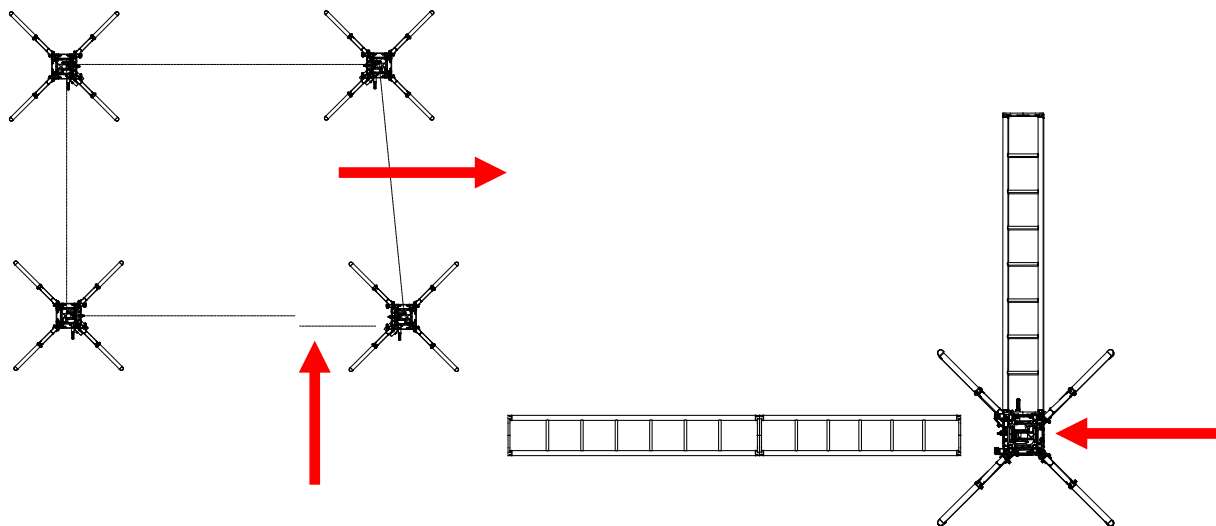
- b) Connect the spigots between the truss and the tower (see step 22), and between the trusses (see step 23). Check the asymmetry of the lateral diagonals (see step 23 b).



- c) Lay down the partial tower in order to avoid its flexion.

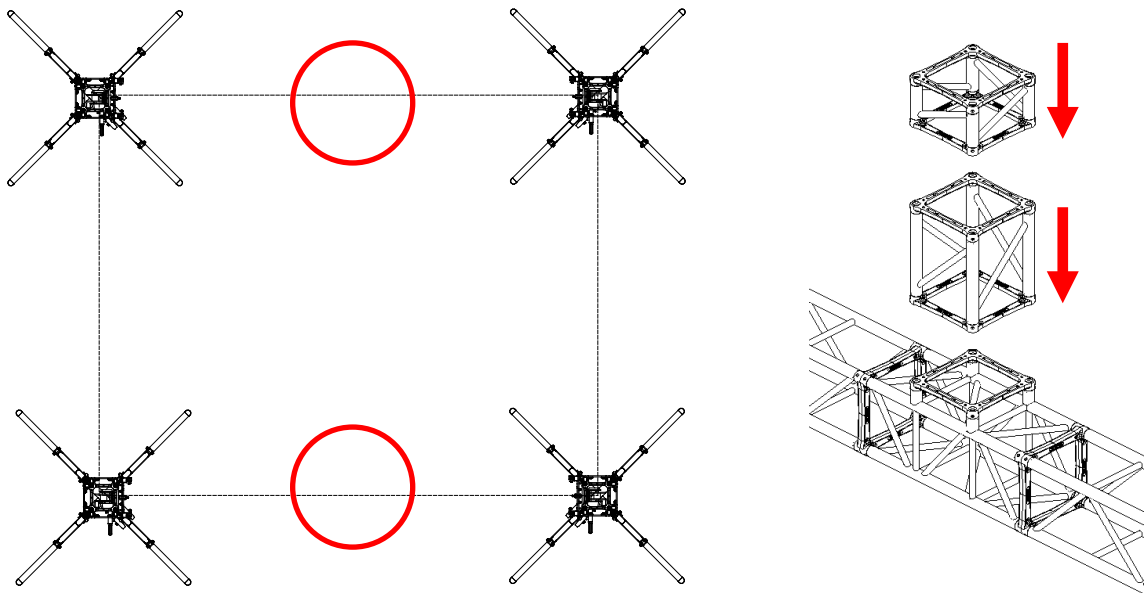


- d) Point the last truss LT QX40SA200 to the spigots on the architrave, so draw up the fourth tower and block it.

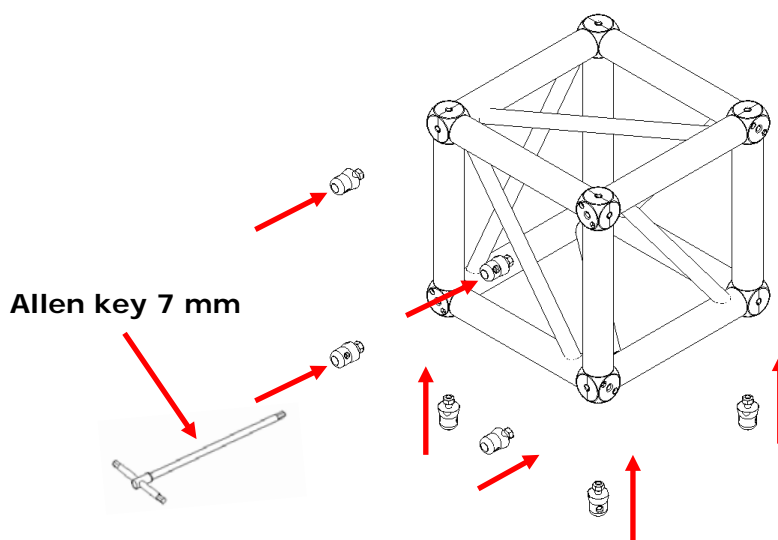


Step 30 RSD1008ST: Installation of the architrave.

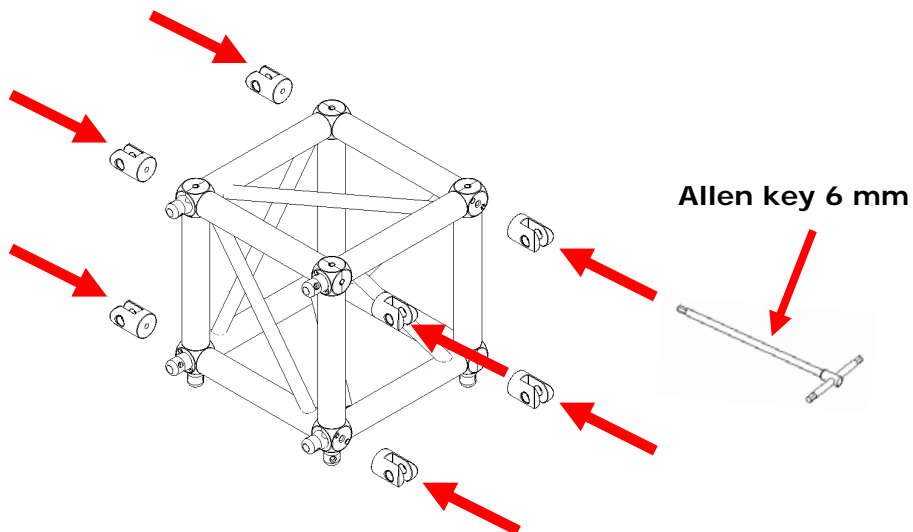
a) Connect LT QX40SA050 with LT QX40SA025.



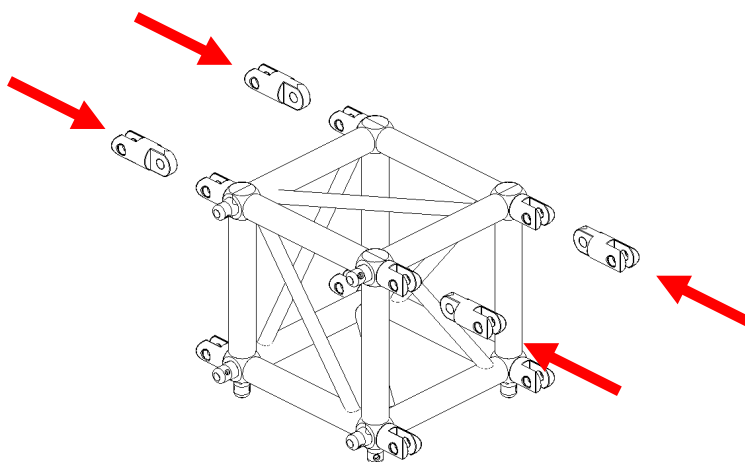
b) Install the spigots on the cube LT QX40K8.



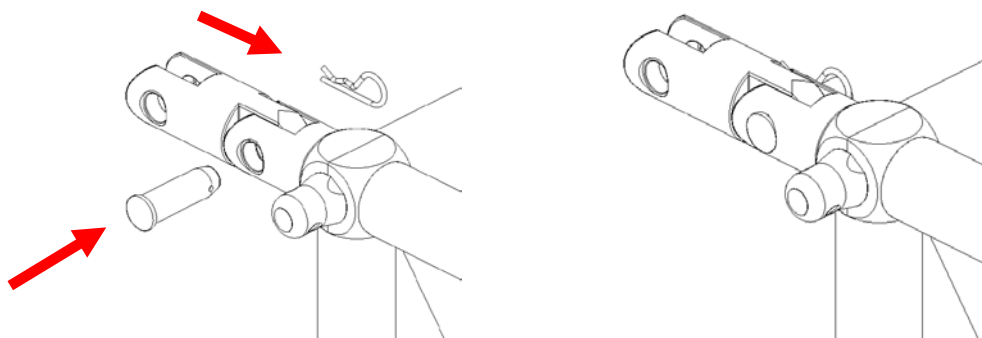
c) Install the forks on the cube (kit LT HKR). Firstly, fix them lower part of the four corners.



d) So, fix the spacers on the top parts.

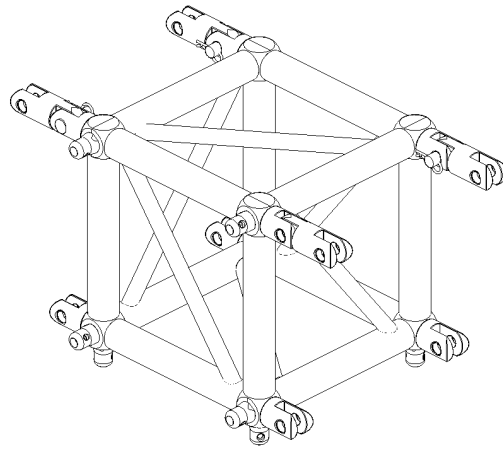


e) At the end, fix it with Ø 20mm pins and split pins.

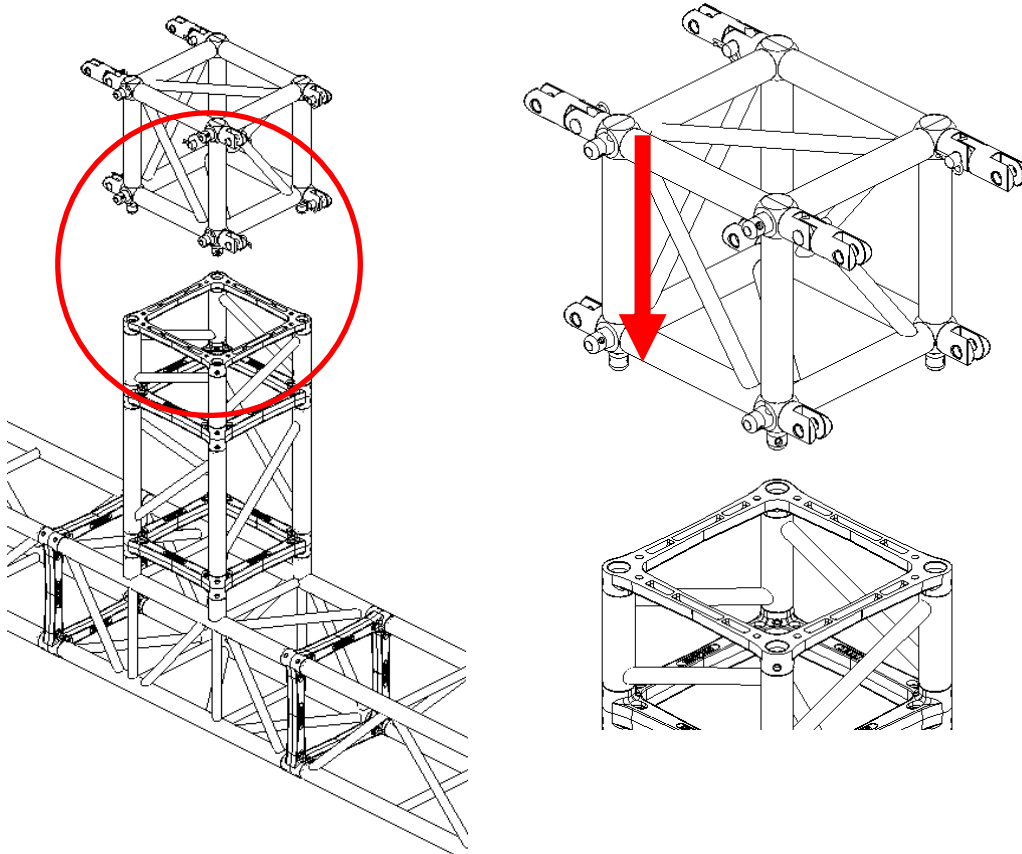


Before

After



- f) Connect the Assembled Dado on the vertical truss and repeat the operation on the other side.

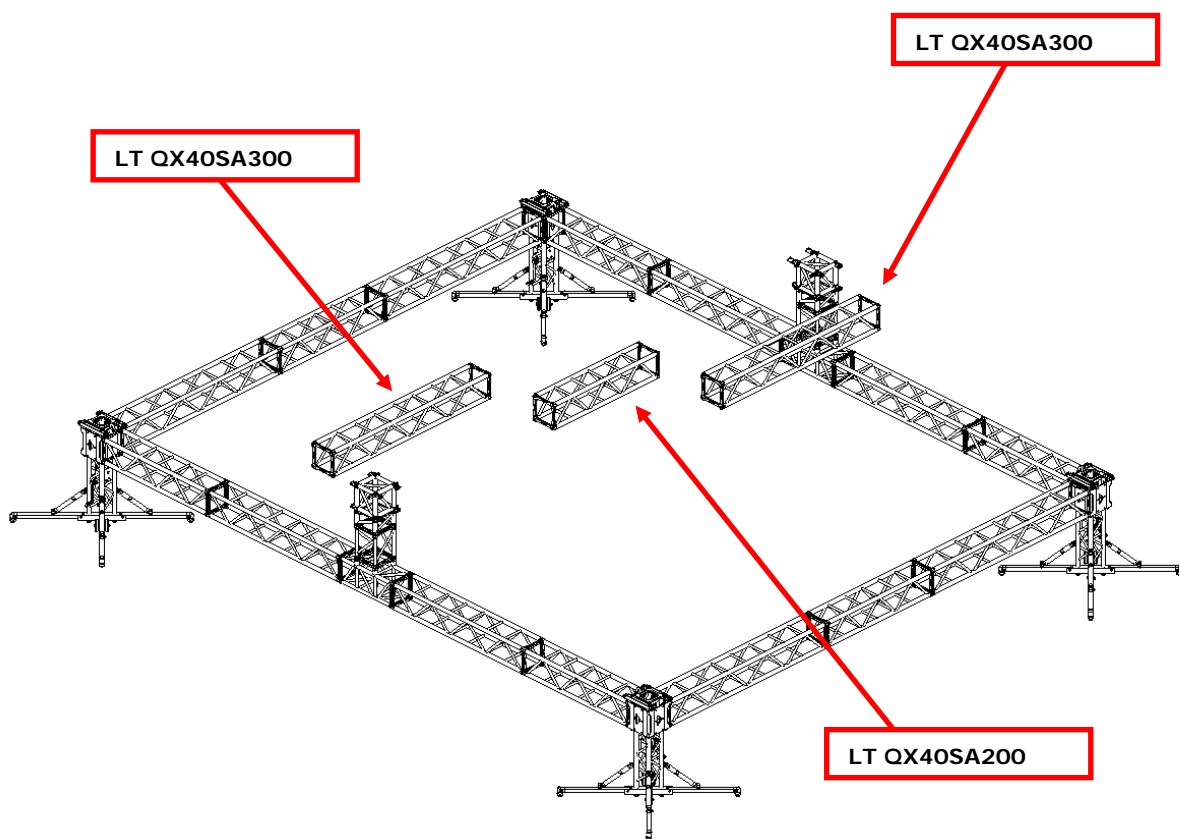


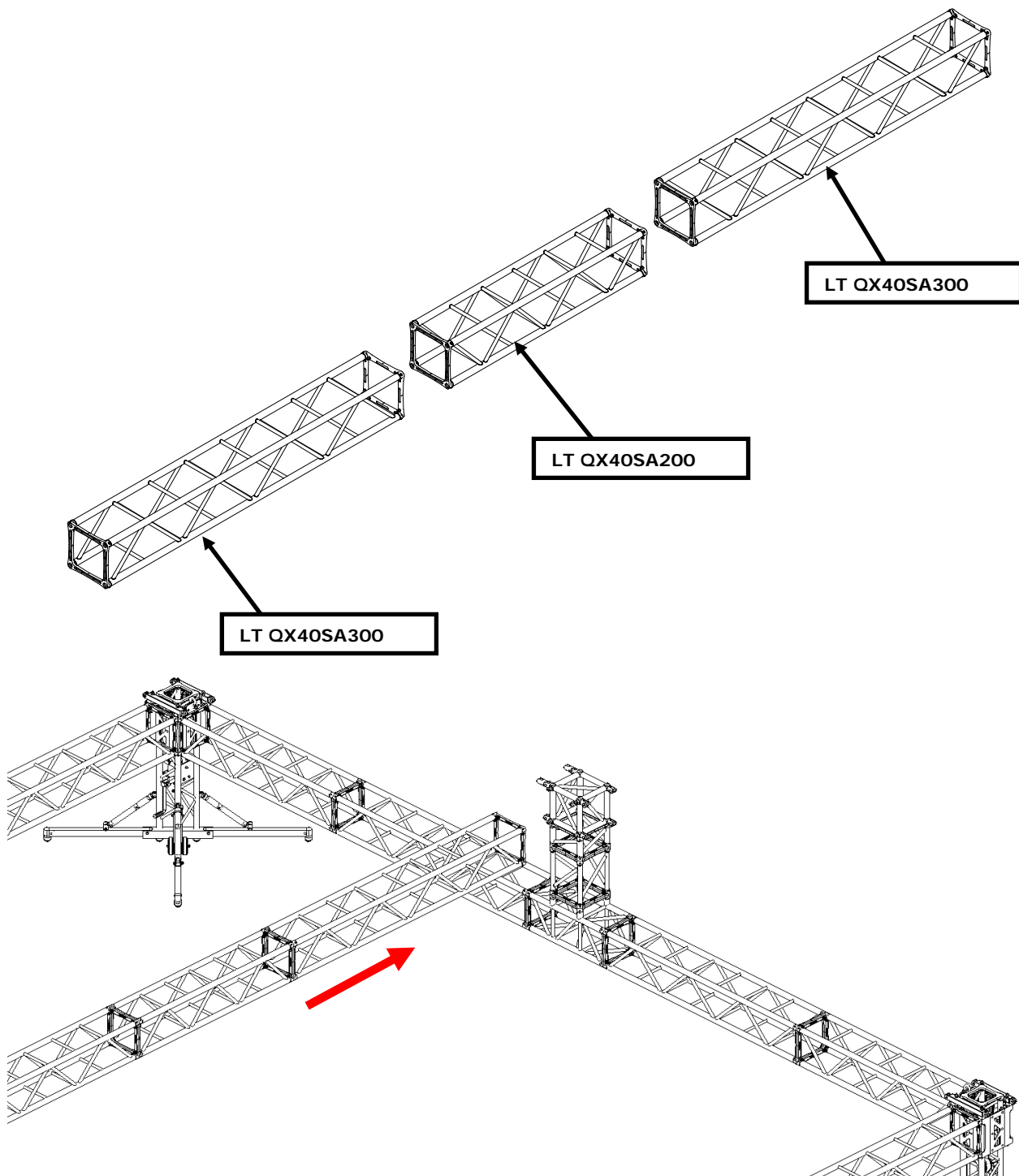
Step 31 RSD1008ST: Apex truss setup on the vertical trusses.

a) Place the pieces inside of the ring:

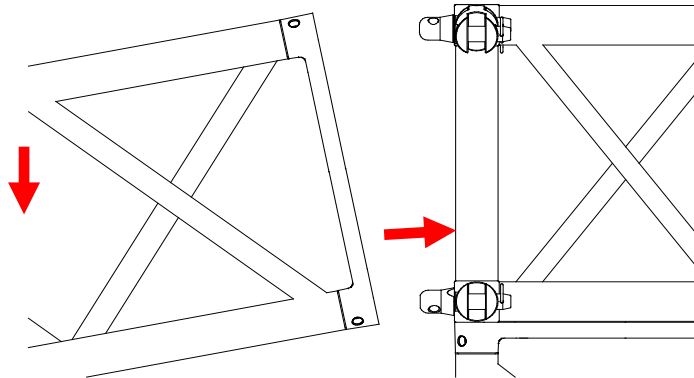
- Two trusses LT QX40SA300.
- One piece LT QX40SA200.

Connect them each other by the spigots following the instructions of steps 22– 23 - 24.

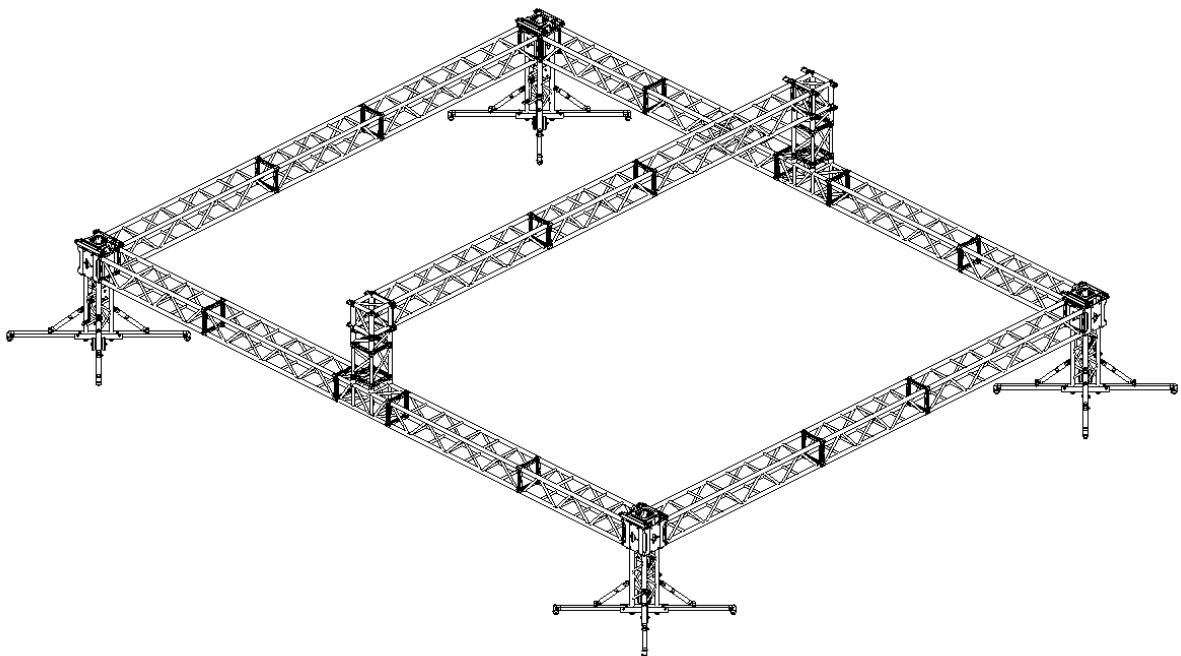
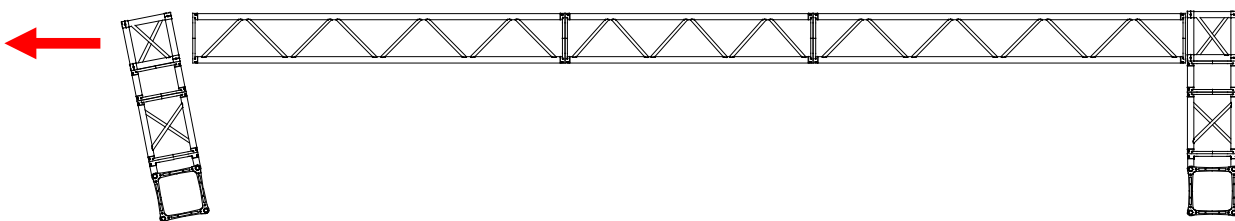




- b) Lift and connect the lower spigots of the truss to the blocking spigots, so insert the truss between the two vertical trusses.

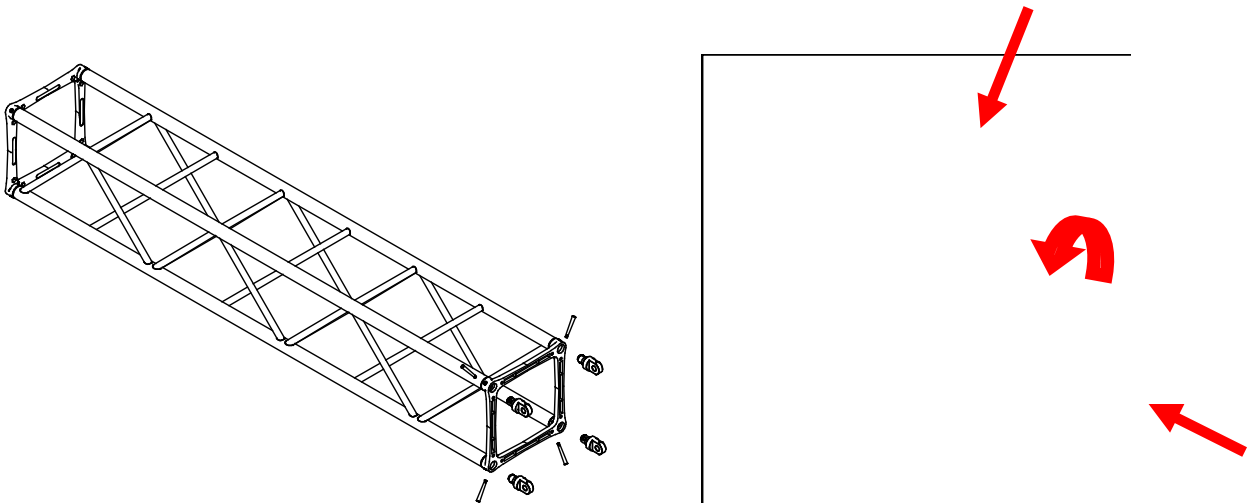


It is necessary to force the tower to let the truss enter.

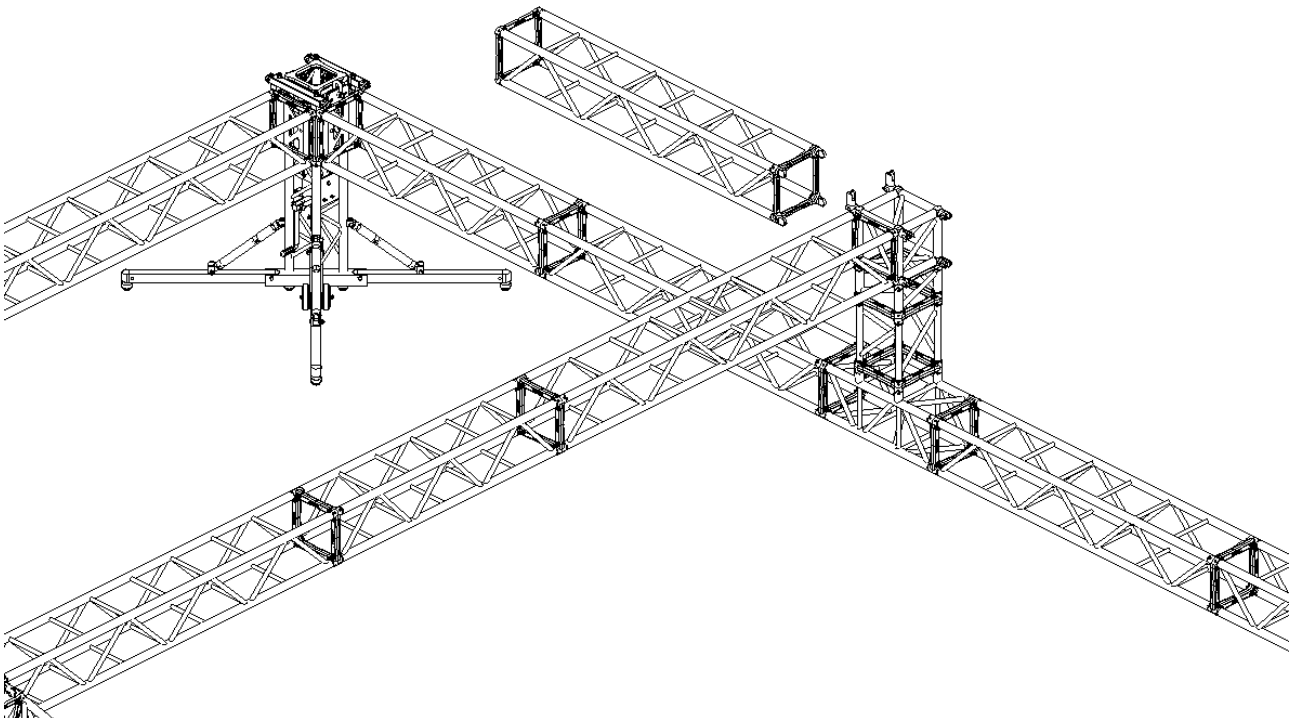


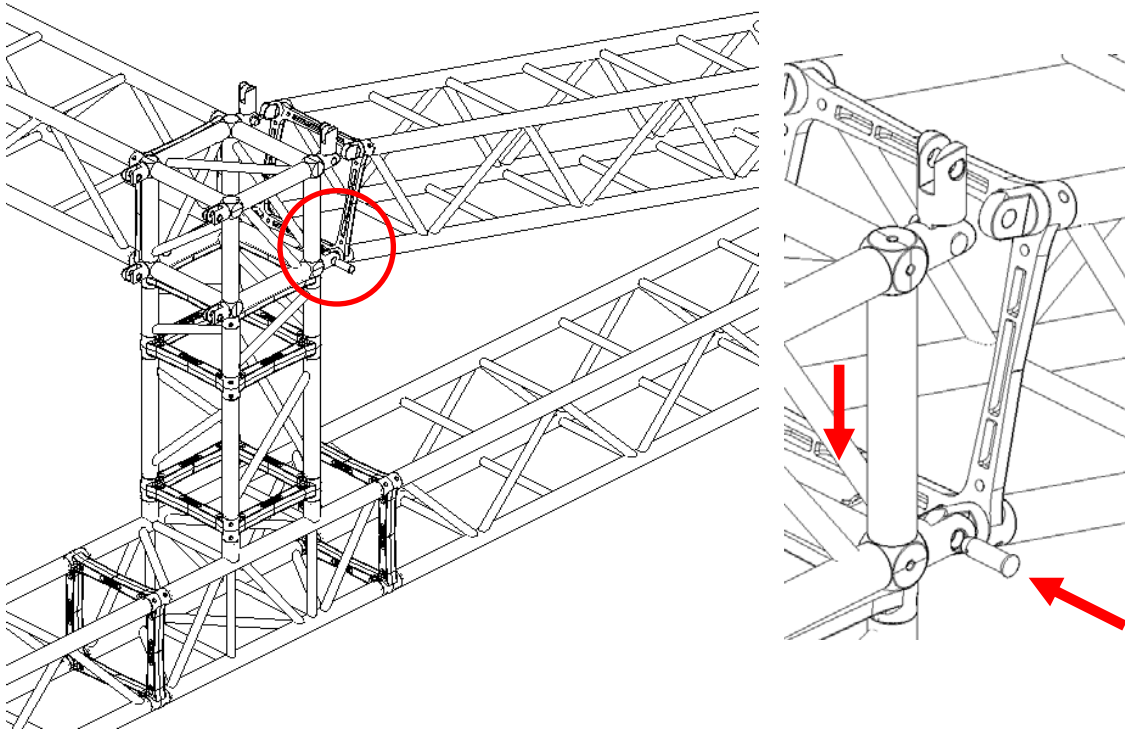
Step 32 RSD1008ST: Construction of the Gable Truss.

- a) Prepare the diagonal truss (LT QX40SA250). Orientate the spigots properly for the fork connection.

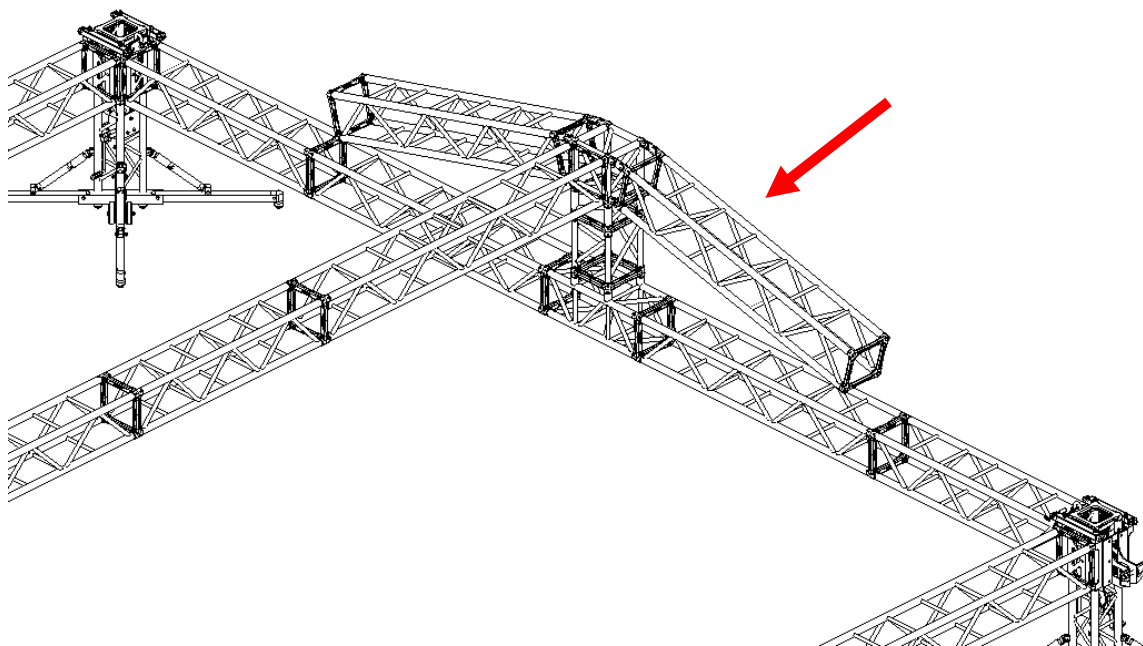


- b) Connect the truss (LTQX40SA250) to the Assembled Dado.

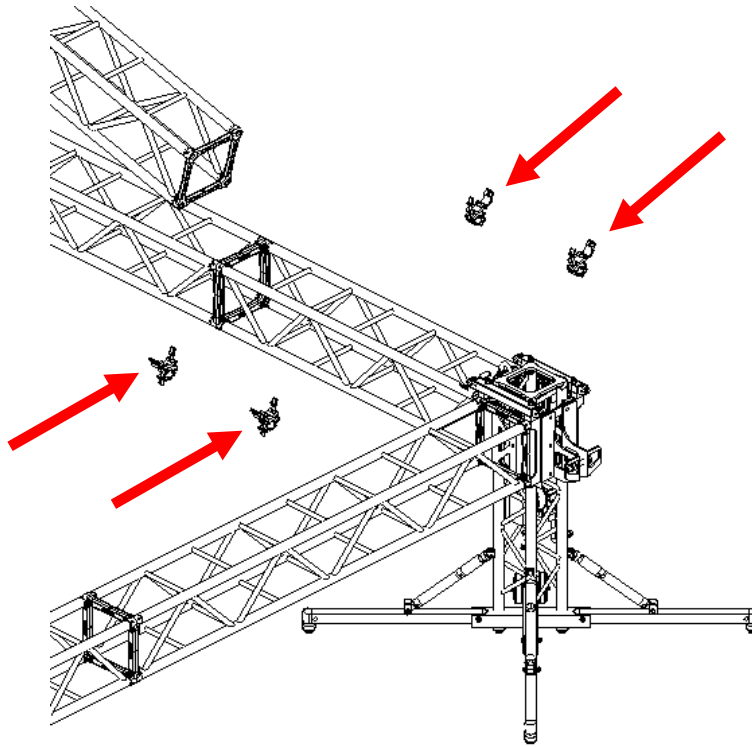




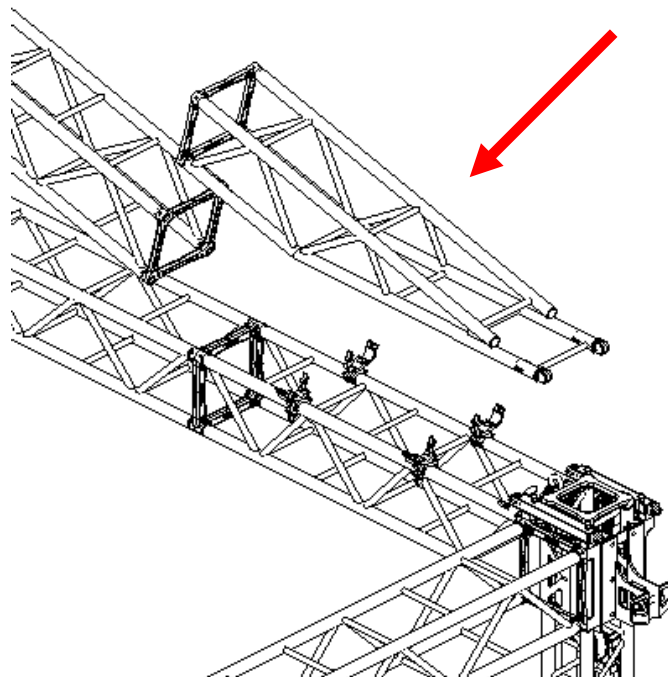
c) Repeat the same operation on the other side.

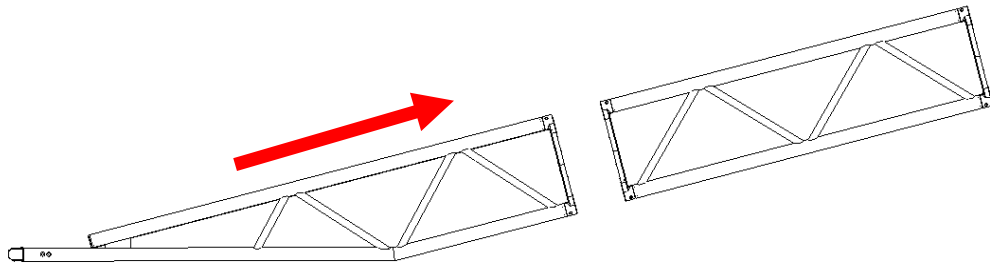


- d) Connect the couplers, fix them by the closing screws which are turned towards the inner side.

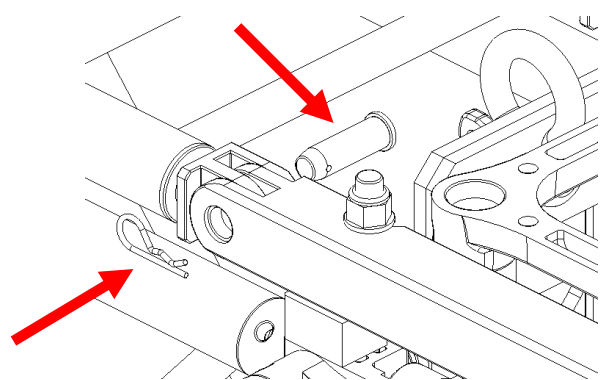
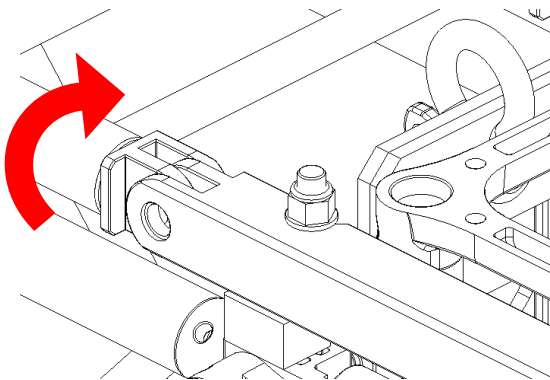
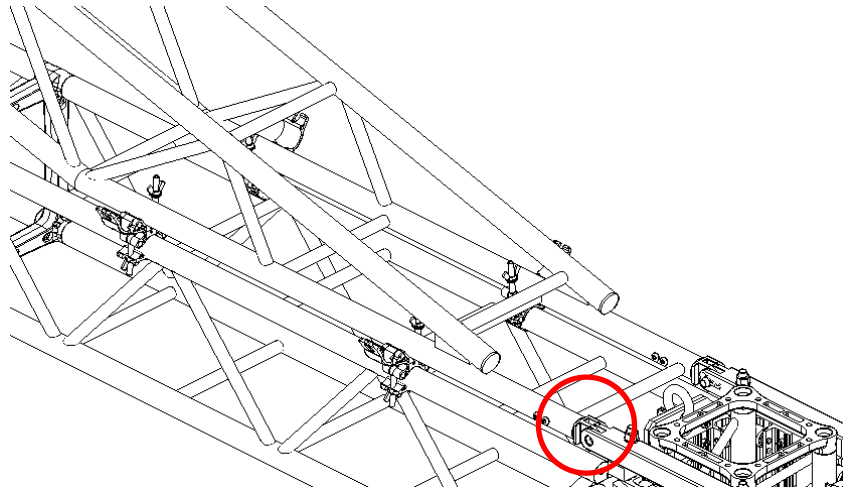


- e) Place the lower side of the tympanum (LT HQX40SATER) on the couplers and connect it to the spigots placed on the truss (LT QX40SA250).





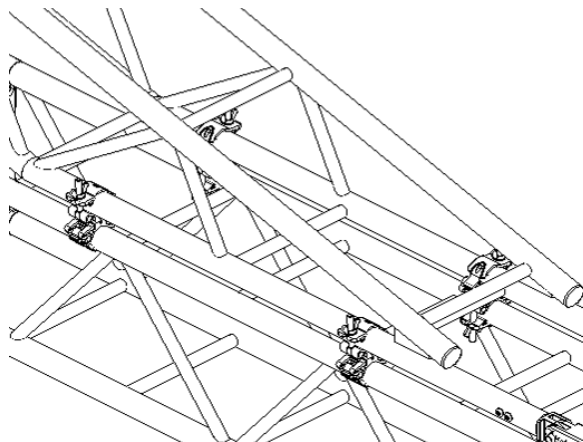
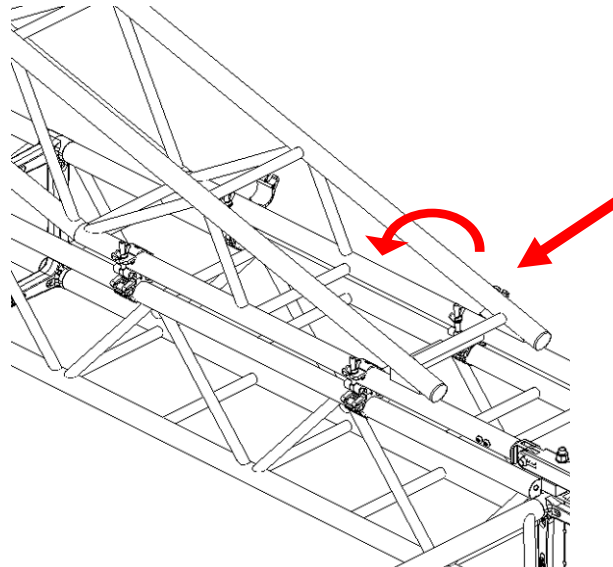
- f) Fix the Gable Truss (LT HQX40SATER) to the sleeve block forks. Adjust the screw forks in order to match the hole of the sleeve block fork.



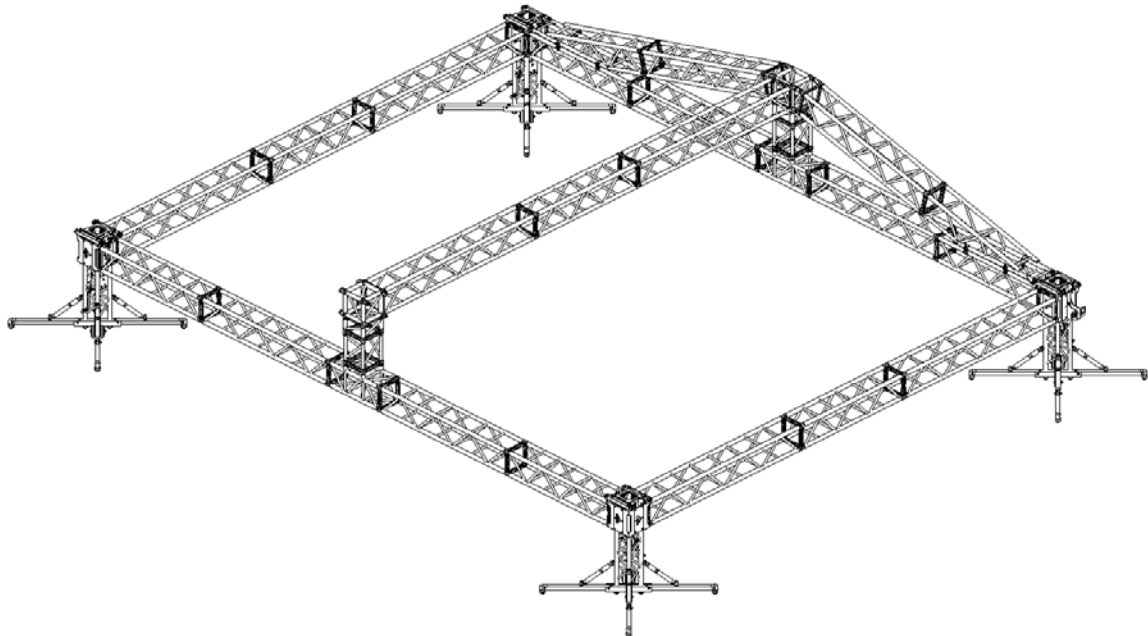
g) Connect the forks rotating the spacer (LT HKR).



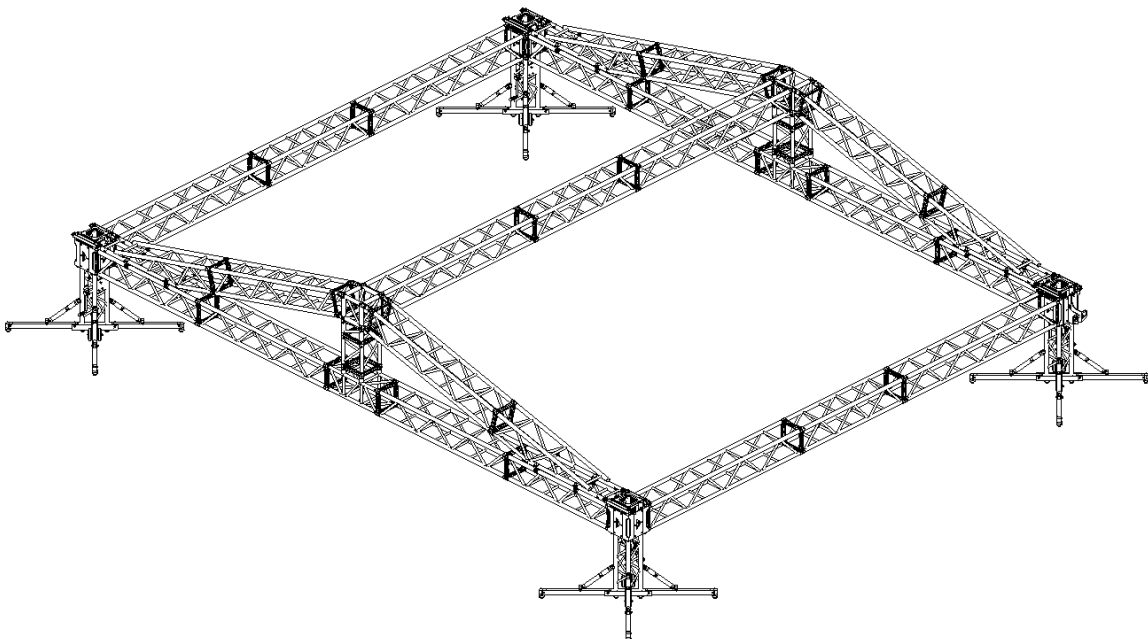
h) Close the coupler top side.



- i) Complete the Gable Truss repeating the phases a),b),c),d), e), f), g) and h) of the step 32 on the other side. It is necessary to force the elements in order to let them to place.

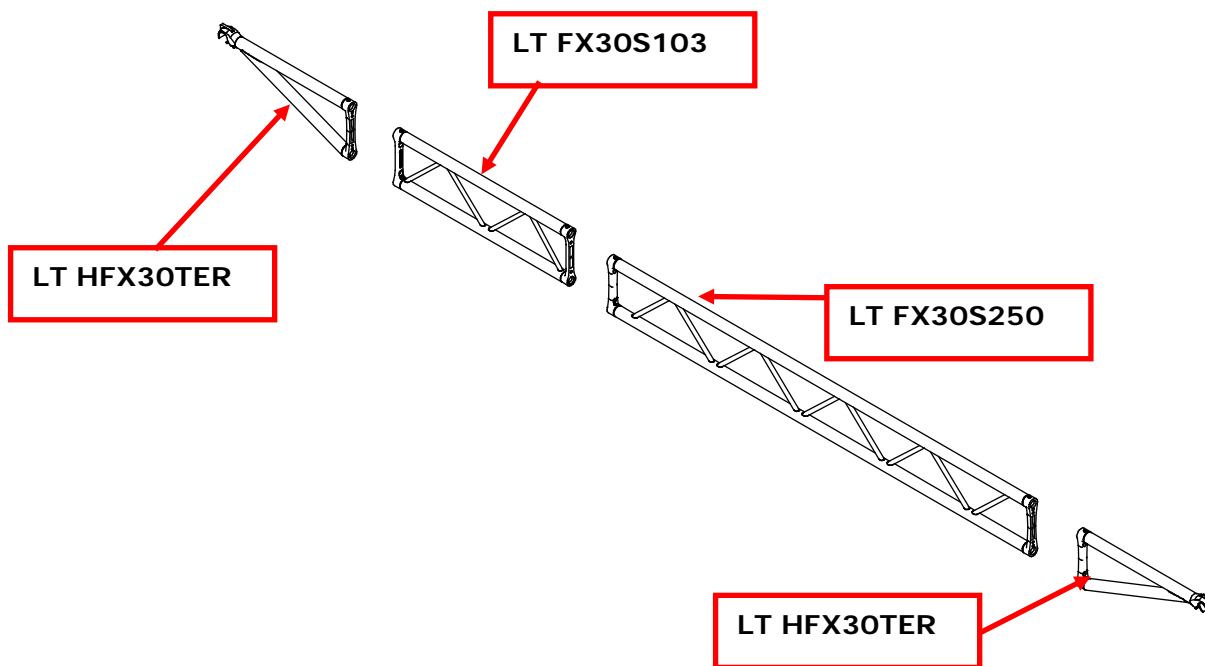


- j) Complete the roof construction adding the second Gable Truss of the opposite side. Repeat all the previous construction phases.

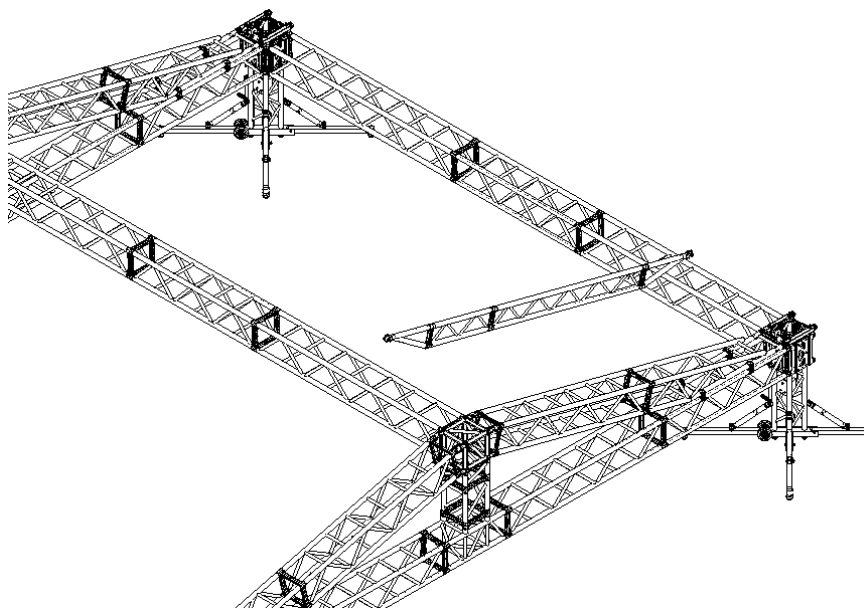


Step 33 RSD1008ST: Ladder Truss setup.

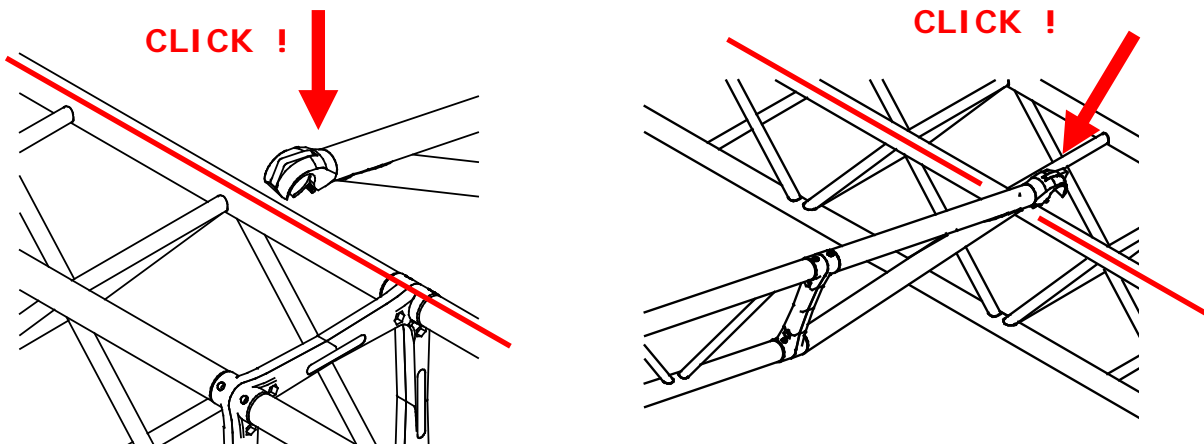
- a) Connection of the components with the spigots, pins and split pins.



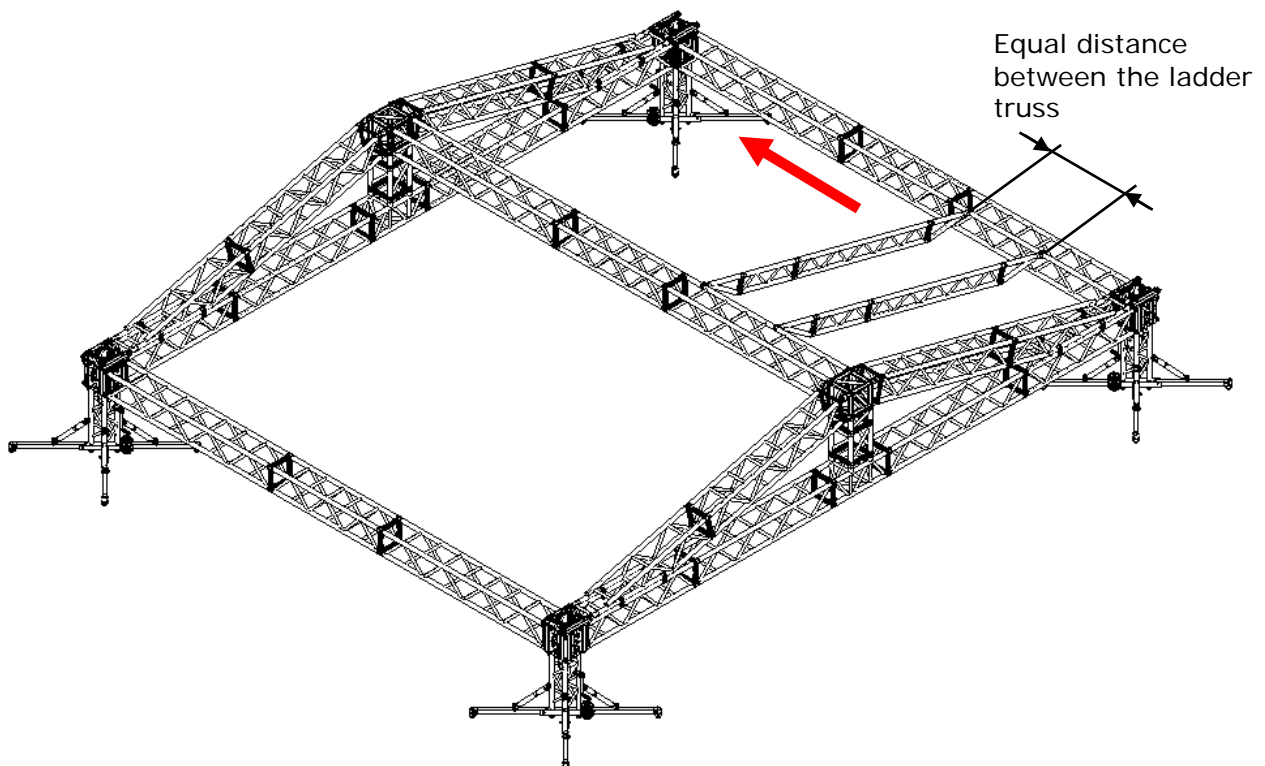
- b) Application of the ladder truss to the roof.

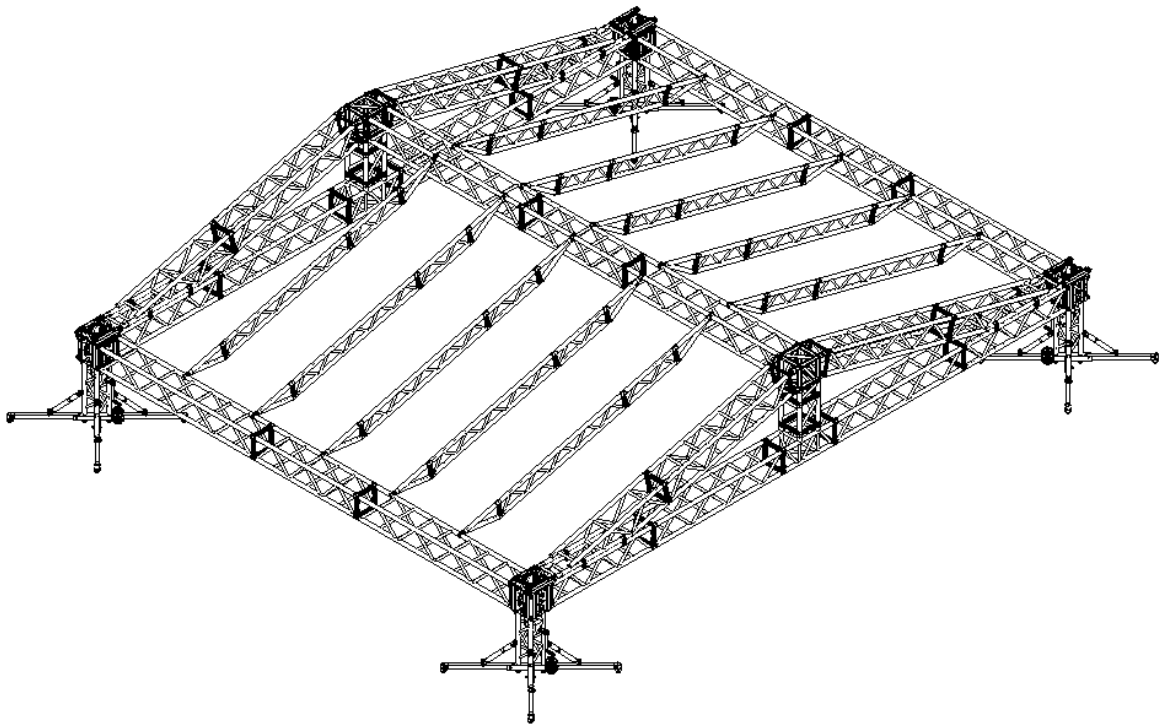


c) Fix firmly both the rafters sides press on the snap hook until you hear "click".



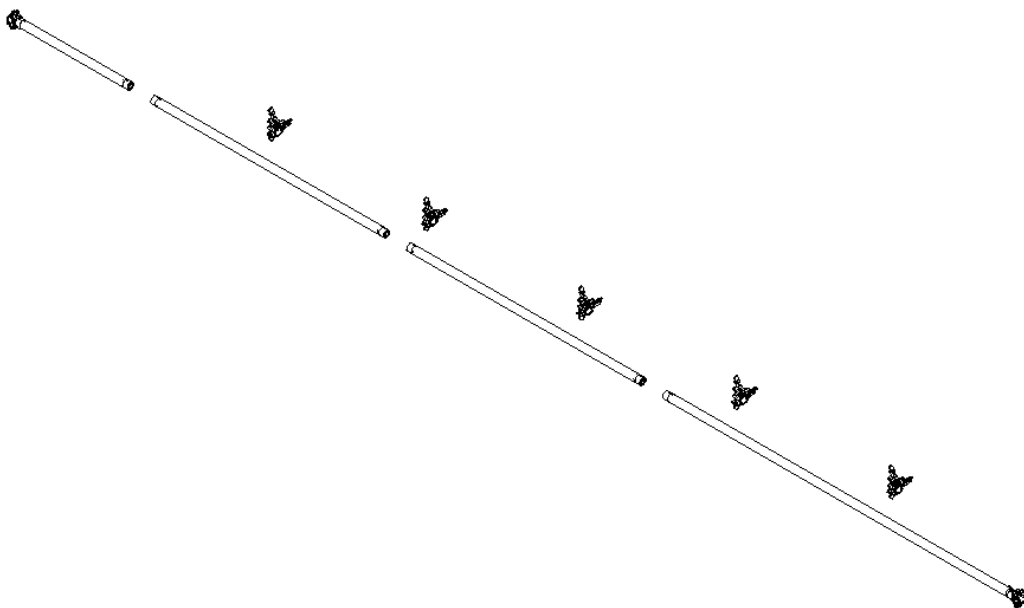
d) Apply the ladder truss in the same way so in order to complete the two roof pitch.



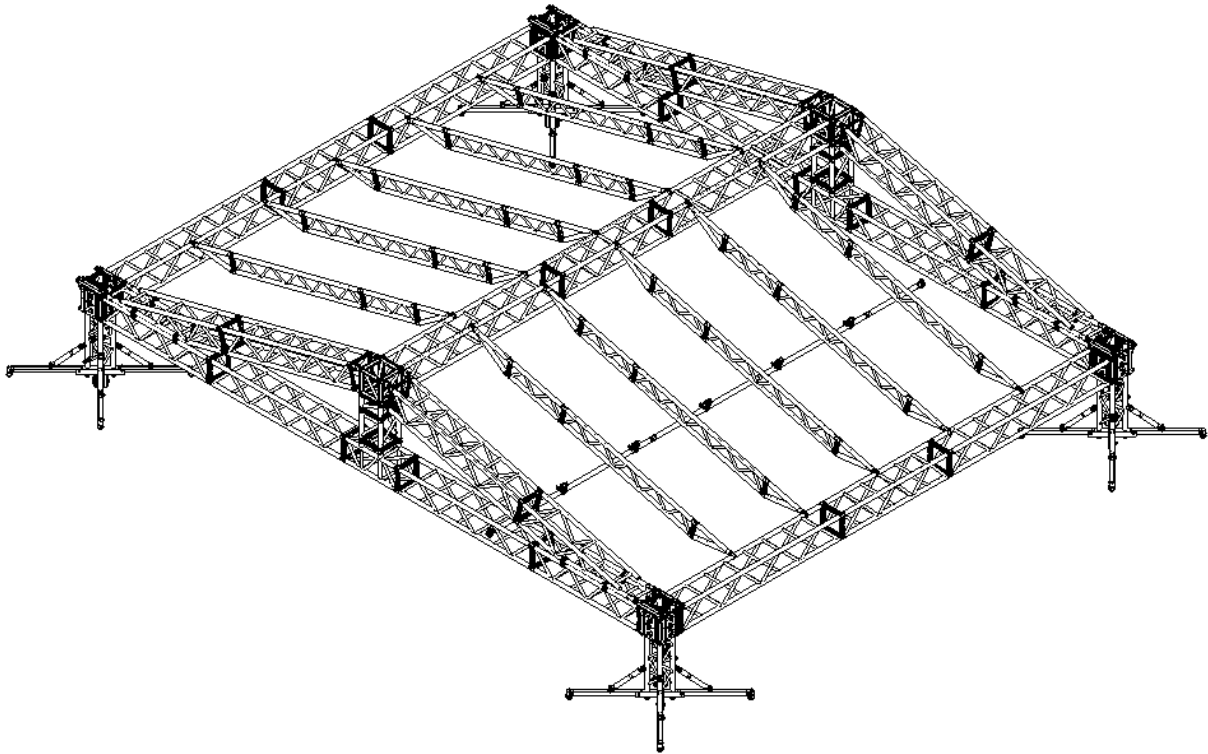


Step 34 RSD1008ST: Reinforcing Arm setup.

- a) Connection of the components.

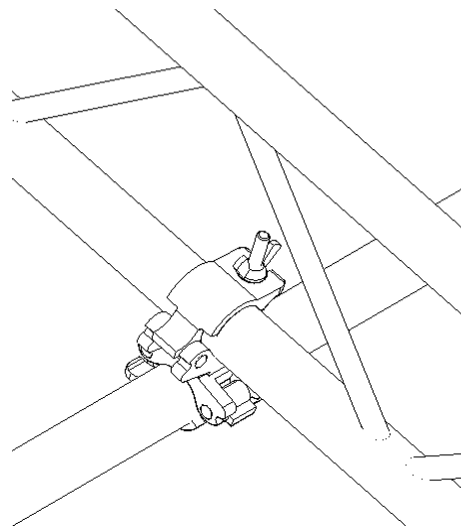
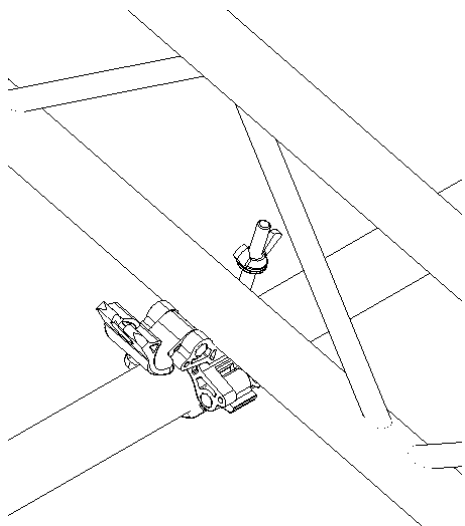


b) Connect the reinforcing arm to the roof pitch.

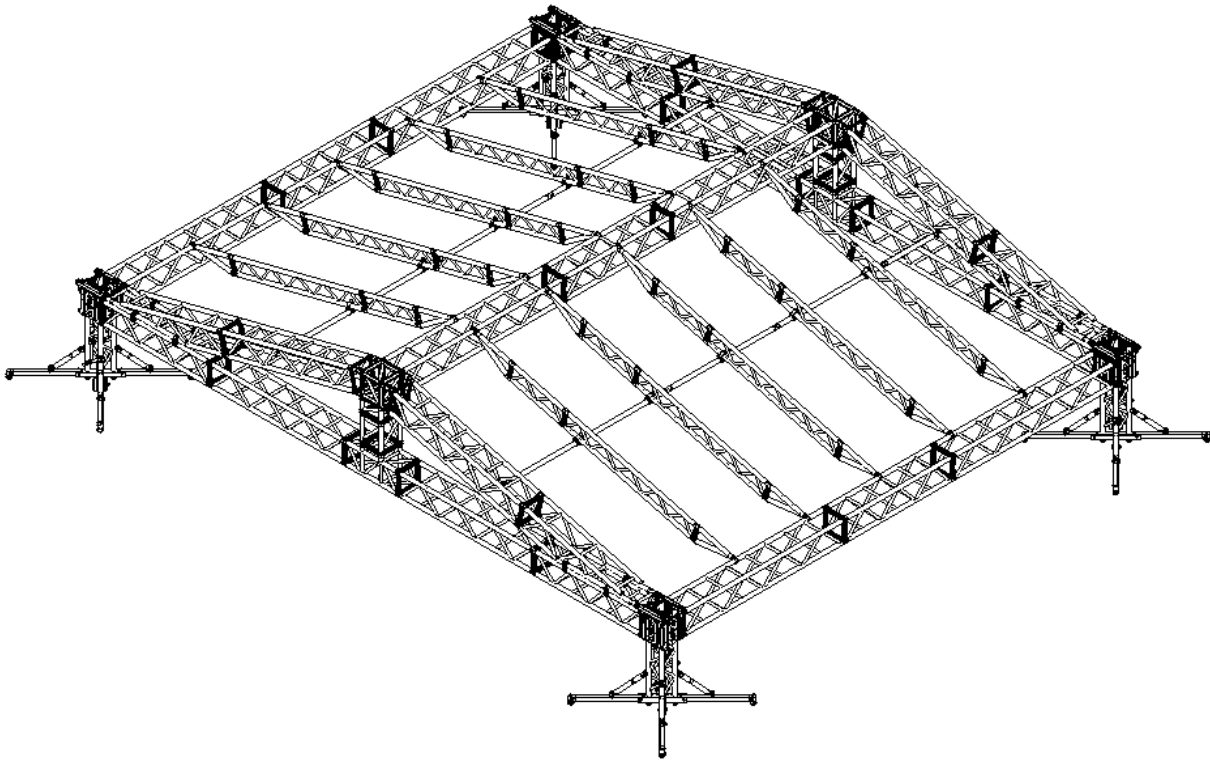


Before

After



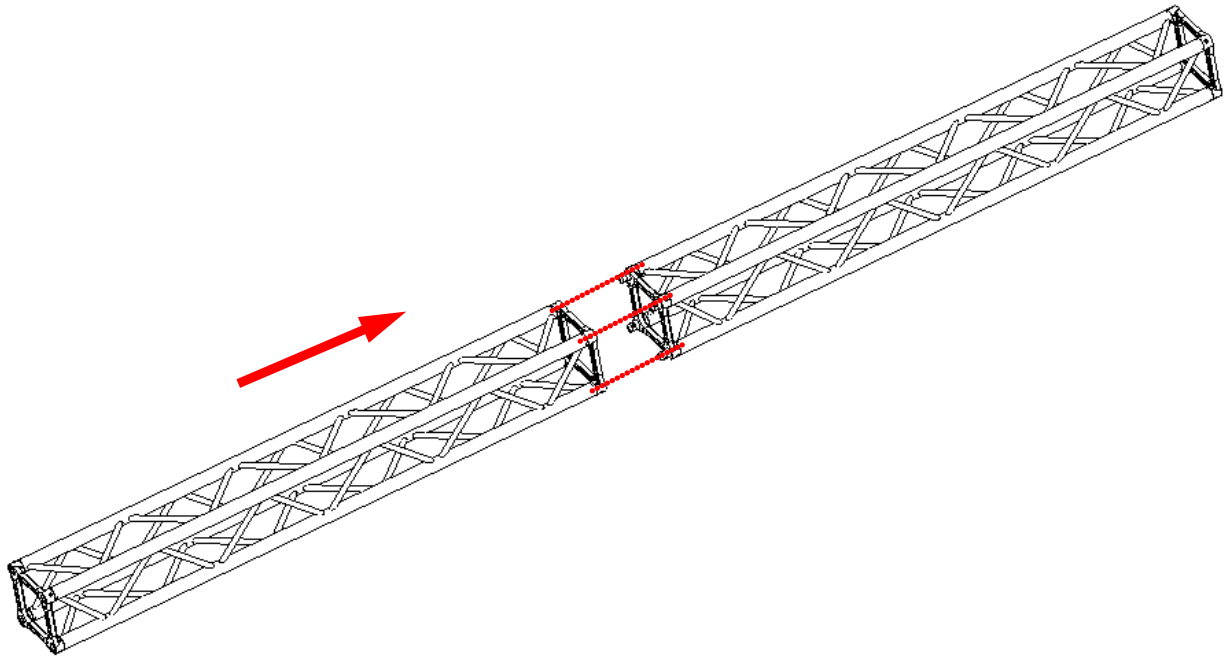
c) Apply of other reinforcing arm in the same way.



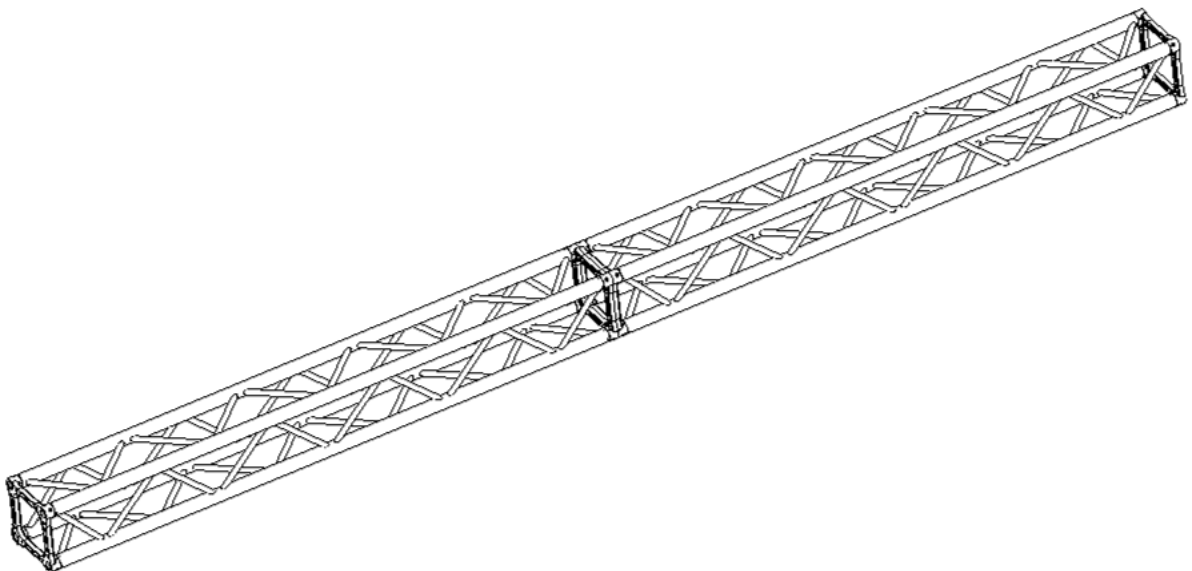
Go to Step 35.

Step 35 RSD0806ST and RSD1008ST: Tower Truss Construction.

- a) Connect the truss modules using spigots, pins and split pins.

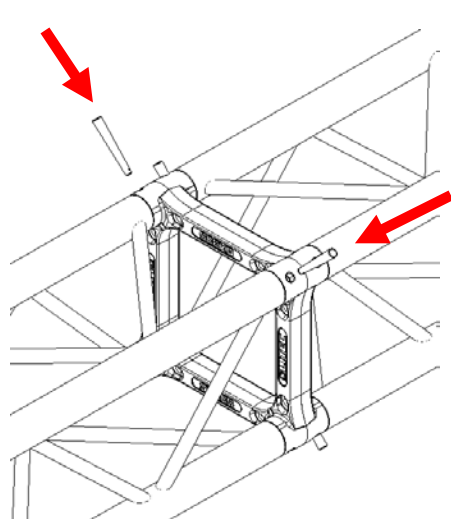


Before

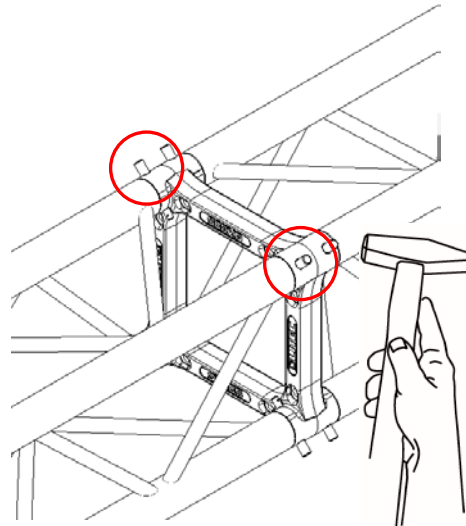


After

b) Insert the pins in the holes of the endplate.



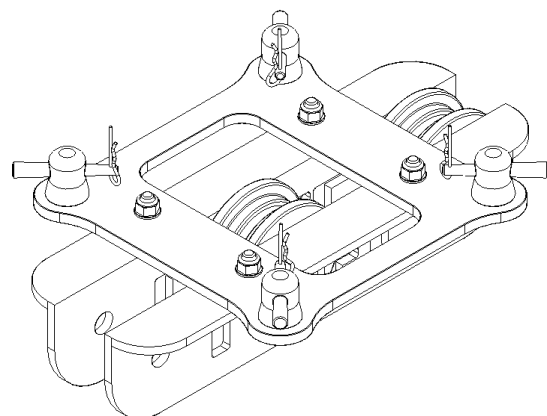
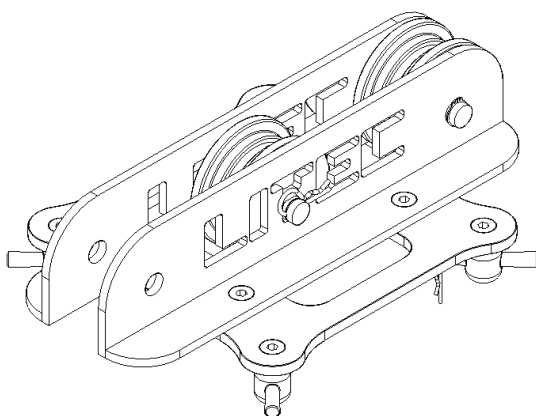
Before



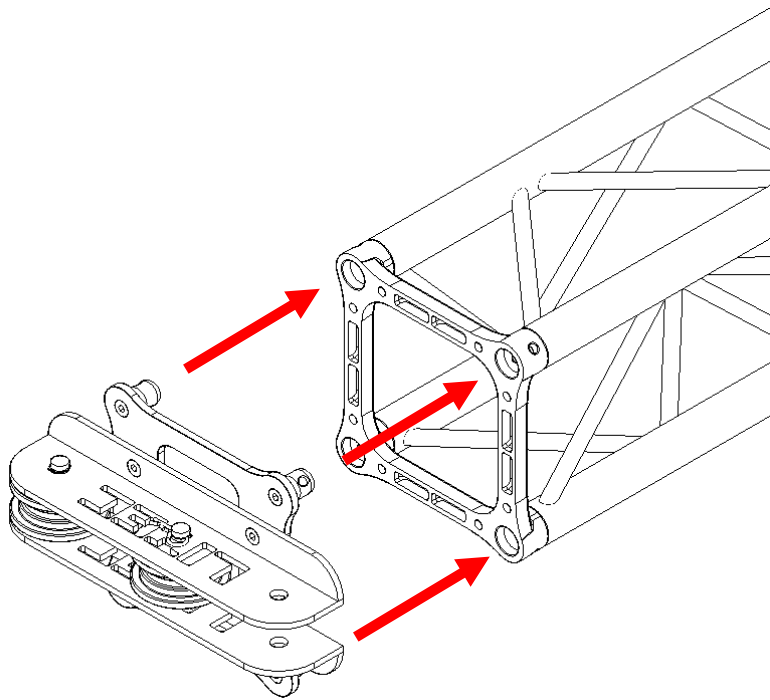
After

Step 36 RSD0806ST and RSD1008ST: Application of the top.

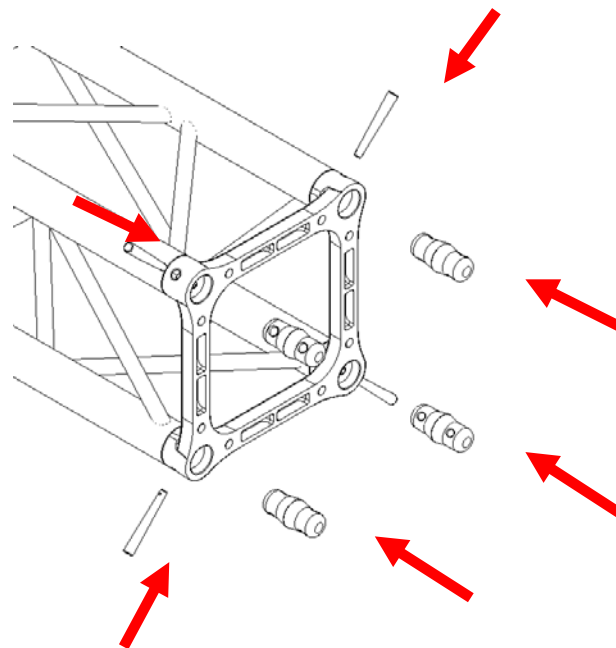
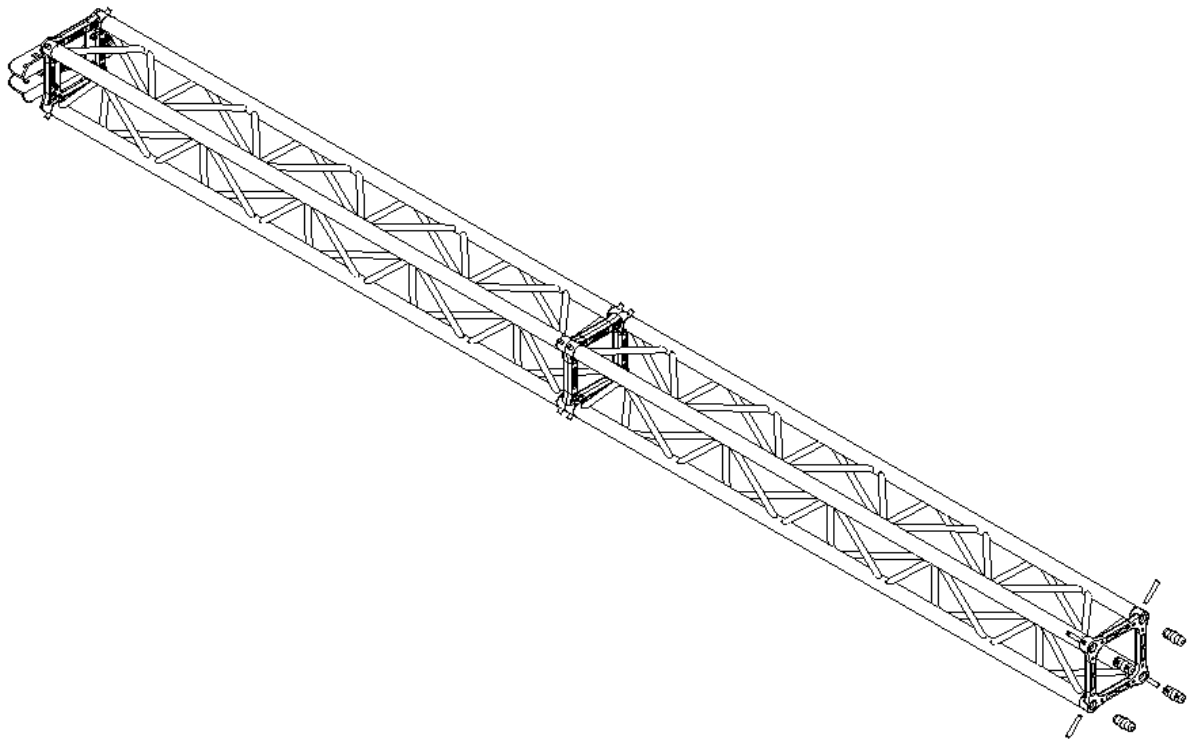
a) Take the top of the tower and pull split pins and pins out.



- b) Place the top on the endplate of the truss and centre the half-spigots on the holes. Insert the pins and the split pins in the holes of the endplate.



Step 37 RSD0806ST and RSD1008ST: Application of the spigots to the opposite side of the body of the tower.



Step 38 RSD0806ST and RSD1008ST: Erect the assembled trusses.

In order to lift the trusses it is necessary to use the right lifting devices.

The user has the complete responsibility about the choosing and the use of the proper lifting devices.

LITEC Italia suggests to use the following lifting devices:

- Lifting device. As it is shown in the following picture.

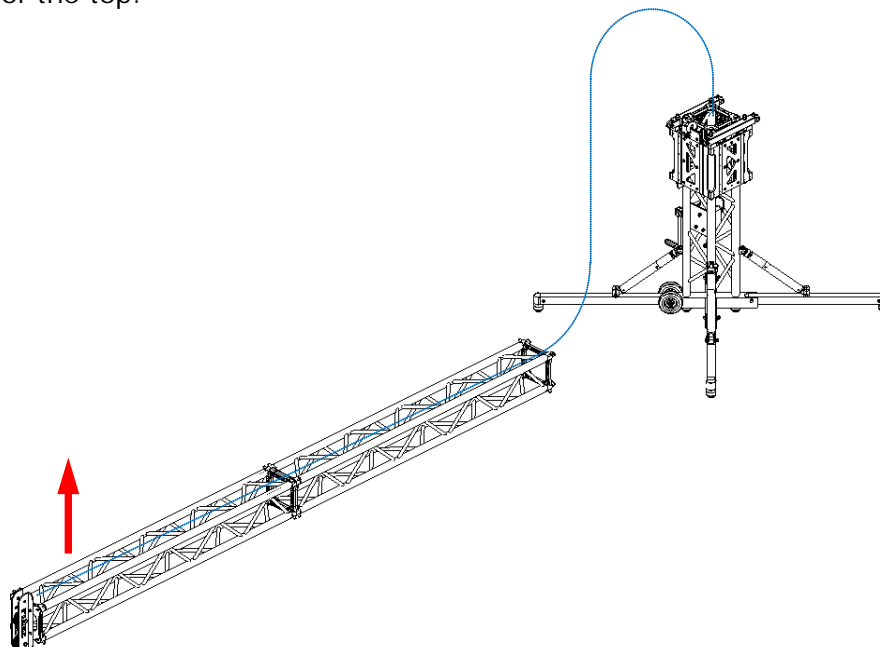


- Bridge crane.
- Crane.

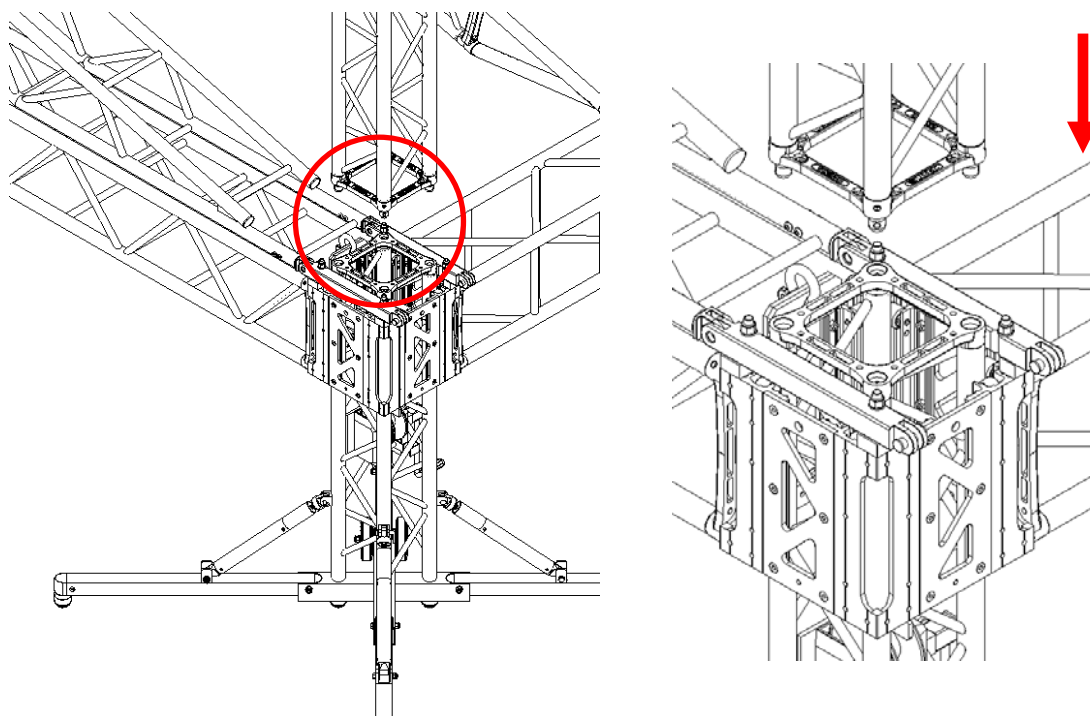


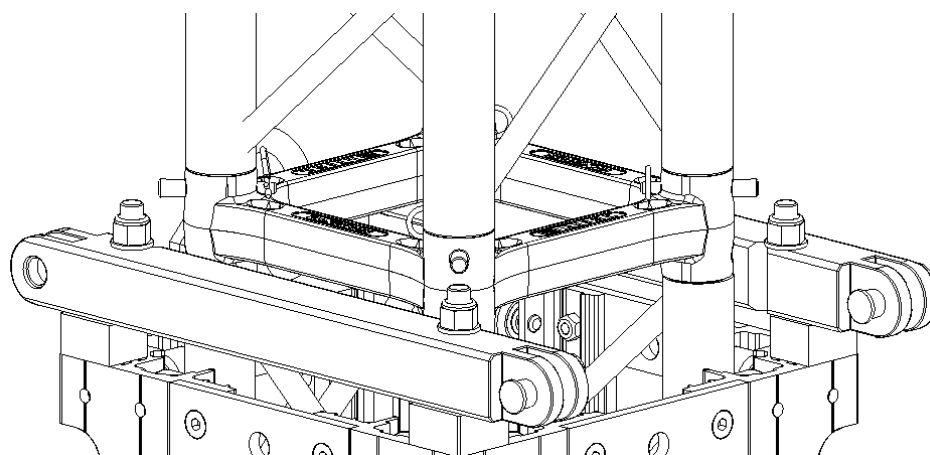
Attention: Nobody must be in the working area during the lifting of the tower. Use a spirit-level to control the verticality of the tower and check the horizontality of the four outriggers.

- a) Use one of the recommended lifting devices and lift the tower by a lifting hook, a round sling and any other lifting accessories.
Another user has to check the movement of the base of the tower and the rope which has to be in tension and he has to check that the ropes do not come out from the pulleys of the top.



- b) Move the truss so that it results on the base of the tower for the next fixing operation.
Place the assembled trusses on the module base and centre the holes on the spigots.

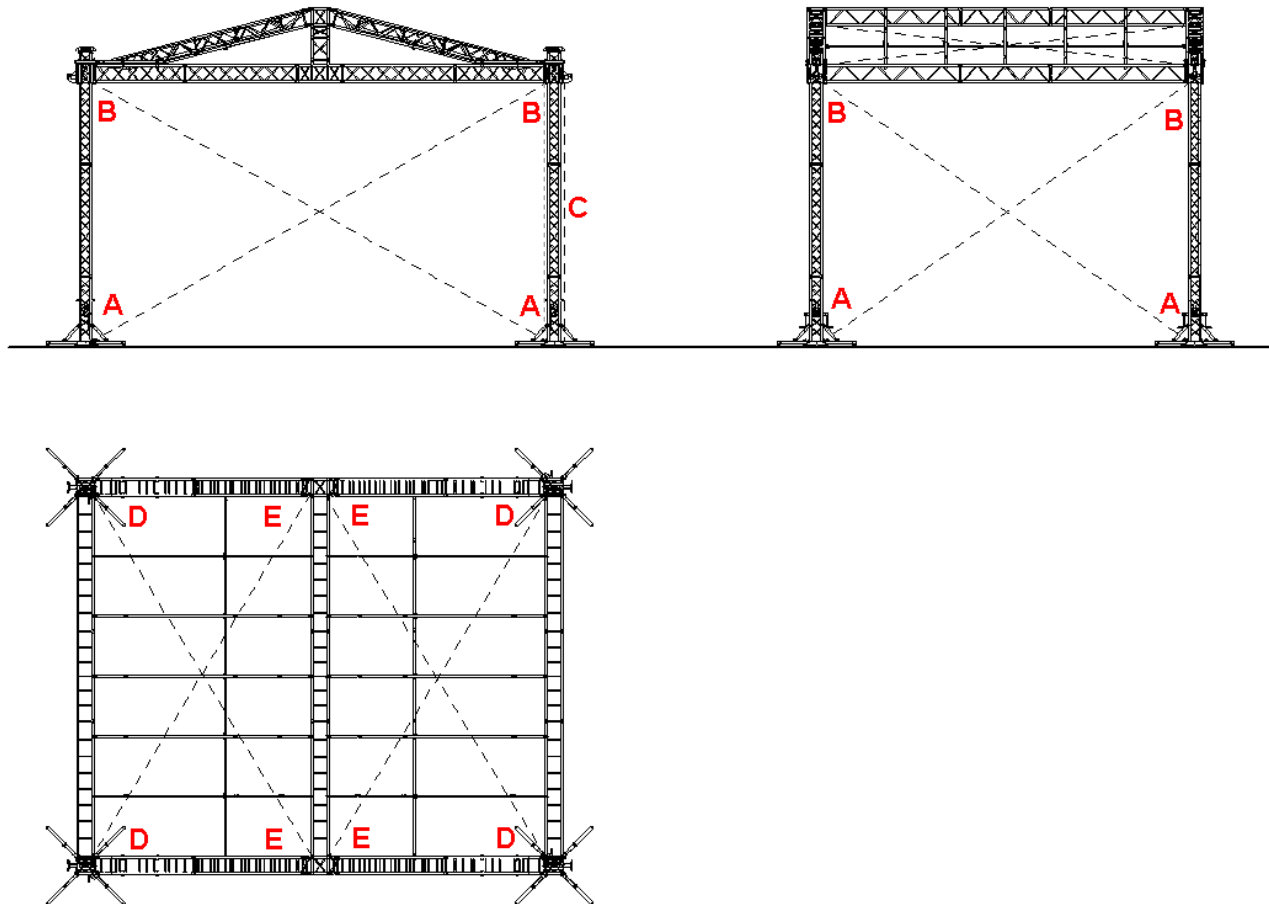




- c) Use a spirit-level to control the verticality of the towers.

Step 39 RSD0806ST and RSD1008ST: SAFETY MEASURES

Here below you will find a table summarising the safety measures:



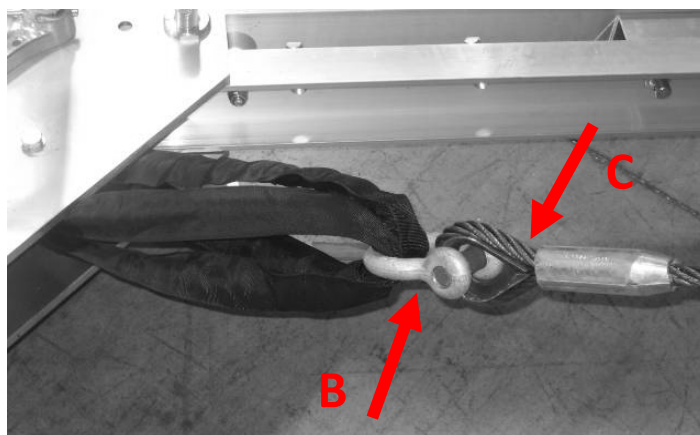
Legend:

Indication	Type of safety devices
A	Bottom fixing point for guy-wires
B	Top fixing point for guy-wires
C	Safety device for hoist moving up
D	External fixing point for roof guy-wires
E	Internal fixing point for roof guy-wires

The images below show the procedures to carry out the fixing operations thus ensuring the safe set-up of the structure.

Detail of the bottom fixing point for guy-wires (A)

Use a 1-metre soft steel sling with a 2-ton load capacity (A). Position it as illustrated in the following images and connect it to a steel wire rope (C) through a large 3.75 ton SWL shackle (B).



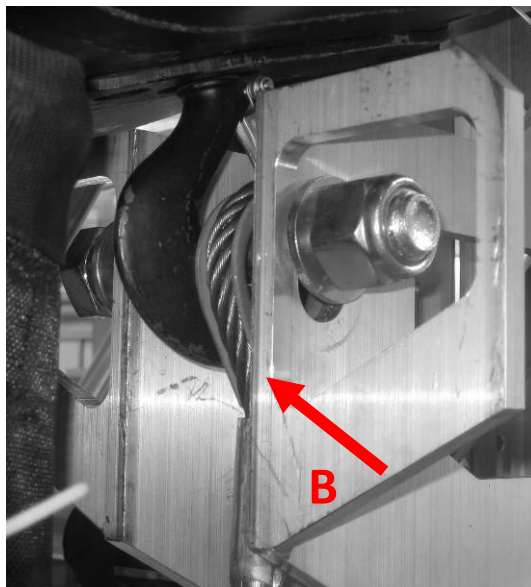
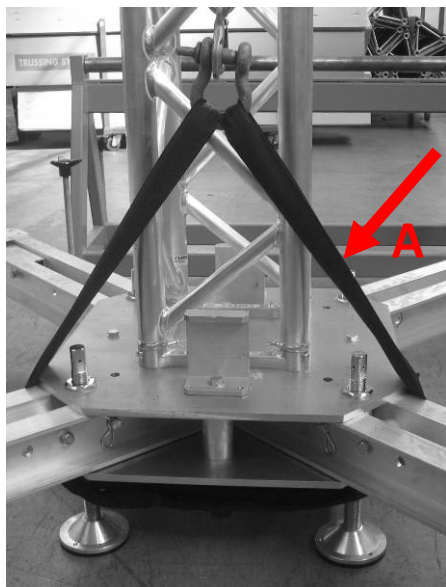
Detail of the top fixing point for guy-wires (B)

Carry out all the operations as described in the previous step placing roundslings (this time 2 metre long ones) as described in the following images.



Detail of the safety device for the chain hoist moving up (C)

Secure the hoist so as to avoid the return of the roof due to the wind. Use a 2-metre soft steel sling and position it at the lower part of the tower base as illustrated in the following image (A), connecting it to a steel wire rope through a shackle. Insert the roundsling where the hoist is connected (B). Finally connect the roundslings with the use of the belt ratchets (C).



Detail of the external fixing point for roof guy-wires (D)

At the end of the roof use a 1-metre roundsling and place it as in the following images. Connect it to a steel wire rope through suitable shackles. Repeat this operation for each end.



Detail of the internal fixing point for roof guy-wires (E)

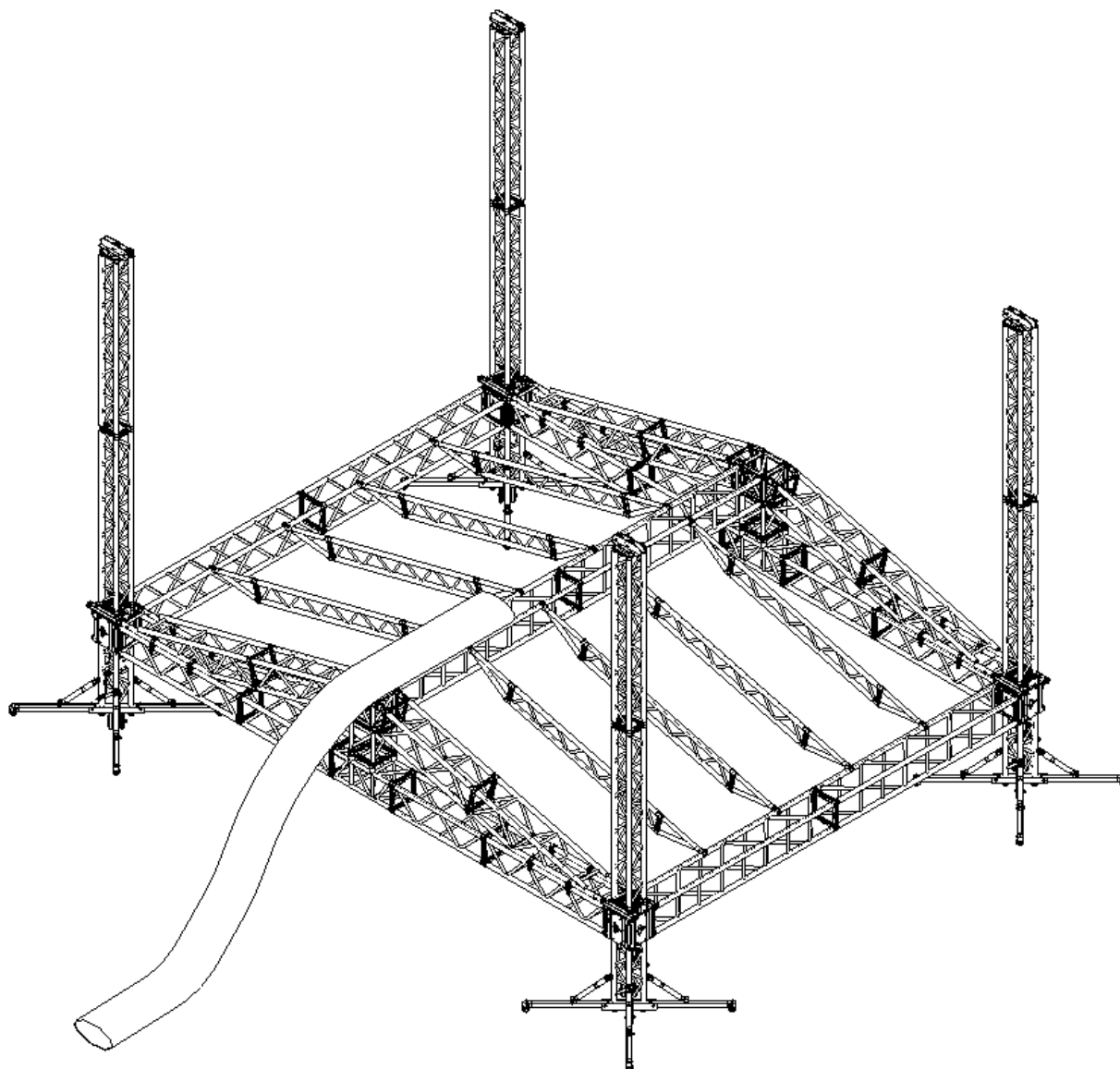
Carry out the same operation also for the 4 ends for the central lintel of the gable. Then place the 1-metre roundslings as described in the following images and connect them to the respective steel wire ropes through the use of shackles.

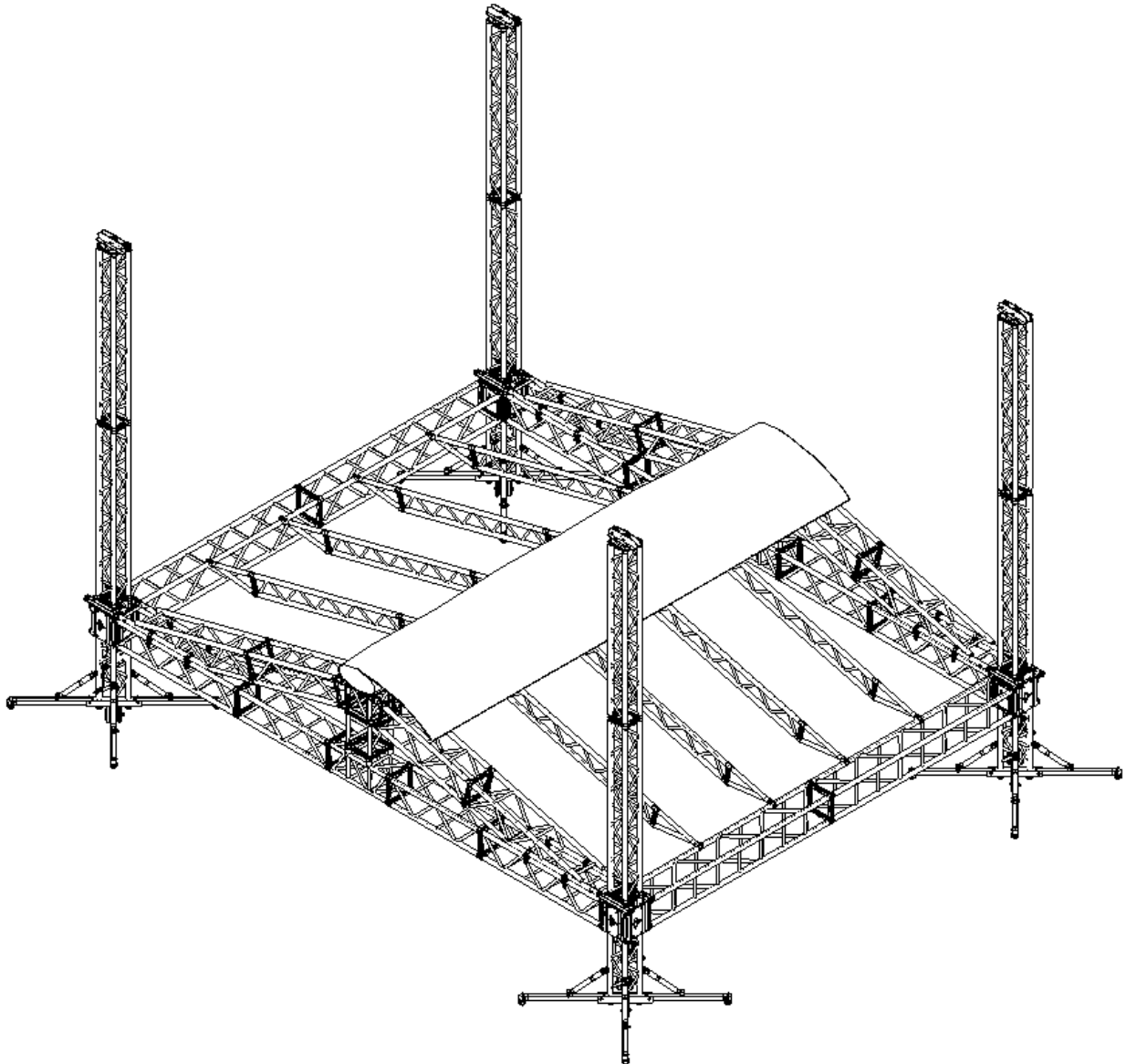


When all the fixing points are carried out for guy-wiring, connect the free ends of the roundslings of type D to those of type E through the use of belt ratchets and tighten all the equipment.

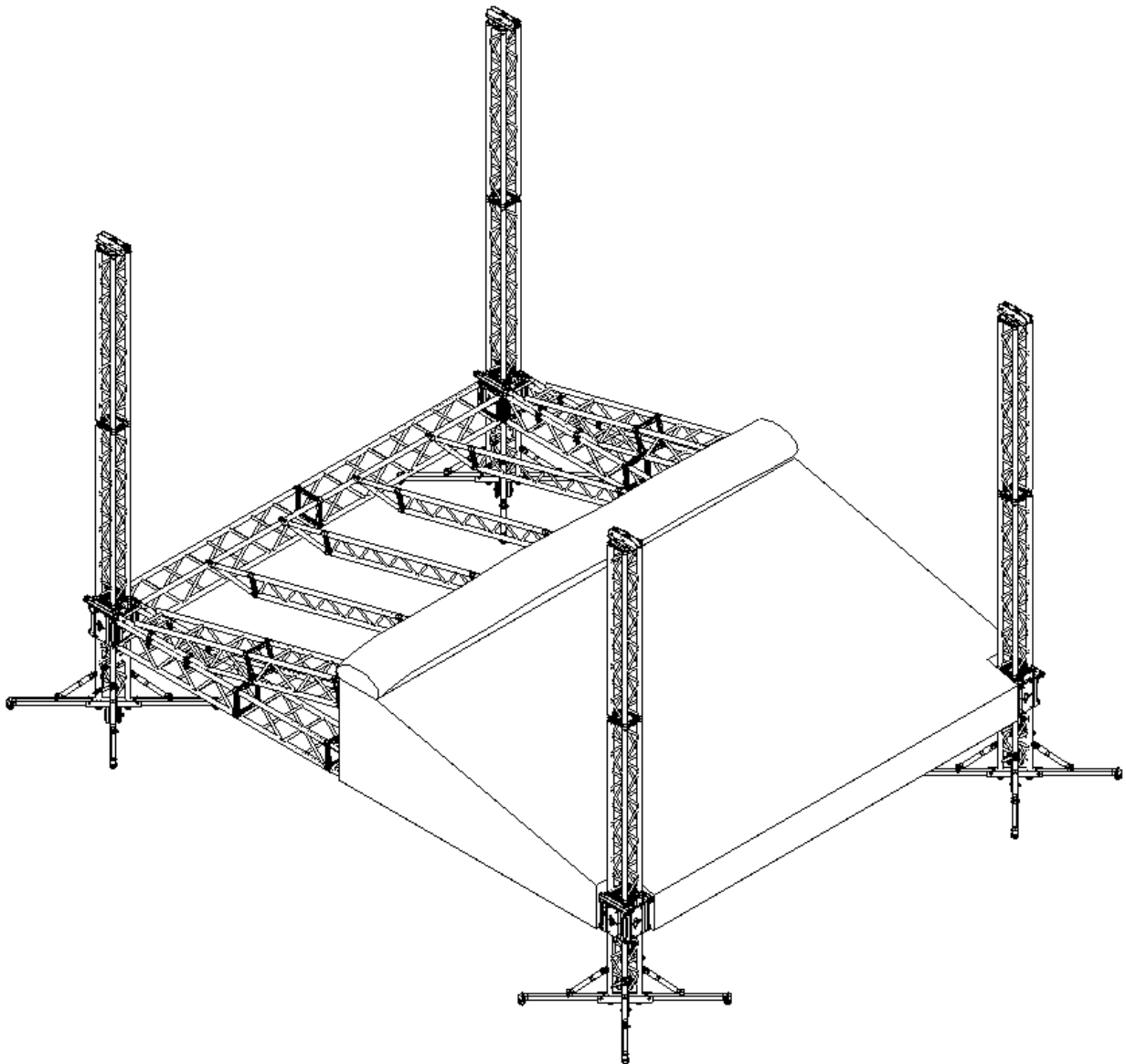
Step 40 RSD0806ST: Roof Canopy setup.

- a) Take the canopy and place it on the apex truss.

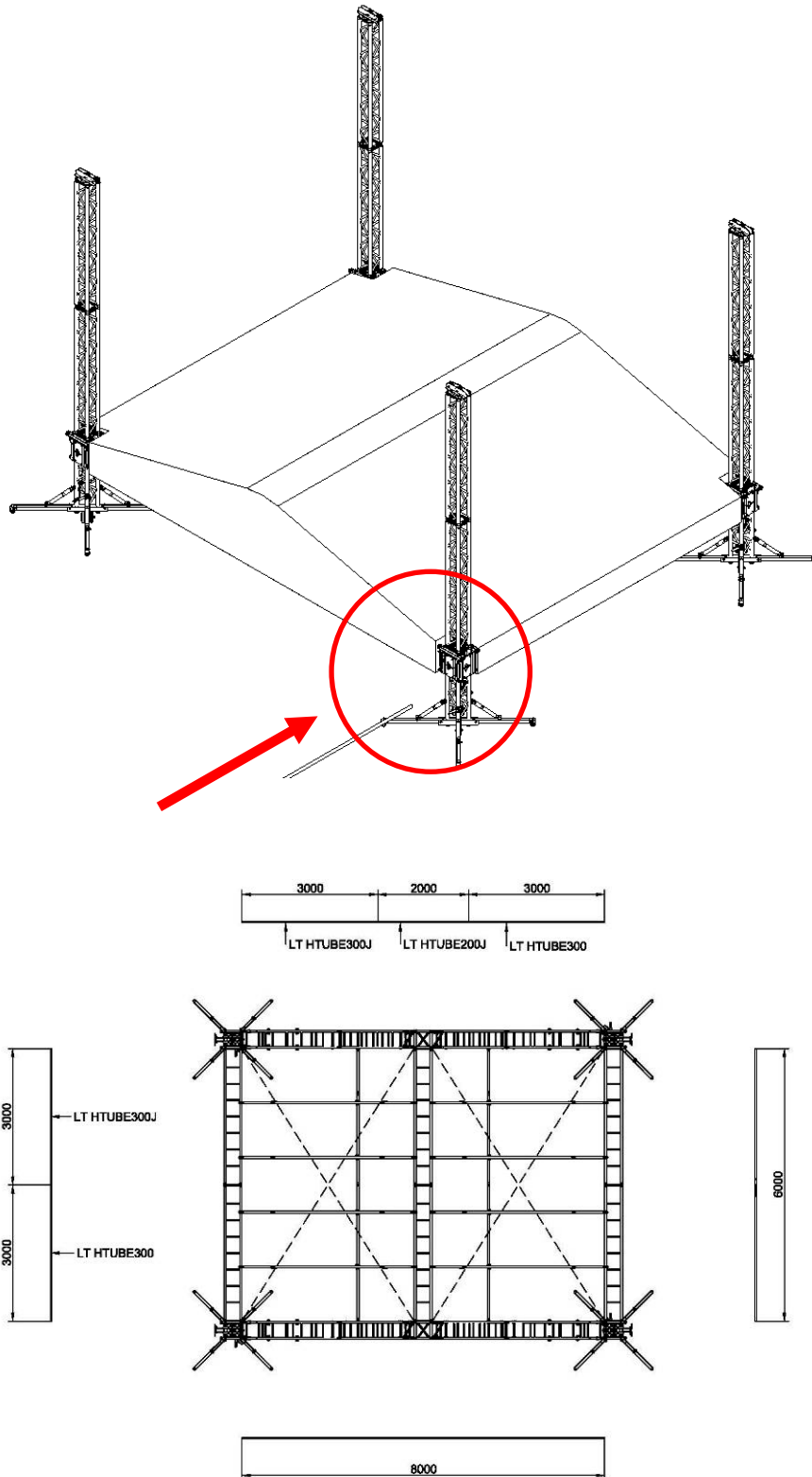




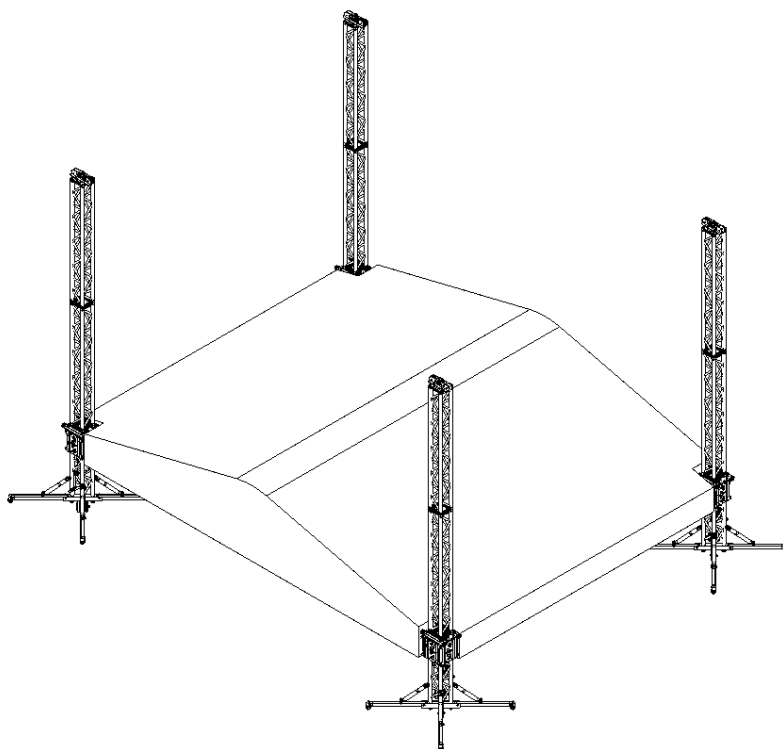
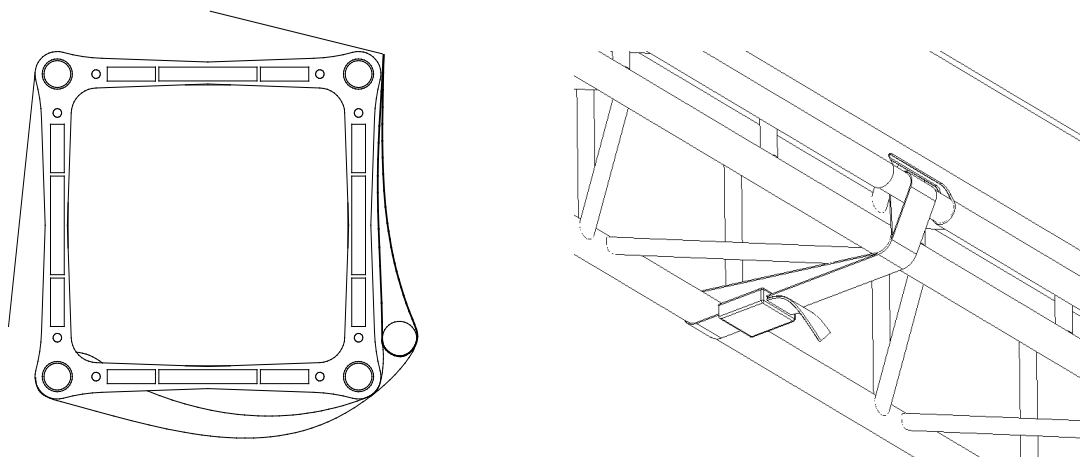
b) Then, begin to roll out the canopy carefully on the roof pitch.



- c) Insert the tubes LT HTUBE200 and Lt HTUBE300J in the canopy pocket of the extremities of the canopy.



d) Then, fix the tube to the structure using the Belt ratchet (LT RGBR23502G).



Be careful: you can start to lift the roof only if the canopy has been firmly fixed to the structure.

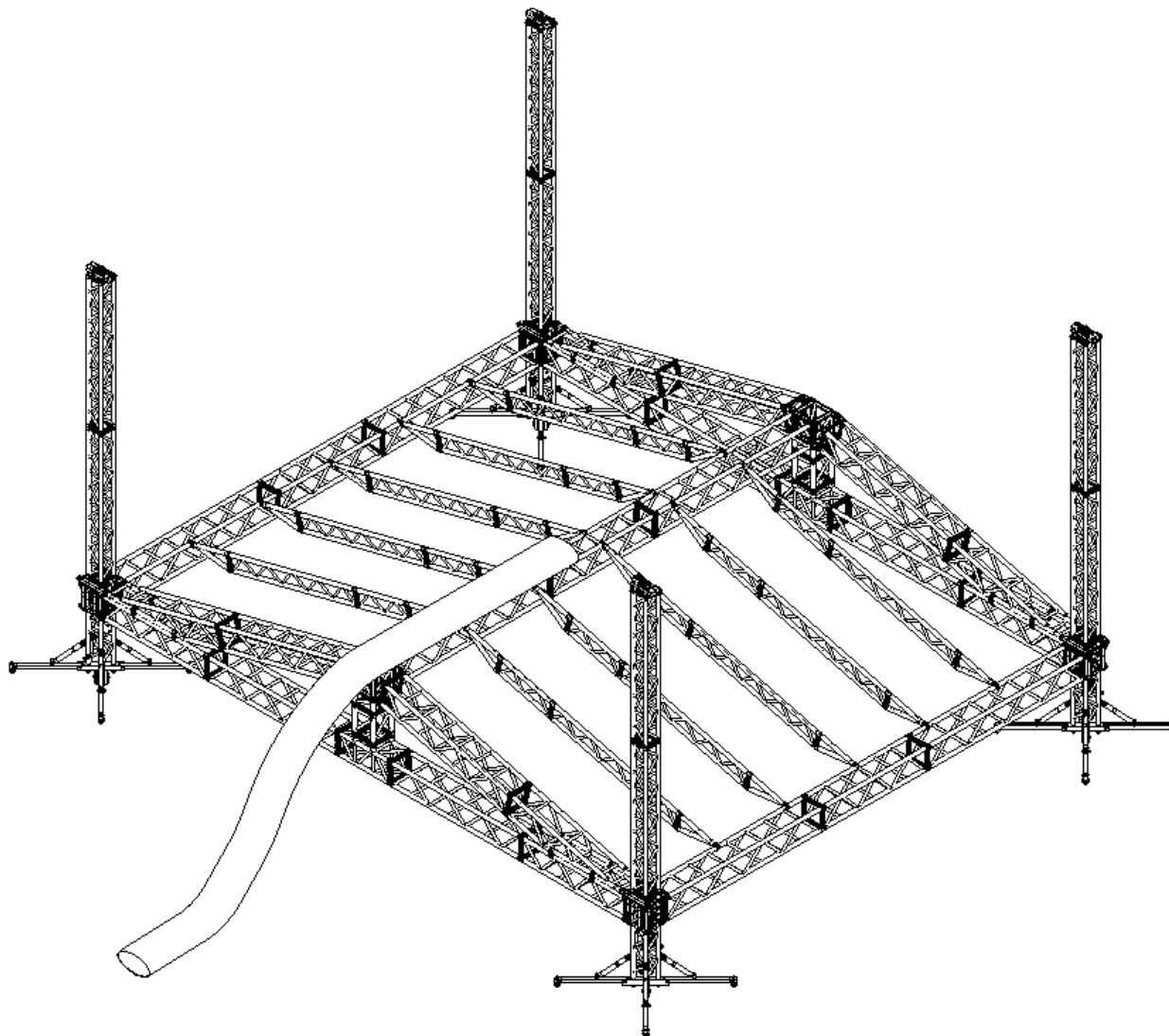


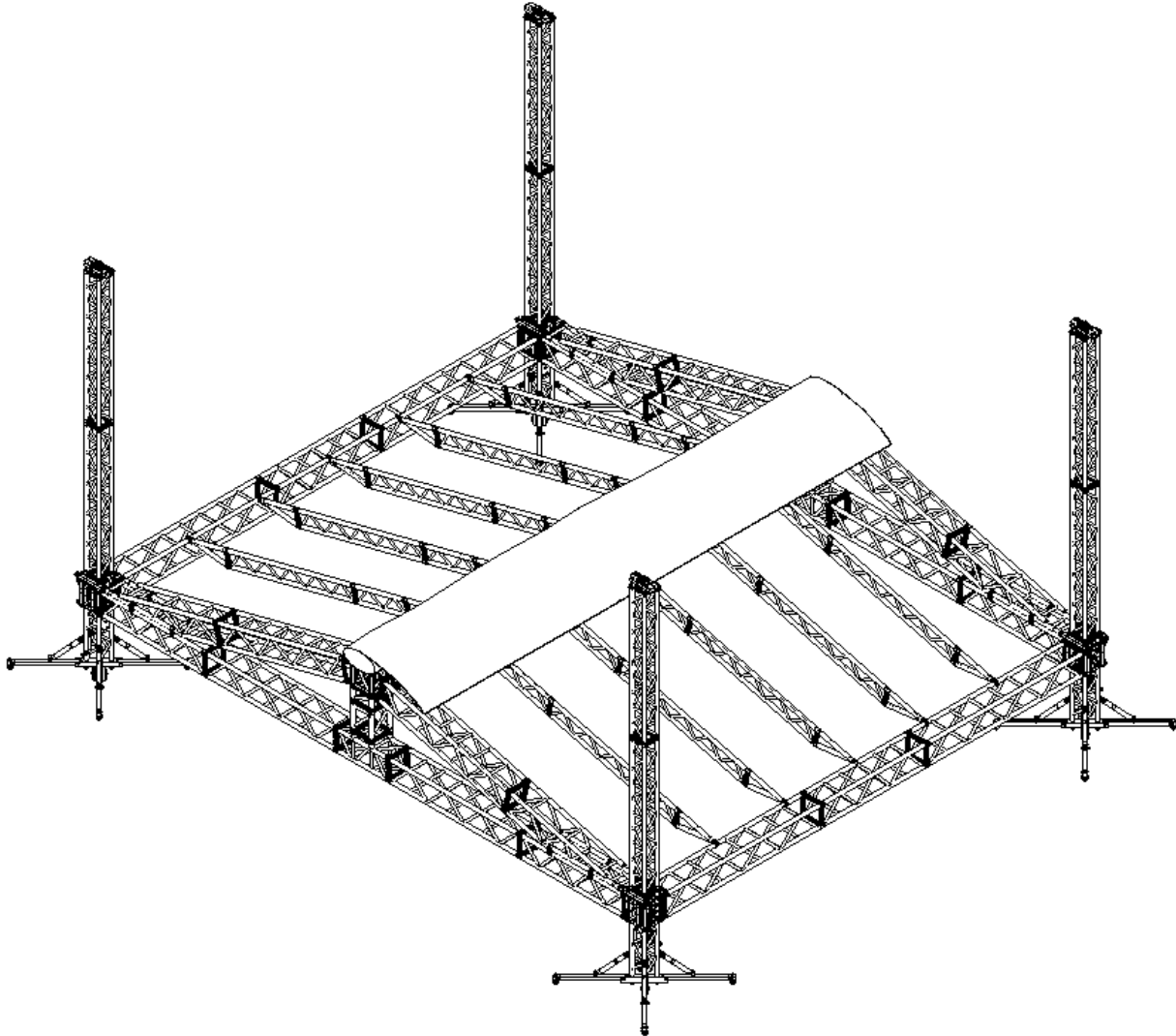
Attention: Tighten the belt ratchet with an adequate tension in order to guarantee the water drain.

Go to Step 42,

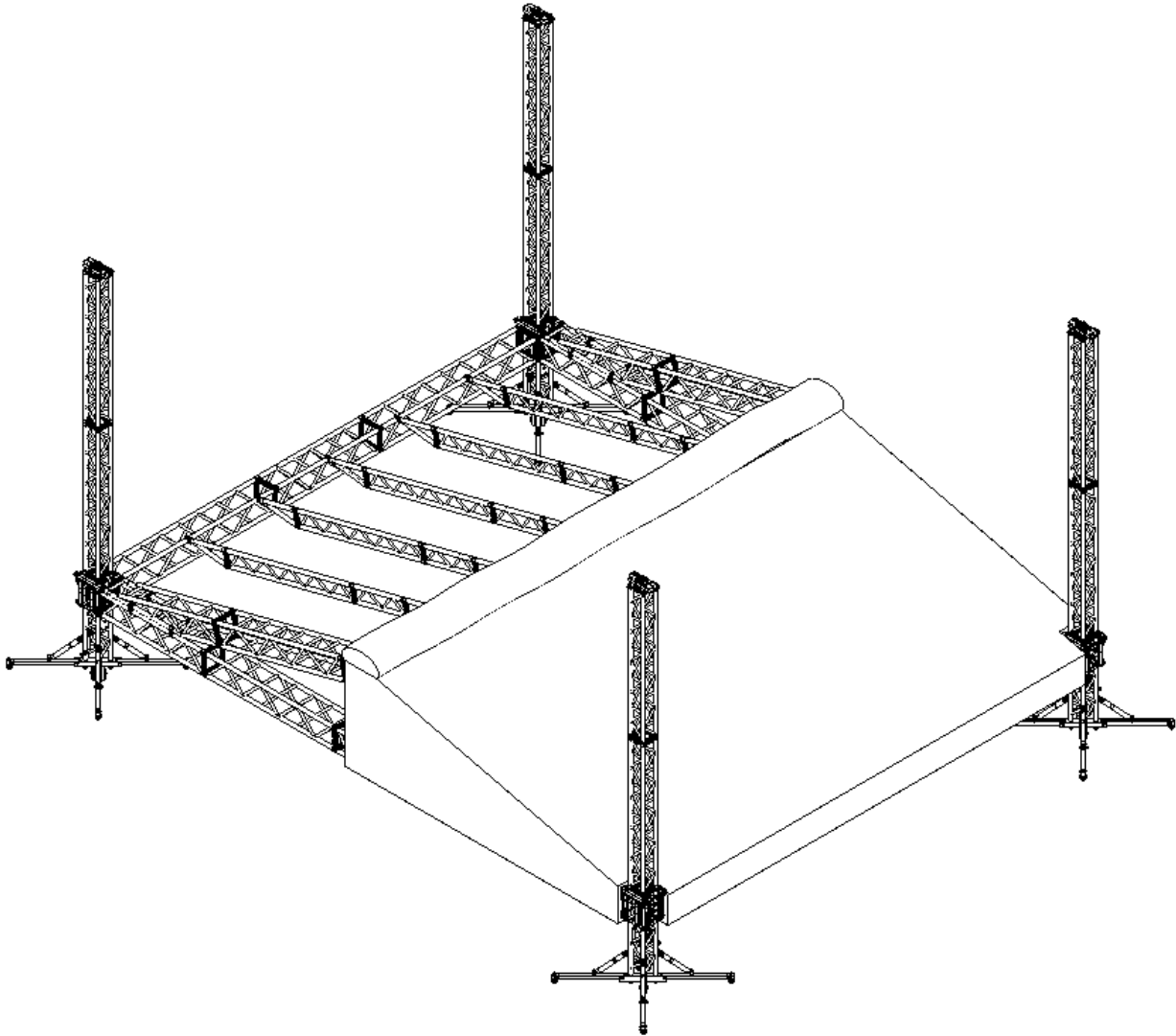
Step 41 RSD1008ST: Roof Canopy setup.

- a) Take the canopy and place it on the apex truss.

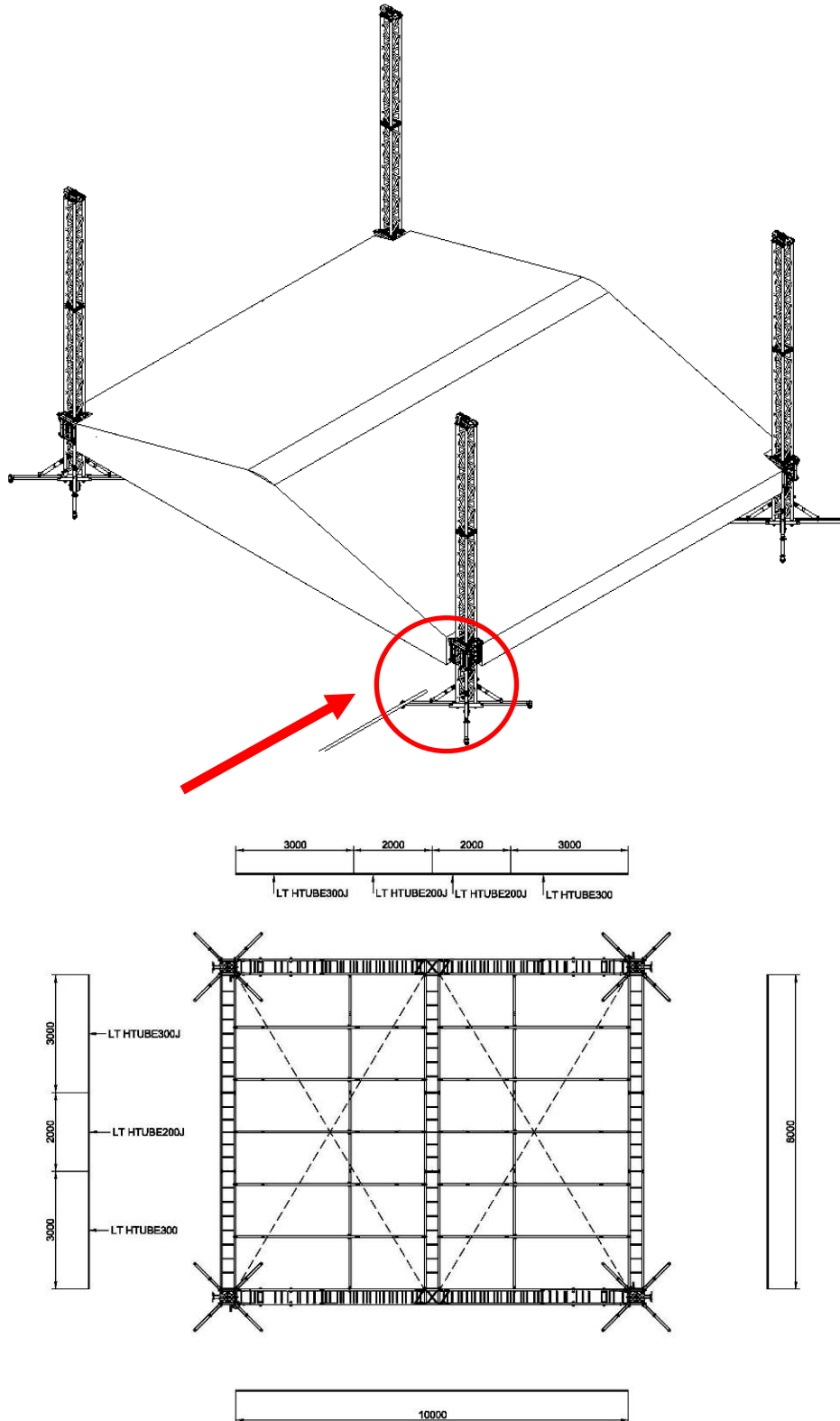




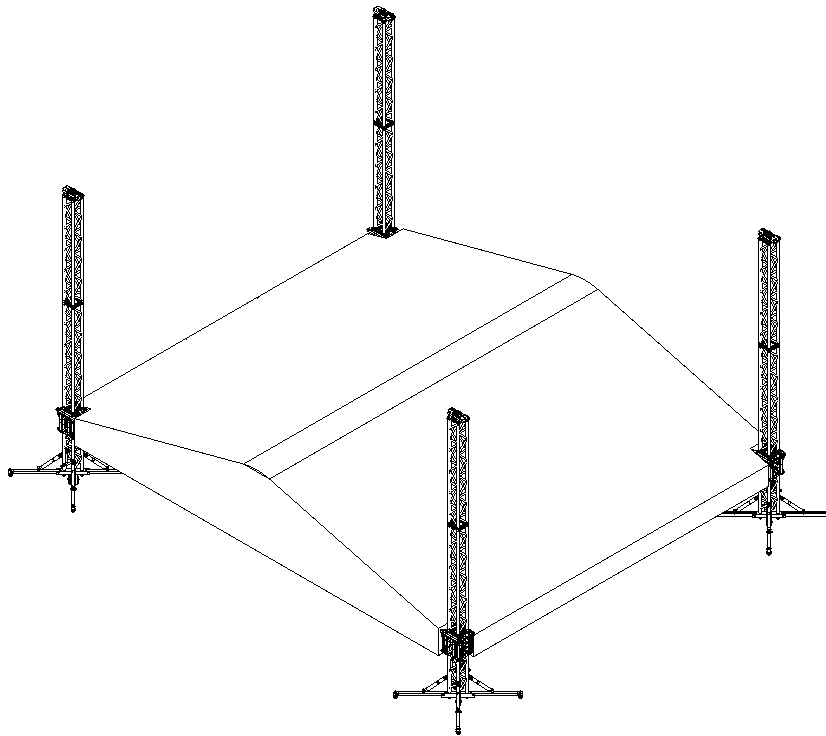
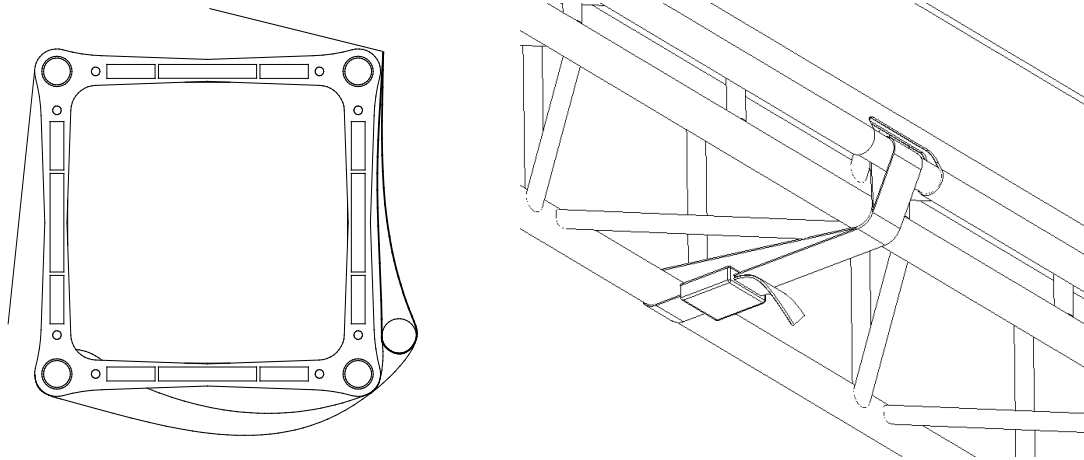
b) Then, begin to roll out the canopy carefully on the roof pitch.



- c) Insert the tubes LT HTUBE200J and LT HTUBE300J in the canopy pocket of the extremities of the canopy.



d) Then, fix the tube to the structure using the Belt ratchet (LT RGBR23502G).



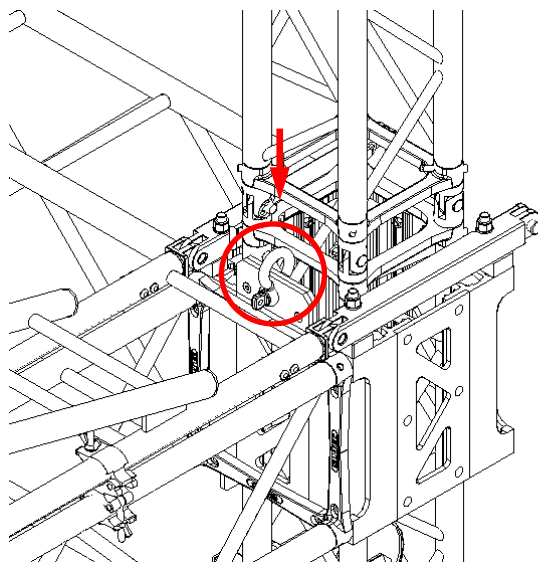
Be careful: you can start to lift the roofing only if the canopy has been firmly fixed to the structure.



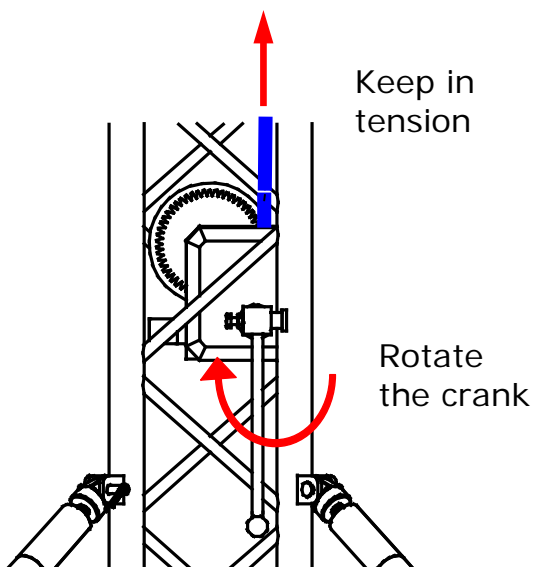
Attention: Tighten the belt ratchet with an adequate tension in order to guarantee the water drain.

Step 42 RSD0806ST and RSD1008ST: Lifting of the roofing by winches.

- a) This step must be followed only if the sleeve block is connected to the trusses type QX40SA, QD40S, QD40SA.
The lifting of the sleeve block must be carried out while ensuring that the roundsling is connected to the shackle placed on it.
The following picture explains the lifting device method.



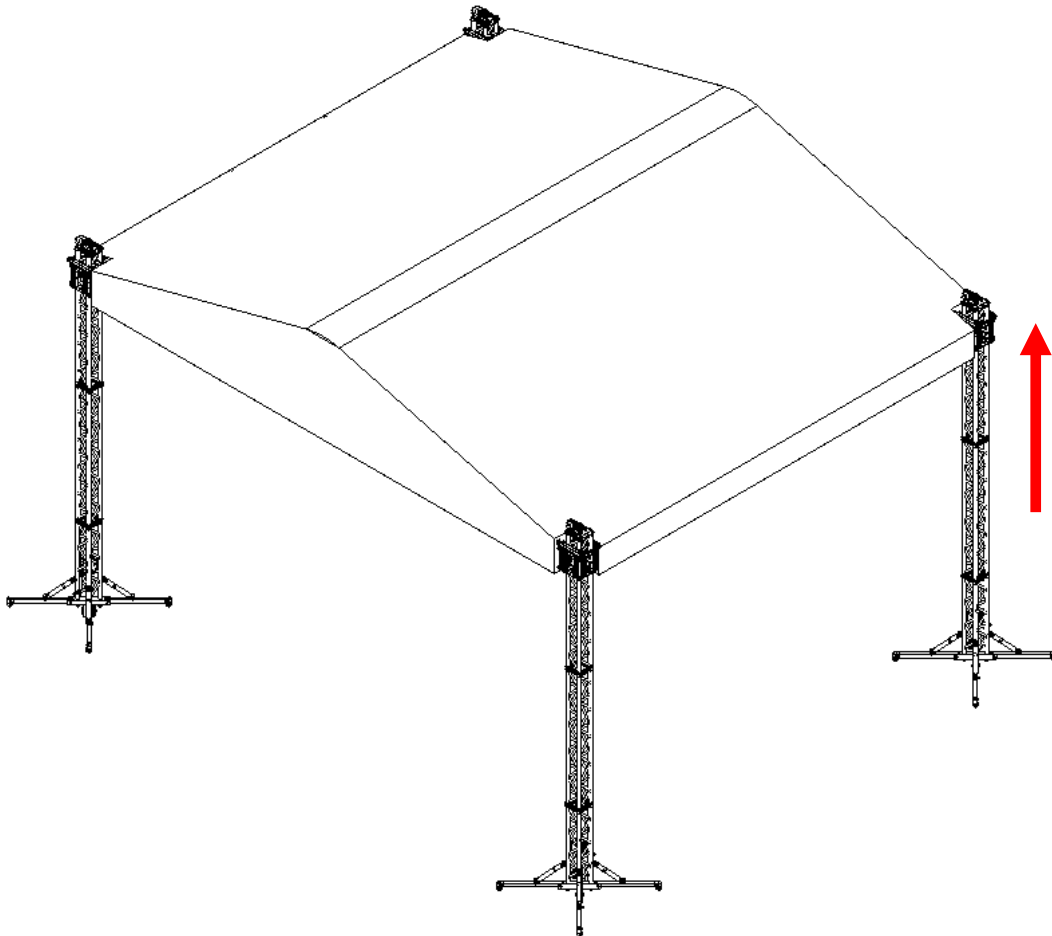
- b) Wind the rope in the winch rotating the crank of the winch in order to wind the excess of the rope. Whenever you wind the rope in the winch, you prevent to surmount the coils and to wind the reel in an uniform way. The rope must keep in tension manually by an operator during the winding operation in order to guarantee an uniform winding.



- c) Use a spirit-level to control the verticality of the towers.
- d) Lift slowly and simultaneously the sleeve blocks of every tower rotating the cranks of the winches. Stop the lifting if it is equal to 50 – 80 cm.
Use a spirit-level to control the horizontality of the trusses and the verticality of the towers.

Attention: Do not insist on the lifting if any resistance happens.

Step 43 RSD0806ST and RSD1008ST: Lift simultaneously the sleeve blocks of every tower rotating the cranks of the winches and reach the final height of the installation. Check the horizontality of the trusses. Do not insist on the lifting if any resistance happens. Use a spirit-level to control the verticality of the towers



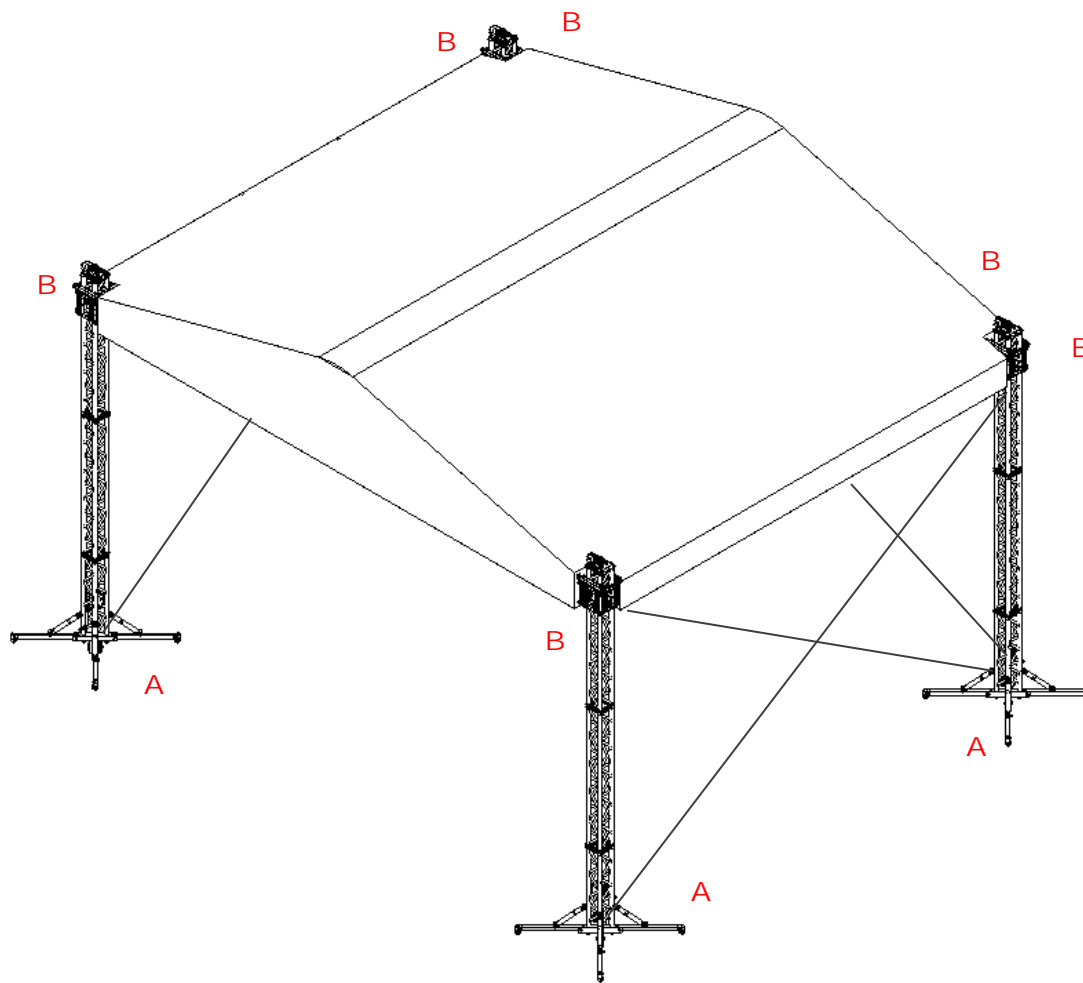
Step 44 RSD0806ST and RSD1008ST: SAFETY DEVICE FOR THE HOIST MOVING DOWN

- a) When the roof is raised it is necessary to put a safety device for the eventual descent of the hoist. Use 2-metre roundslings as shown in the following images. Block the device with suitable shackles.



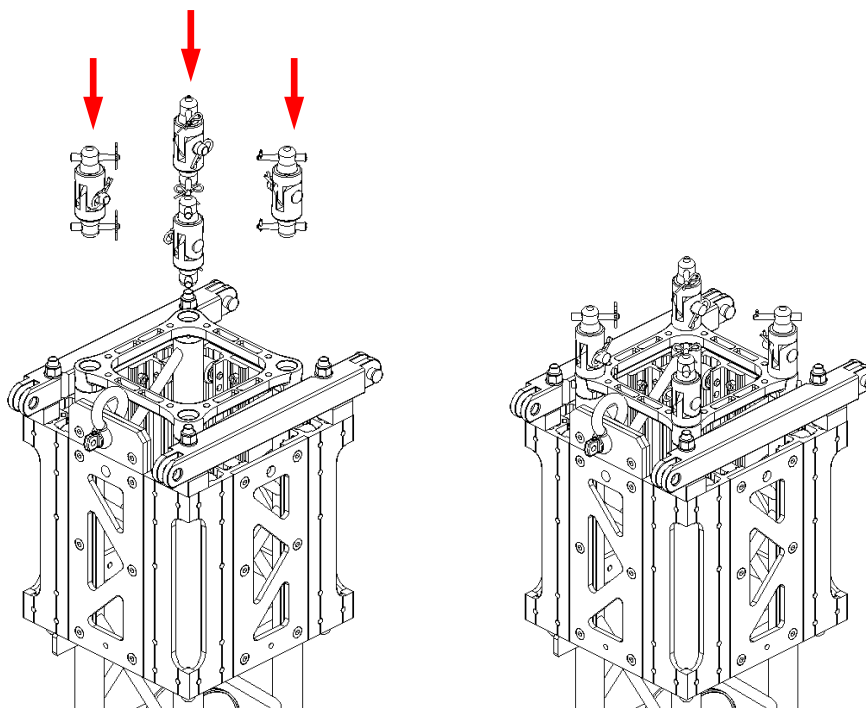
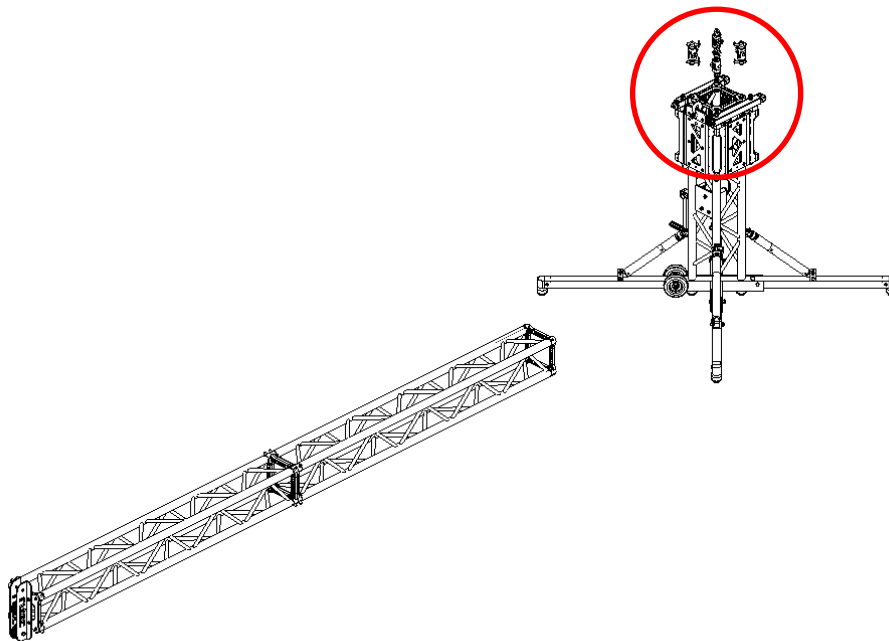
Step 45 RSD0806ST and RSD1008ST: LATERAL GUYING

- a) When the whole structure is secured in place, carry out guying of 3 sides of the structure through belt ratchets of 2 ton load capacity (please see the image below) connecting the free end of the roundslings A to the free end of the roundslings B. Finally tighten all the equipment.



5.7 OPTIONAL DEVICES

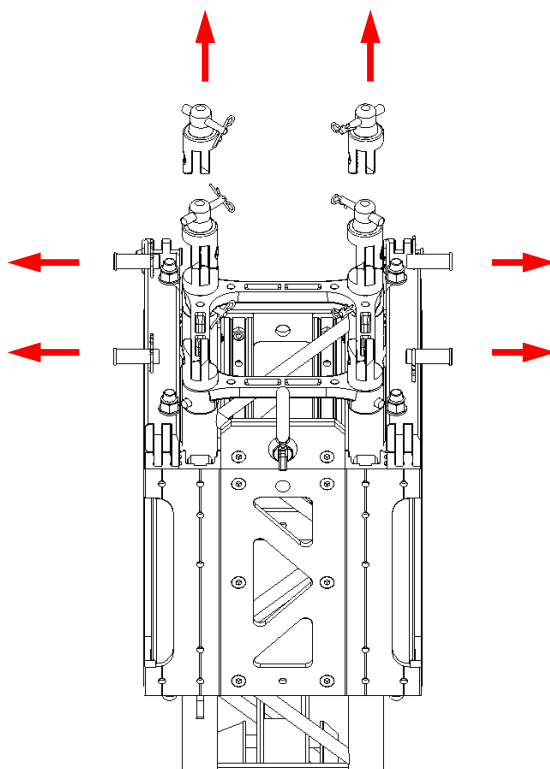
Step 46 RSD0806ST and RSD1008ST: Insert the aluminum jointed spigot (kit LT QXICU).



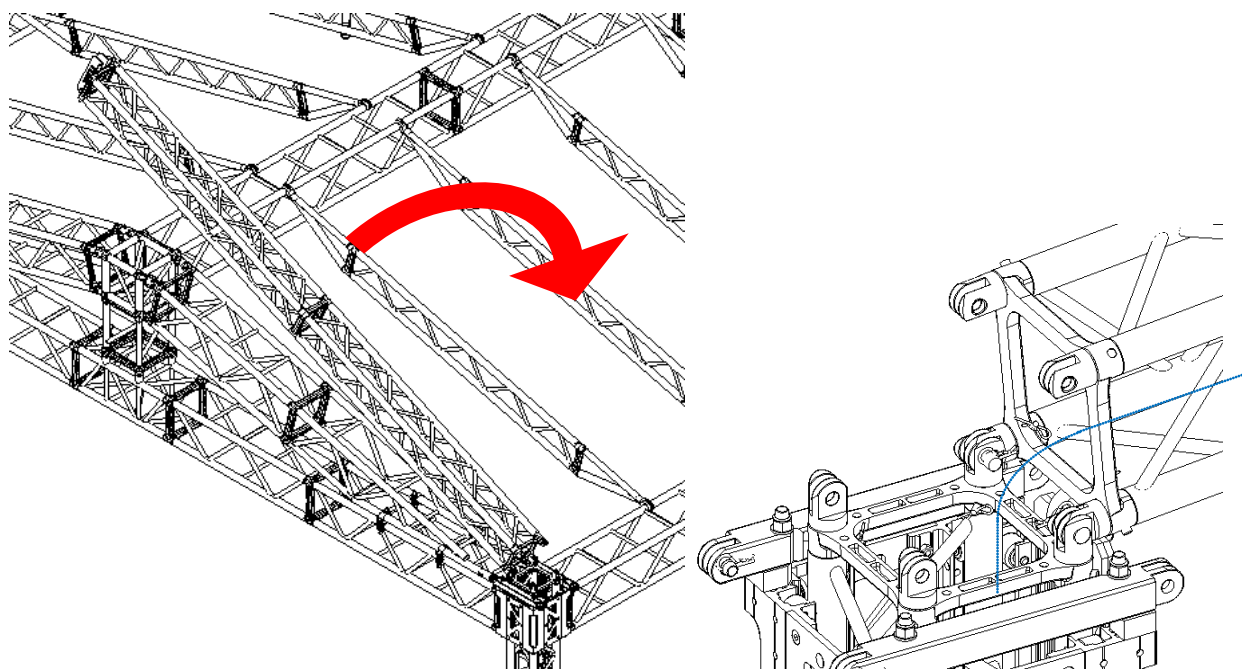
Before

After

Step 47 RSD0806ST and RSD1008ST: Dismount the superior half spigots.



Step 48 RSD0806ST and RSD1008ST: Insert the half spigots in the trusses assembled. Insert the pins and the split pins to realize a hinge.



Step 49 RSD0806ST and RSD1008ST: Thanks to a lifting device, you can lift the tower and erect the assembled trusses.

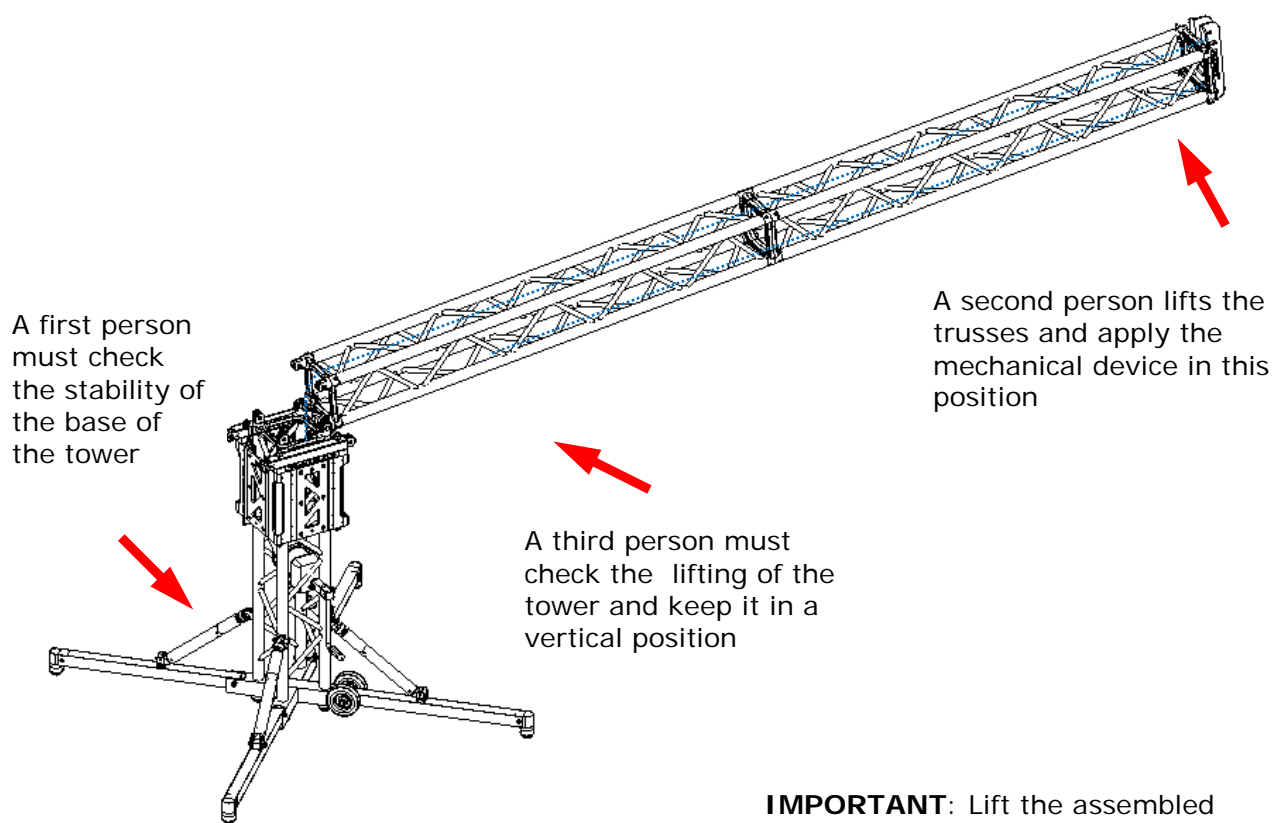
Three persons are necessary to lift the trusses.

Nobody must be in the working area during the lifting operations of the tower.

Use a spirit-level to control the verticality of the tower and check the horizontality of the four outriggers. In order to regulate the verticality of the tower you should register the feet of the tower.

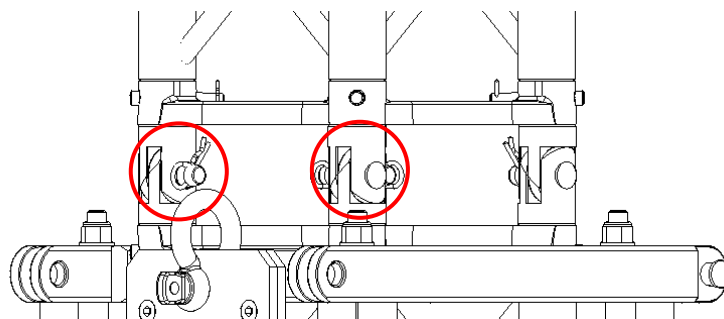
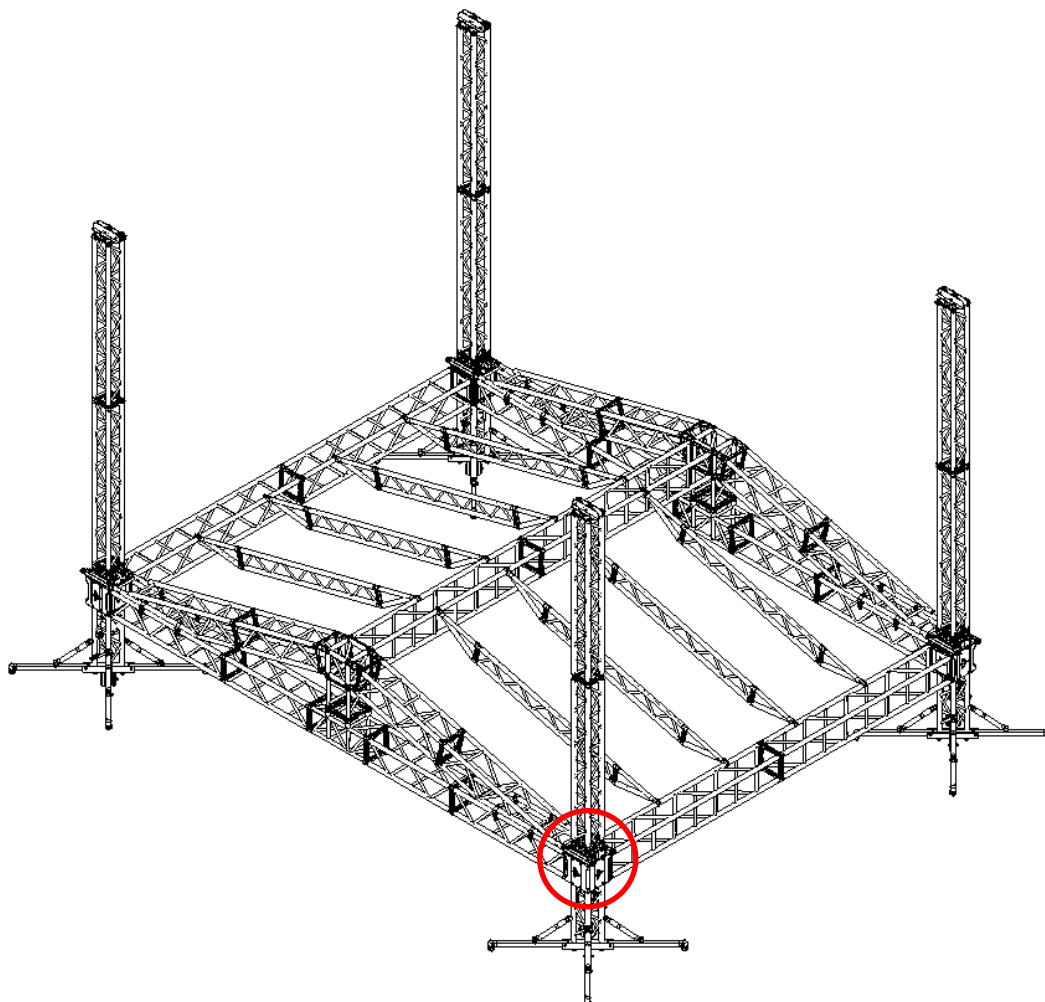


Attention: To lift the tower use lifting devices as indicated at step 44.



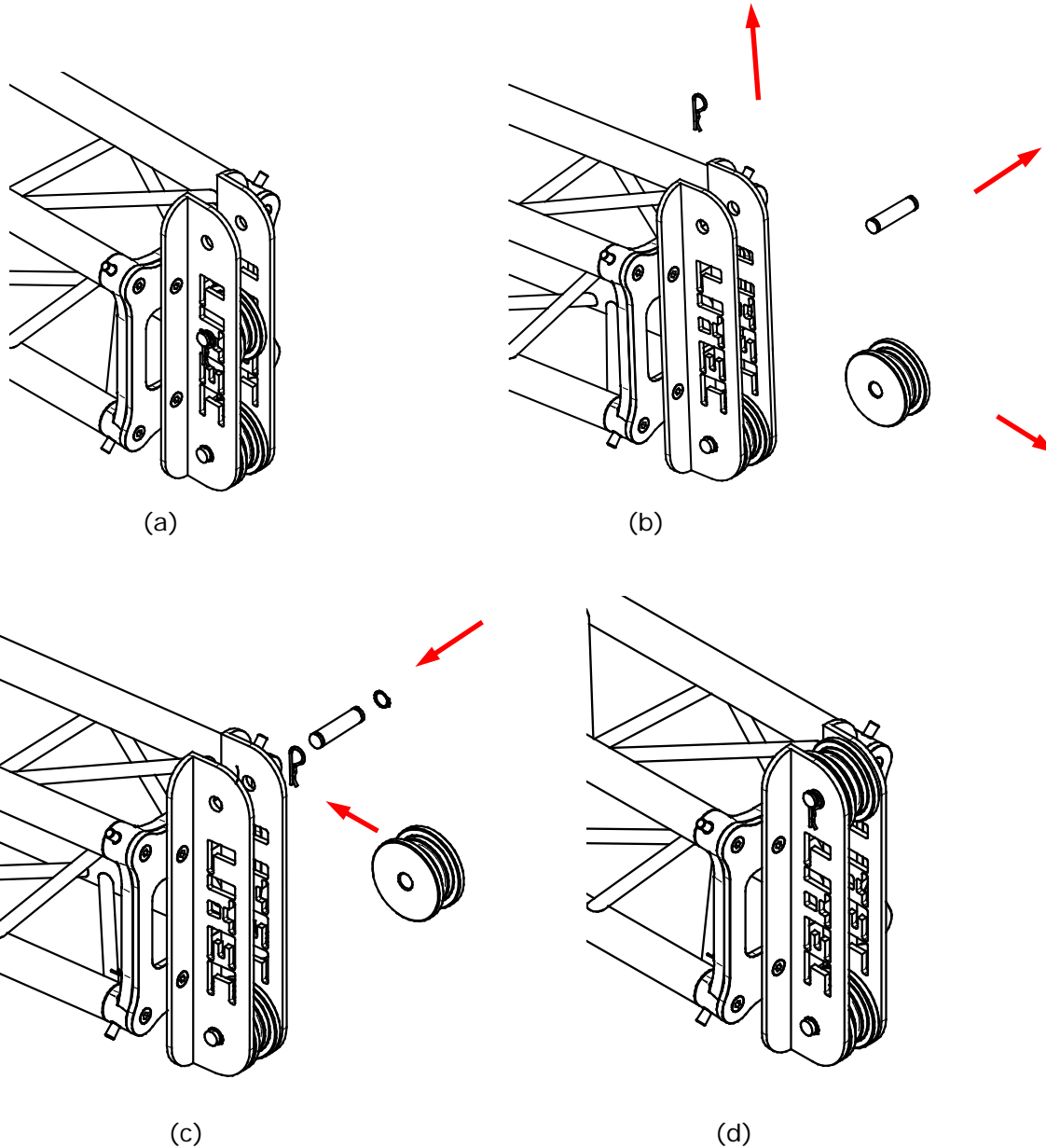
IMPORTANT: Lift the assembled trusses using a mechanical lifting device

Step 50 RSD0806ST and RSD1008ST: Insert the last two pins and split pins in the last two jointed spigots, and repeat the procedure at steps 47, 48, 49 and 50 for the other three towers.

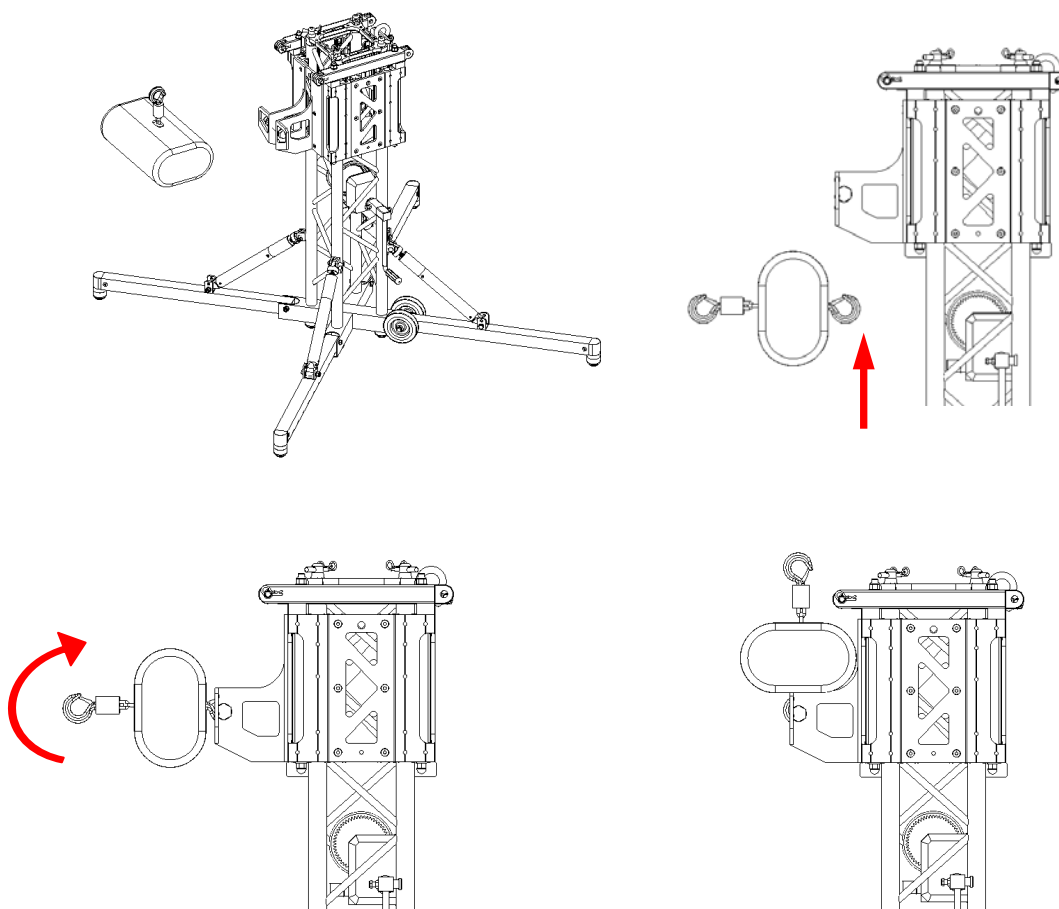


Step 51 RSD0806ST and RSD1008ST: Installation of the hoist (optional). The following steps substitute the 42, 43, 44 and 45.

a) Move the pulley as it is indicated in the following figures



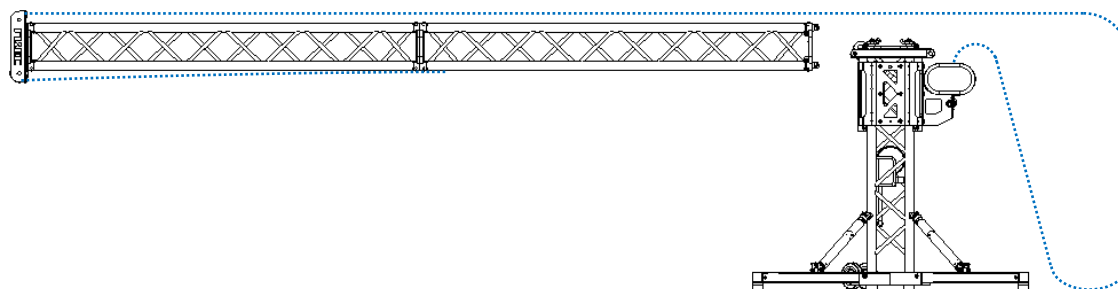
b) Insert the hoist on the support.



Attention: Refer to the hoist and the controller manual.

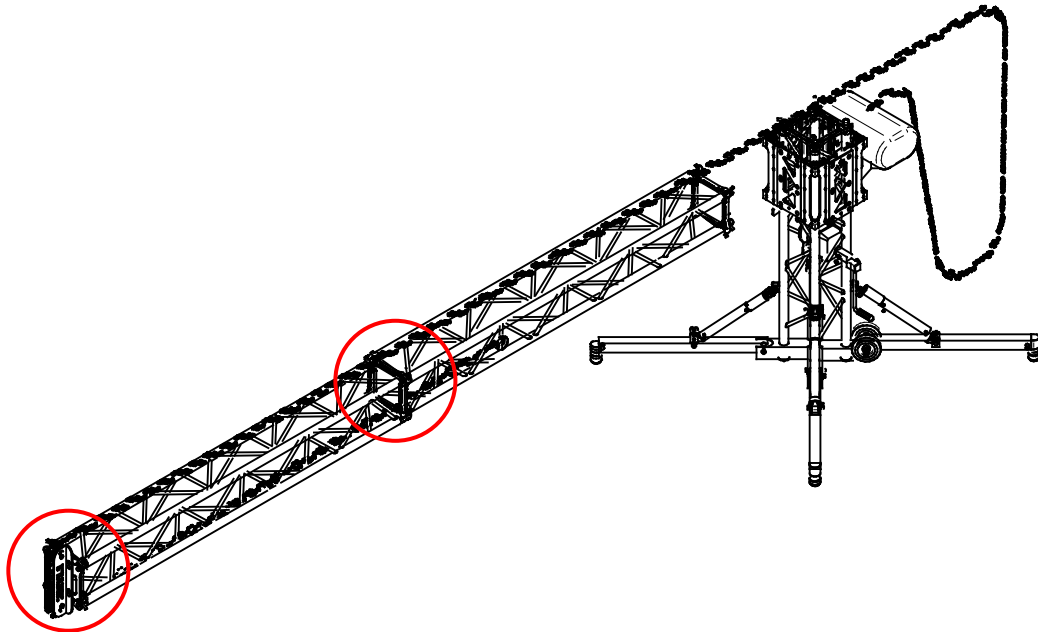
All the operations described afterwards require the presence of minimum two people at the same time to be done correctly. The first person works on the controller of the hoist, the second person works on the chain.

Unwind the chain completely working on the controller, then begin to line up the links of the chain from the extremity of the chain which is linked to the hoist, so that it is not in torsion.

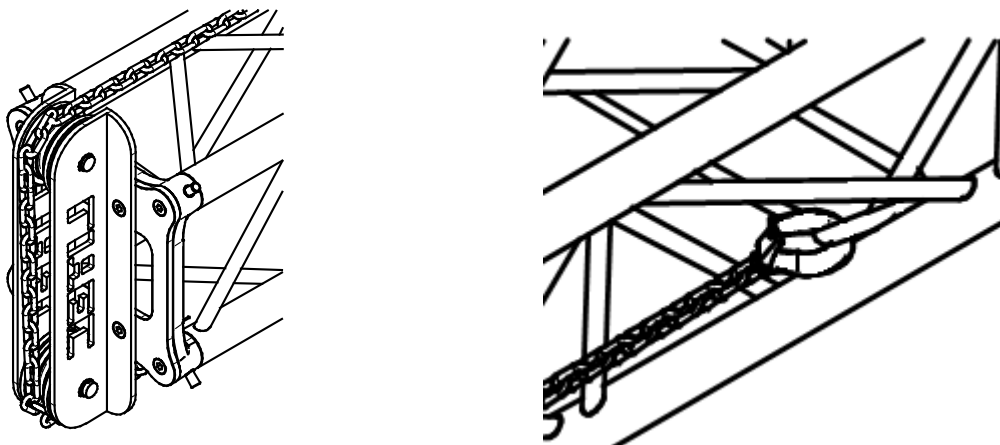


Step 52 RSD0806ST and RSD1008ST: Keep the chain in tension, wind the pulleys of the top and pay attention to the links of the chain so that they can not be in torsion.

- a) Pass the chain through the two pulleys of the top, but the links of the chain must be brought into line (not in torsion).



- b) Fix the hook of the chain to one of the diagonals of the lower truss by round sling.



Use the hoist controller in order to bring back the excess of the chain.

6. USE OF THE PRODUCT

6.1 ELECTRICAL POTENTIAL EQUALISATION FOR TRUSS SYSTEMS

Truss systems that might develop dangerous touch voltages in the event of an electrical fault should be incorporated into a common potential equalisation system. The RSD0806ST and RSD1008ST are included in this case. This applies to all elements made of electro-conductive material which have equipment placed on or attached to them that, in the event of damage, could make electrical contact with metal parts.

The connections can be made with clips, pipe clamps, screw joints or special single-pole locking connectors.

The common potential equalisation system must be connected to the earth wire of the electrical power supply system.

In order to guarantee the electrical safety of the users of the product, a qualified person should realize the electrical potential equalisation of the Towerlift following the laws and regulations of the country where the product is used.

LITEC Italia S.p.A. declines any responsibility in case of accidents to people or things caused by an incorrect electrical potential equalisation of the product.

7. UNINSTALLING PROCEDURE

7.1 UNINSTALLING PROCEDURE

In order to disassemble the product, follow the steps described, in a vice versa order.

Roof Structure RSD1008ST

As the standard version of the Roof Structure RSD1008ST, follow the steps selected in the 'standard version' column.

STEP RANGE	Standard version	Version supplied with the winch	Version supplied with the LT QXICU
From step 52 to step 51	√		
From step 50 to step 46			√
From step 45 to step 42		√	
Step 41	√		
From step 39 to step 35	√		
From step 34 to step 21	√		
From step 7 to step 1	√		

Roof Structure RSD0806ST

As the standard version of the Roof Structure RSD0806ST, follow the steps selected in the 'standard version' column

STEP RANGE	Standard version	Version supplied with the hoist	Version supplied with the LT QXICU
From step 52 to step 51		√	
From step 50 to step 46			√
From step 45 to step 42	√		
Step 40	√		
From step 39 to step 35	√		
From step 20 to step 8	√		
From step 7 to step 1	√		

8. TRANSPORT AND STORAGE OF THE EQUIPMENT

8.1 TRANSPORT OF THE EQUIPMENT

Before any operations of transport and handling of the product, it is important to dismount all the components as it is described in the dismounting procedure. The components should be handled very carefully to avoid any damages because of shocks and falls.

Individual modules and fully assembled trusses, and any ancillary components that form part of a complete structure, should be handled carefully to avoid impact damage or abrasion.

Trusses should not be dragged.

Trusses should be carried or moved on dollies or trolleys, and laid down carefully.

Trusses should be secured properly and supported during their transportation, and they should be stacked with spacers between successive heights to limit any abrasions.

End connections should be protected from any damages.

Corrosion must be avoided using adequate storage conditions.

9. MAINTENANCE

9.1 MAINTENANCE

In order to guarantee good function of the product for a long time, the user must subject the product to the maintenance plan defined in this paragraph. It is important to underline that the maintenance must be done by specialized technicians.

Three inspection levels are defined in the checking of the components of the product. The controls of any single element constituting the "RSD0806ST and RSD1008ST" is shown in the following tables which are divided in different groups.

The parts which are found in bad conditions at the end of the inspection, should be substituted with original spare parts.

Inspection levels

Initial inspections

Whenever the product, either a new or an used one, is acquired the first time, it has to be inspected and a record of the inspection should be maintained.

Regular inspections

Regular visual inspections are bound to be carried out in accordance with tables below. Regular inspections are bound to be performed by a competent person and they are bound to be carried out prior to each use and after any incident that could damage the product.

Periodic inspections

Periodic visual inspections are bound to be carried out in accordance with the table below and a record of the inspections should be maintained. Periodic inspections are bound to be performed by a qualified person and they are bound to be conducted at least once each year or in accordance with an inspection routine established by a qualified person.

Truss (LT QX30SA250)

	Inspection level			Items to be inspected					
	Initial	Regular	Periodic	Chords	Diagonals	Connectors	Welds	Fasteners	Geometry
Dents	✓	✓	✓	✓	✓				
Bends	✓	✓	✓	✓	✓				
Holes (1) incorrect repair	✓	✓	✓	✓	✓	✓	✓	✓	
Abrasion	✓	✓	✓	✓	✓		✓		
Corrosion			✓		✓		✓		
Missing members	✓	✓	✓	✓	✓	✓		✓	
Flatness	✓	✓	✓			✓			
Deformation	✓	✓	✓			✓		✓	
Excessive wear	✓	✓	✓			✓	✓	✓	
Cracks	✓	✓	✓				✓		
Correct grading	✓	✓	✓					✓	
Twisting	✓	✓	✓						✓
Squareness	✓	✓	✓						✓
Bending	✓	✓	✓						✓
Sweep			✓						✓
Camber			✓						✓

Module Base of Towerlift 3 (LT TL3Q30)

	Inspection level			Items to be inspected					
	Initial	Regular	Periodic	Outrigger	Stabilization bars	Clamps	Feet	Base of tower	Pins and split pins
Dents	✓	✓	✓	✓	✓	✓	✓	✓	✓
Bends	✓	✓	✓	✓	✓		✓	✓	
Holes (1) incorrect repair	✓	✓	✓	✓	✓	✓		✓	
Abrasion	✓	✓	✓	✓			✓		✓
Corrosion			✓				✓		✓
Missing members	✓	✓	✓			✓		✓	
Flatness	✓	✓	✓	✓	✓			✓	
Deformation	✓	✓	✓	✓	✓				
Cracks	✓	✓	✓	✓	✓	✓	✓	✓	✓
Damage of the thread	✓	✓	✓			✓	✓		

(1) not to be part of the construction

Top of Towerlift 3 (LT TLU30TW)

	Inspection level			Items to be inspected			Pins and split pins
	Initial	Regular	Periodic	Pulleys	Lateral profiles	Top plate	
Dents	✓	✓	✓	✓	✓	✓	✓
Bends	✓	✓	✓	✓	✓	✓	✓
Holes (1)	✓	✓	✓	✓	✓	✓	✓
incorrect repair	✓	✓	✓				
Abrasion	✓	✓	✓	✓			✓
Corrosion			✓				✓
Missing members	✓	✓	✓	✓	✓	✓	✓
Flatness	✓	✓	✓		✓	✓	
Deformation	✓	✓	✓		✓	✓	
Cracks	✓	✓	✓	✓	✓	✓	✓
Lubrification			✓	✓			

(1) not to be part of the construction

9.2 WHAT YOU SHOULD ALWAYS DO

The correct use of the product allows to reach the maximum performance level in the lifting operations.

The following instructions must be respected to ensure the safety of the product:

ALWAYS follow the instructions given in the installation, use and maintenance manual and check the good state of the components of the device.

ALWAYS check the integrity of the guy ropes.

ALWAYS check directly the integrity of all the pins.

ALWAYS use the individual protection devices.

9.3 WHAT YOU MUST AVOID

The use of the product for not allowed movements and the lack of maintenance could cause dangerous situations for the health of the workers.

Obviously, the upper mentioned conditions cause the lack of the performance and safety of the device.

The following actions must be absolutely avoided:

NEVER use the lifting device for lifting or transporting people.

NEVER climb the tower without PPE.

NEVER lift loads when people run in the lifting area.

NEVER use the lifting device without the necessary protective devices.

NEVER operate without paying attention to the movements of tower.

NEVER lift loads with a weight greater than the allowable pay load.

NEVER use the lifting device for different services from their specific ones.

NEVER repair the damaged part of the lifting device in a temporary way.

NEVER use non-original spare parts or not suggested by the manufacturer.

NEVER use unskilled personnel for the operations of maintenance of the product.

9.4 CHECKING OPERATIONS, REGISTRATIONS AND SUBSTITUTIONS

In this registration book, all the operations of maintenance must be written. The maintenance man should fill in the register quoting the results and possible notes in the right places. Besides the name of the maintenance man and the date of the maintenance operations should be easily identified. Do not hesitate to substitute the part and/or the component if it does not guarantee the safety and the functional reliability.

<i>DATA</i>	<i>COMPONENT</i>	<i>OPERATION</i>	<i>RESULT</i>	<i>SIGNATURE</i>

<i>DATA</i>	<i>COMPONENT</i>	<i>OPERATION</i>	<i>RESULT</i>	<i>SIGNATURE</i>

9. MAINTENANCE

ROOF STRUCTURE
RSD0806ST – RSD1008ST



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