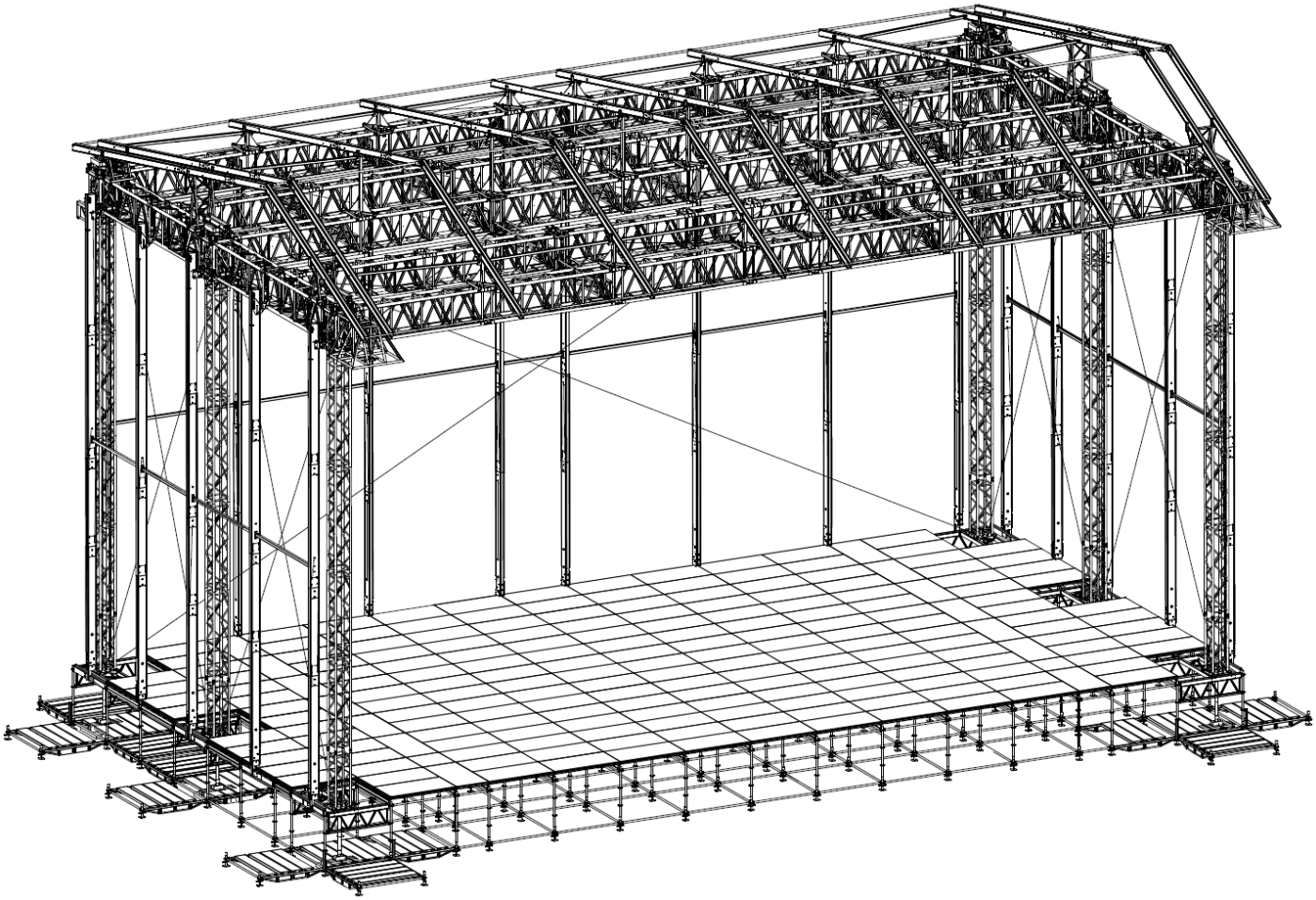
EUROTRUSS



Manual Eurotruss
PR15 Roof system

Version:24/12/2014

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Introduction.

Eurotruss produces a wide range of Mobile Roof Systems with a wide variety in sizes en shapes. Starting with the Arc roof with a usable surface of 6x4m and ending with the biggest Pitch roof PR20 roof of 25x21mtr.

Eurotruss strives for uniformity in its roofs. We use standard truss and only use special pieces or lengths when there is no other way. This means that except for a few special pieces all the truss in a roof can be used for other purposes. If desired we can adapt our standard roofs to your specific needs or wishes. Eurotruss can also make the standard roofs so that it can be built as a number of other roofs.

All but the smallest Eurotruss roofs are based on Towers with Sleeve blocks. Our smaller roofs have sleeve blocks built from square tubing. The larger roofs have sleeve blocks created from corner blocks bolted together with wheel plates.

About this manual.

This manual reflects the present state and views regarding this construction. Although great effort was made to ensure the accuracy of this manual, Eurotruss cannot accept liability in the case of an error. Eurotruss reserves the right to update or alter this manual or the products described in it without prior notice.
Upon request an updated manual can be sent to the user or it can be downloaded from the download section on **www.eurotruss.com**.

Keep this manual with the construction so that people can get familiar with the building procedure, have reference material and guidelines.

In general:

- Many hazardous situations can be prevented by common sense and careful planning.
- Always be aware of danger.
- Use personal safety equipment like lifelines, helmets, safety shoes.
- Never work when under the influence of drugs, medication or alcohol.
- Use skilled and trained personnel.
- Do not use damaged parts.
- When things don't fit, find out why instead of forcing it to fit.
- Do not rush things.
- Only use appropriate tools.

CAUTION:
Always keep in mind that not only you can cause a dangerous situation, everybody can.

General notes.

Damaged material.

Do not use damaged truss, truss with holes in the main tubes or truss that has been heated to over 100°C. Do not use truss with dents or deep scratches. Do not use truss with torn welds or parts missing. Do not use truss that was overloaded or truss with bent braces or main tubes. The strength of this truss cannot be accurately predicted. This may lead to failure of (part of) the structure. In case of doubt consult Eurotruss or set the part aside to be safe.
Do not use truss with deformed holes for truss pins. The hole must be round and taper from big on the outside to small on the inside of the truss.
Do not use Spigots with deformed holes. The hole must be round and taper from big on the outside to small on the inside of the truss.
Do not use bent truss pins. Do not use truss pins that have been used so often that the "mushroom" on the head prevents the pin from going through the bus of spigot.
Do not use truss pins that have been heated to over 100°C as the strength of these pins can no longer be predicted.
Do not grind off the "mushrooms" that form on truss pins during use.

Personal safety.

When assembling truss always wear safety goggles and appropriate (safety) clothing.
When climbing into truss structures always use a safety line.
Always consult local regulation and legislation.

Helmets must be worn when work is being done above other people to avoid possibly serious injuries due to falling objects.

General directions.

Spigots have a small drilled mark halfway indicating the outside of the spigot. This is the side from which the truss pins enter.

Do not use Eurotruss truss in combination with other brands. Even if they claim to be compatible with Eurotruss. Fitting together does not mean that the other truss is compatible. All Eurotruss parts have been designed to our strict demands. This means that every component is finely related to the other parts of the truss. Using parts from other manufacturers will result in unpredictable behaviour or even failure of the construction
Do not hang heavy loads from braces only from the main tubes of the truss.
When hanging heavy loads choose the hanging point as close as possible to one of the nodes in the truss. A node in the truss is the point where two braces come together.

While connecting truss together, make sure the truss is aligned before connecting them. The tight tolerances in our truss make it hard to assemble misaligned truss. This also applies to corner blocks.

Anchor Shackles must be tightened and secured.

When assembling parts keep in mind that sharp edges or parts may cause injury to bystanders and builders.

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Building instructions

Before assembly, check if all required parts are available and in good condition. Check truss for damage, make sure that a sufficient amount of spigots, truss pins and r-clips or locknuts is available.

Set damaged material aside and clearly mark it as unusable. Replace or discard this material as soon as possible or have it shipped to Eurotruss for repairs.

Only build the construction as described on the drawings and part lists provided to you as this is the construction that has been statically calculated. Small deviations may have a large impact on the load bearing capability or strength of the entire construction.

Familiarize yourself with the Eurotruss range of products and accessories.
Read and fully understand this manual, it's procedures and warnings before building this construction.

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About this roof.

This manual describes the PR15 roof system.

Sizes are 24x15, 20x15 and 16x12mtr (and 26x15mtr)

This roof construction is built on ballast safes which are integrated in the scaffolding stage construction and also the wall construction is supported by the scaffolding stage (height is ~2mtr)

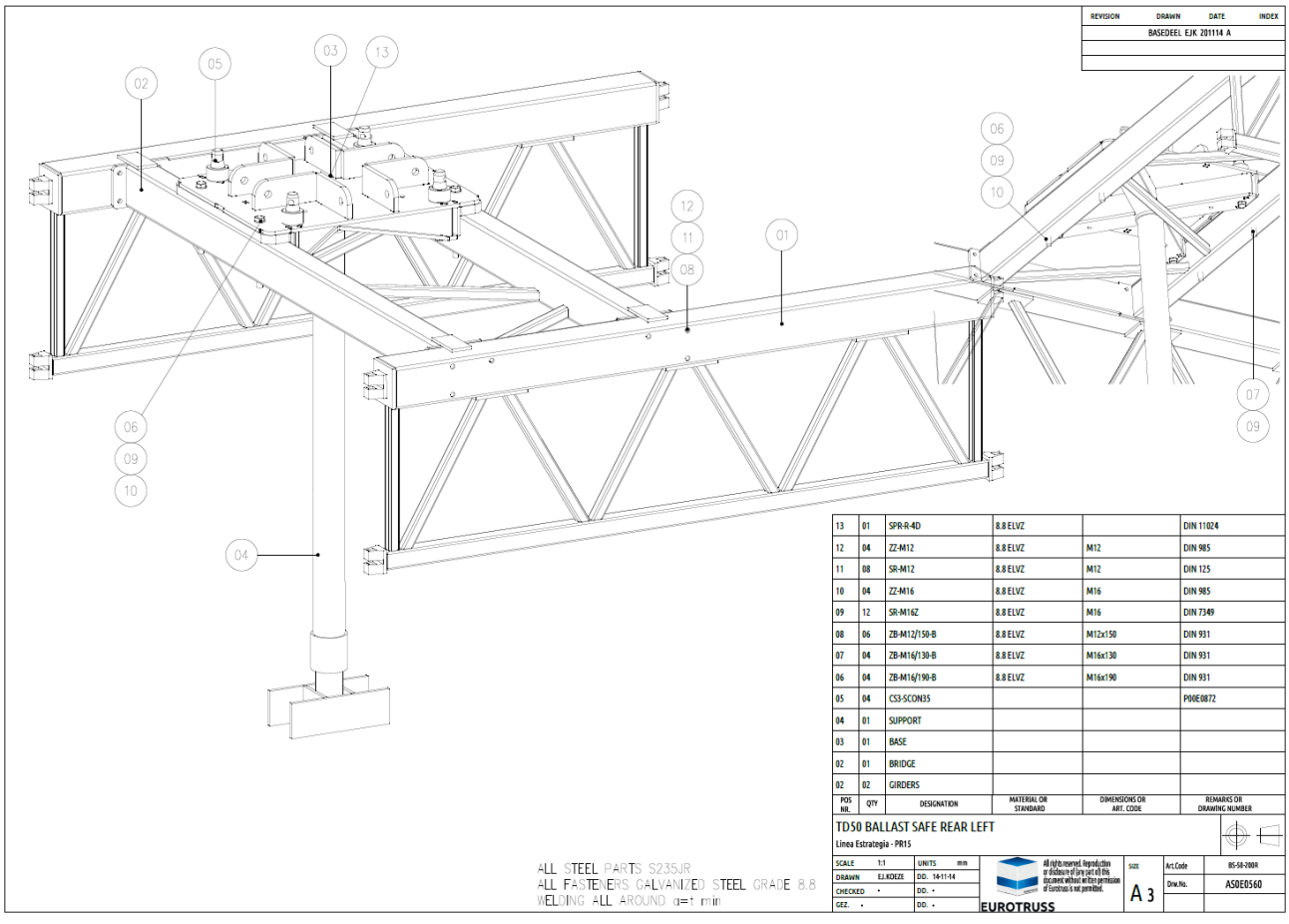
The roof construction is basically a TTS Ground support on TD50 Towers.

The roof structure is a construction with self supporting keder profiles on vertical supports with pressure beams and cross wiring.

The wall structure is supported by several keder profiles which are supported by the TTS rig and vertically supported by the stage construction.

Ballast safes

All the ballast safes (stage integration) has to be assembled as show below.



POS NR.	QTY	DESIGNATION	MATERIAL OR STANDARD	DIMENSIONS OR ART. CODE	REMARKS OR DRAWING NUMBER
13	01	SPR-R-4D	8.8 ELVZ		DIN 11024
12	04	ZZ-M12	8.8 ELVZ	M12	DIN 985
11	08	SR-M12	8.8 ELVZ	M12	DIN 125
10	04	ZZ-M16	8.8 ELVZ	M16	DIN 985
09	12	SR-M16Z	8.8 ELVZ	M16	DIN 7349
08	06	ZB-M12/150-B	8.8 ELVZ	M12x150	DIN 931
07	04	ZB-M16/130-B	8.8 ELVZ	M16x130	DIN 931
06	04	ZB-M16/190-B	8.8 ELVZ	M16x190	DIN 931
05	04	CS3-SCON35			P00E0872
04	01	SUPPORT			
03	01	BASE			
02	01	BRIDGE			
02	02	GIRDERS			

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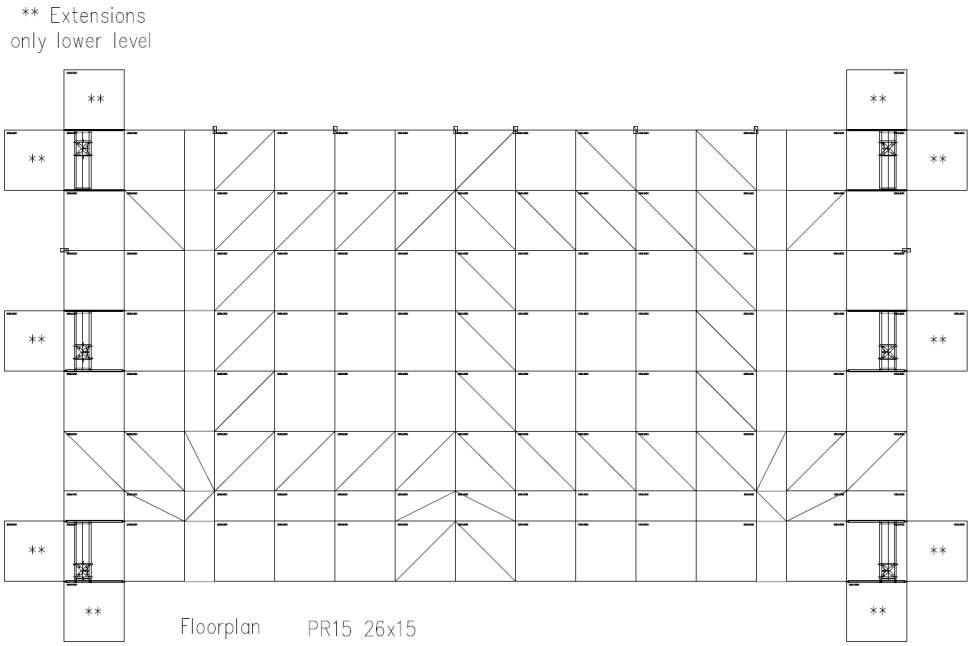
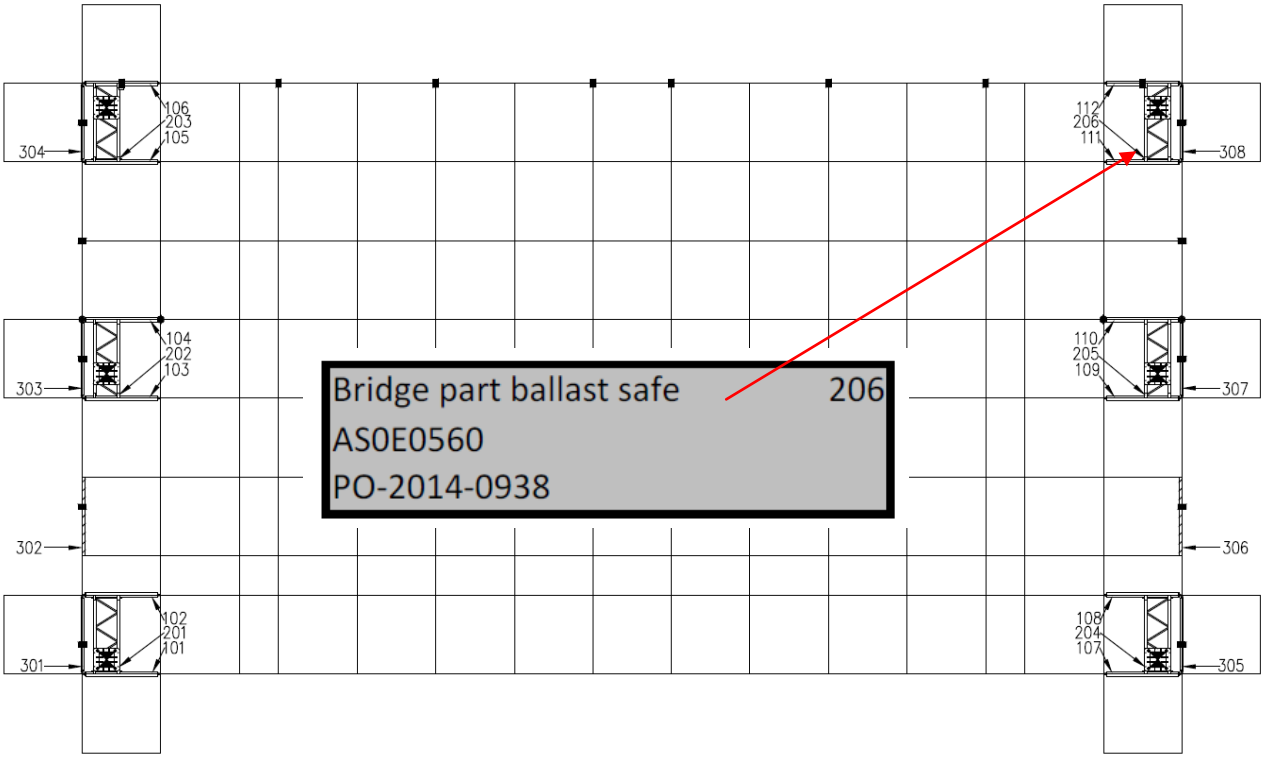
Floor plan.

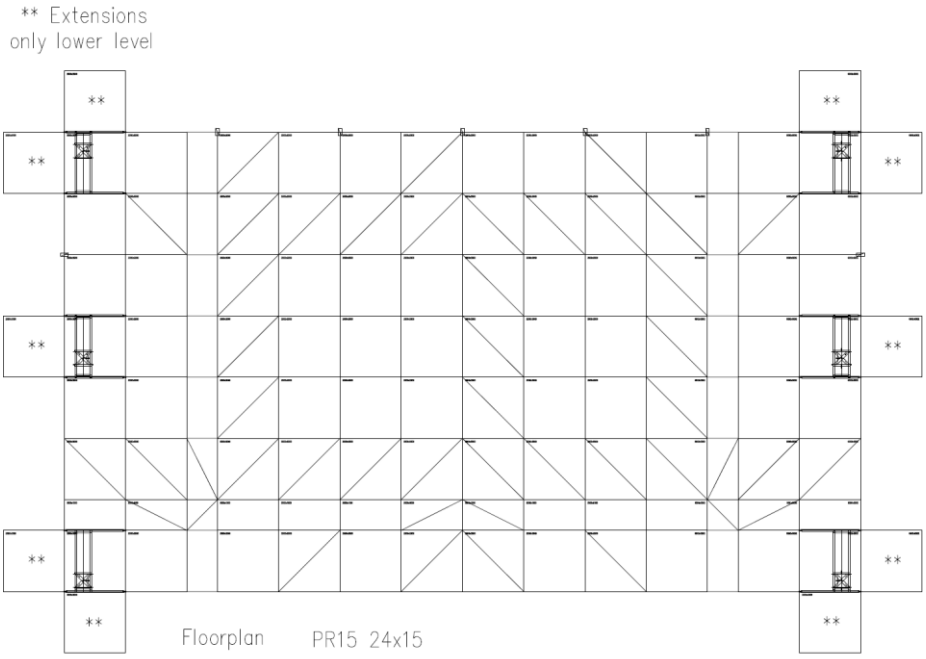
Floor plan 26x15mtr.



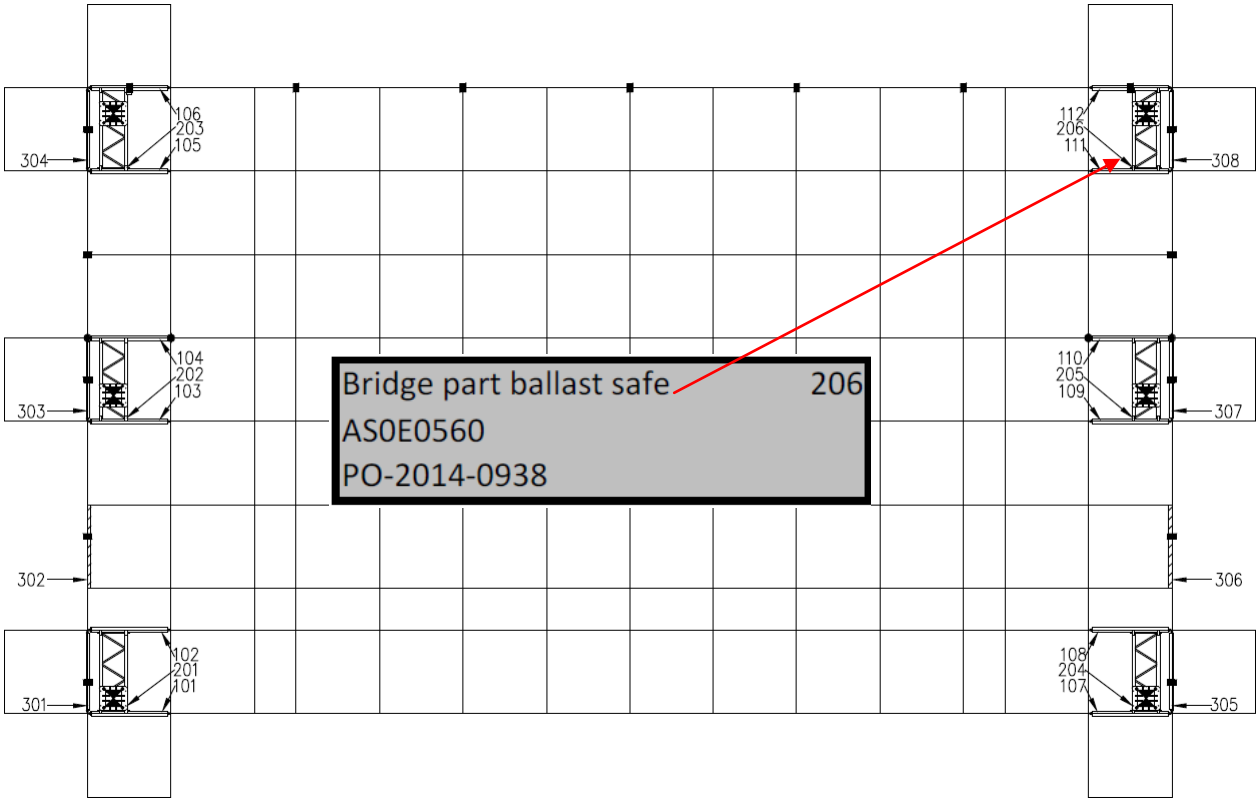
The ballast safes must be positioned as shown in this figure.
For codes see drawing.



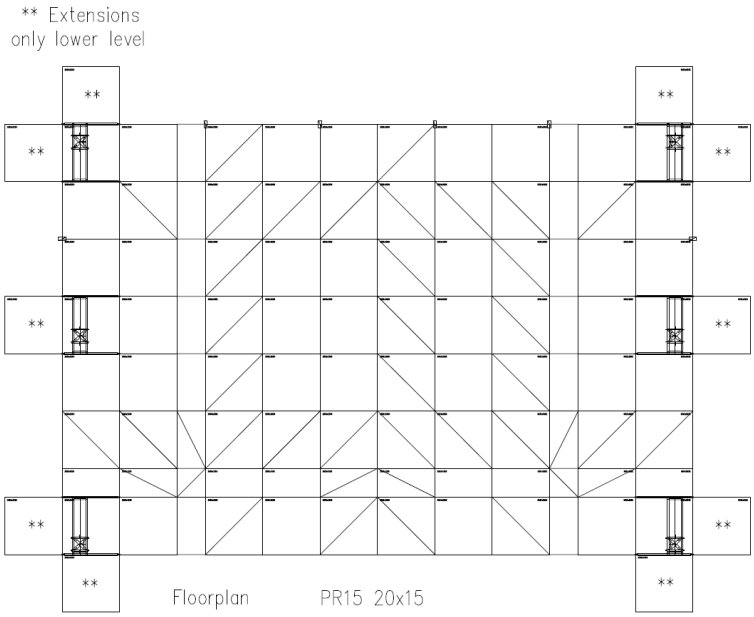
Floor plan 24x15mtr.



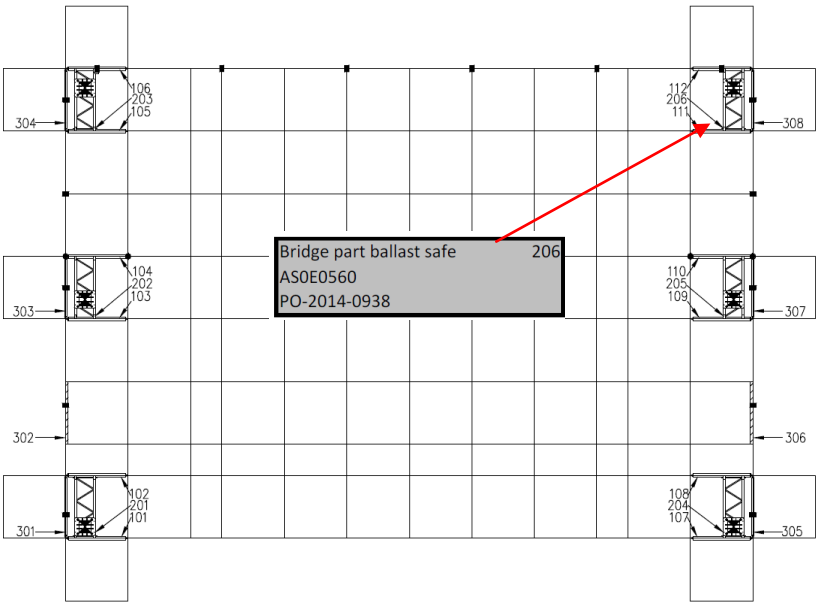
The ballast safes must be positioned as shown in this figure.
For codes see drawing.



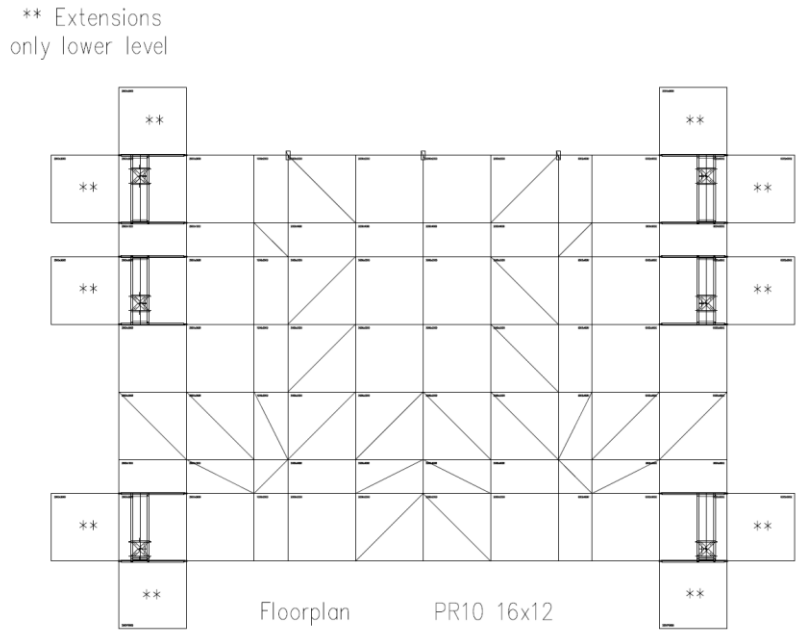
Floor plan 20x15mtr.



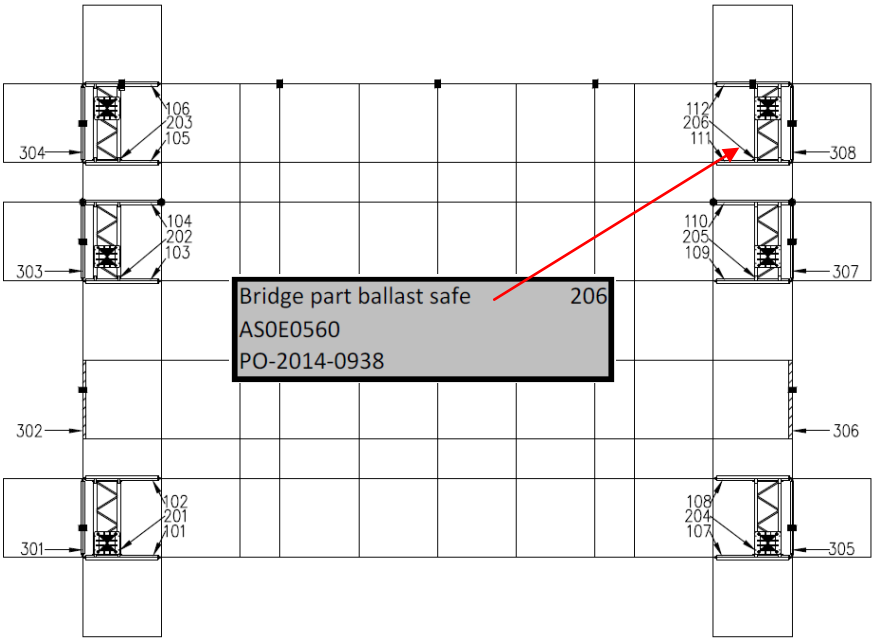
The ballast safes must be positioned as shown in this figure.
For codes see drawing.



Floor plan 16x12mtr.



The ballast safes must be positioned as shown in this figure.
For codes see drawing.

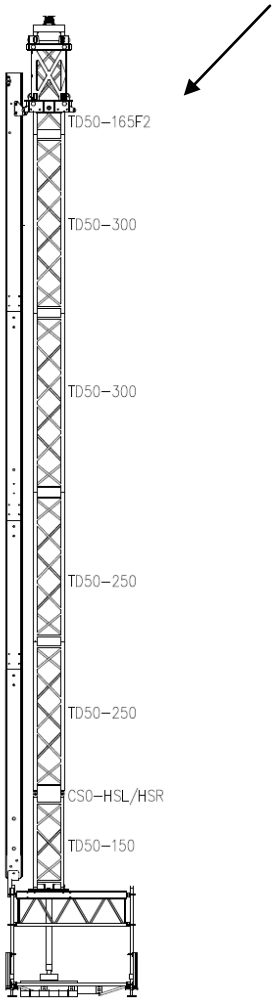


Towers

Tower parts starting at the bottom.

Quantity	Code	Description
1	TD50-150	TD50 Tower Mast L=150cm (one side ladders)
2	CS0-HS-R	Hinge Set (single tube) l=120mm right for TD50 Tower
2	CS0-HS-L	Hinge Set (single tube) l=120mm left for TD50 Tower
2	TD50-250	TD50 Tower Mast L=250cm (one side ladders)
2	TD50-300	TD50 Tower Mast L=300cm (one side ladders)
1	TD50-165F	TD50 Tower Mast L=165cm for sleeveblock fixation
1	TD50-SB-PR	TD50 Assembled sleeveblock for TTS truss with tower fixation for PR 15
1	TOP50-2	TD50 Toppart double chain 2ton chain hoist.

Note: The fixation bars for connecting sleeveblock to tower has to be directed from front to rear. Take care that the tower part (TD50-165F) is mounted in the right position and direction.



Note : The roof can be built lower (-3mtr) by removing the 300cm parts from tower and wall keder profiles.

The tower should be assembled so that the straight braces (for climbing purpose) are at the same side and in the wished position when the tower is erected.

The tower head must be pointing from front to rear.
The hinge sets are in left and right versions. Use 2x left and 2x right on one tower.

Sleeveblock configurations

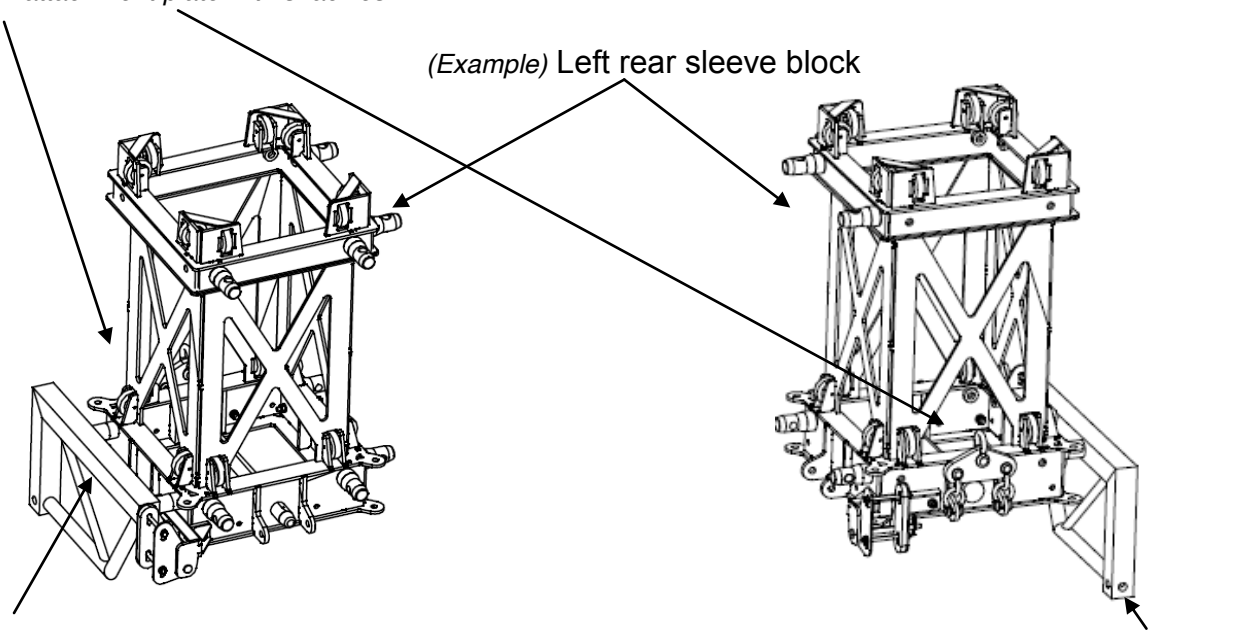
General

The sleeve block basically has the size of a cornerblock but has wheels in top and bottom. The mounting of the wheels is integrated in the construction of the sleeve block.
In the bottom section of the sleeve block two holes of 57mm diameter are added for fixation to the tower.

! IMPORTANT	**IMPORTANT:** The fixation bar must always be mounted in the depth direction of the stage.

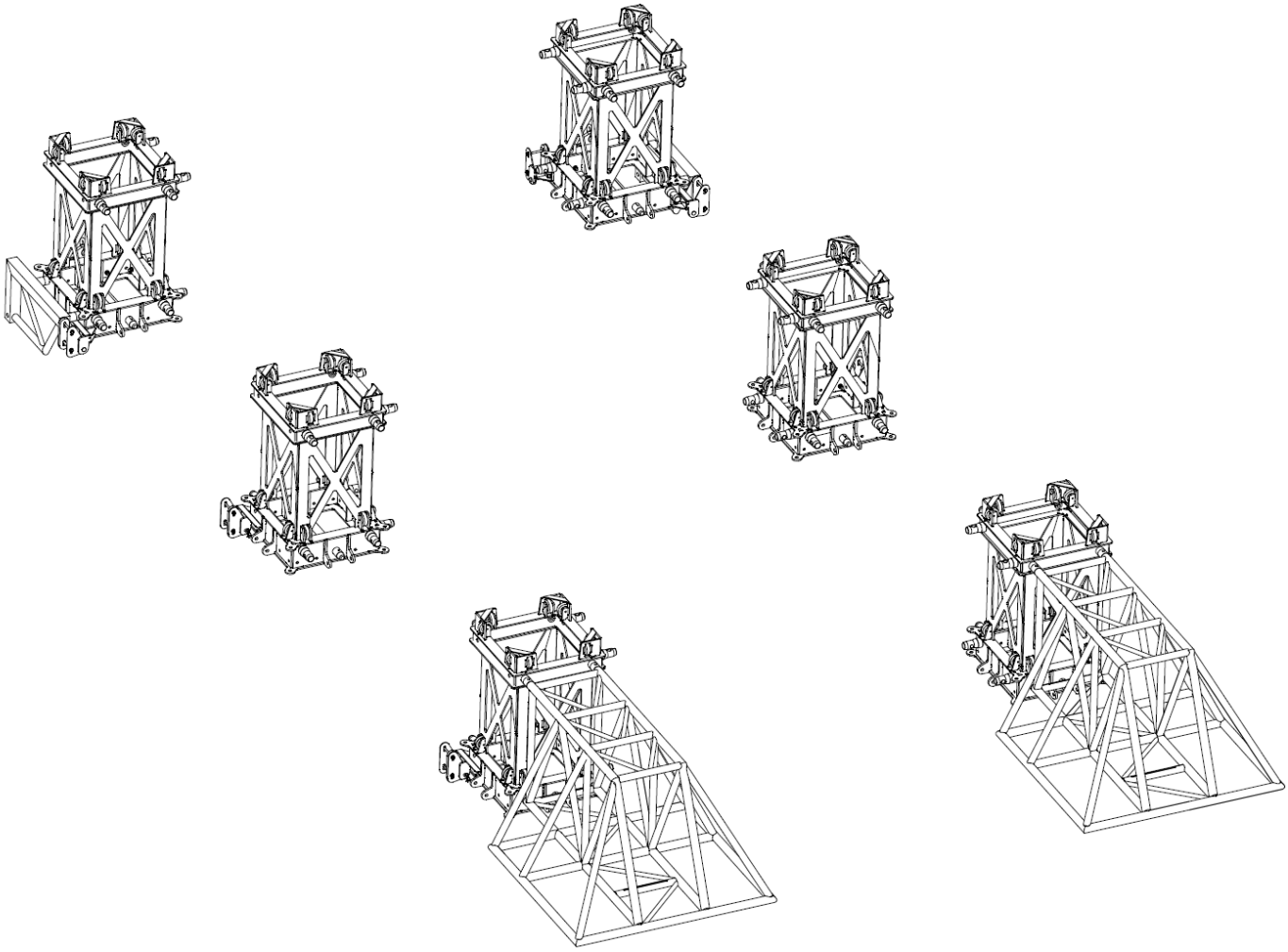
Depending on the roof configuration attachments and hook attachment plates must be assembled.

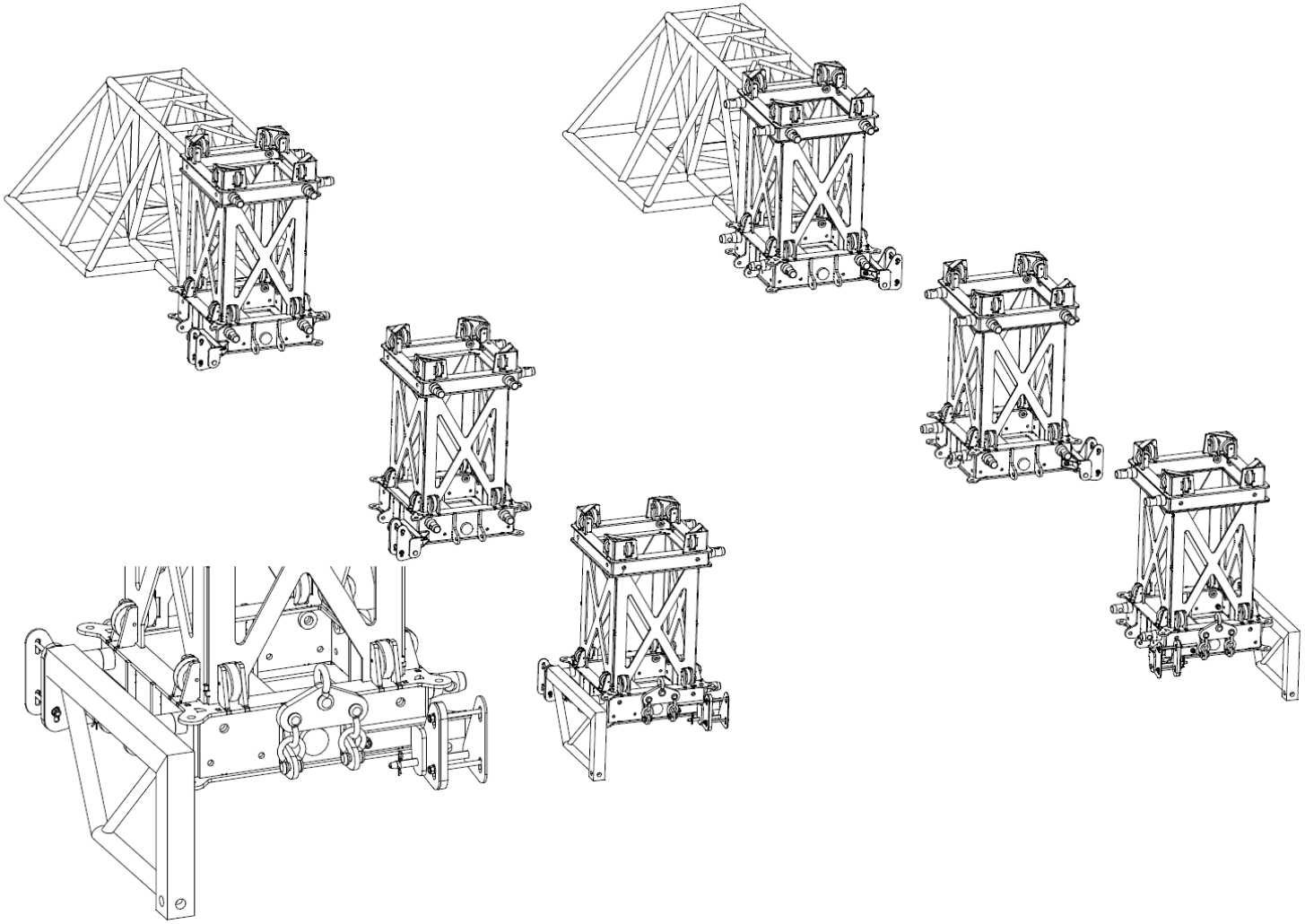
Hook attachment plate with shackles



A special part, to support the covering in the corners, must be placed on the left rear and the right rear sleeve block.(outside front and rear sleeve block)

Complete sleeve block configuration overview





Configuration for the 26x15, 24x15, 20x15 and 16x12.

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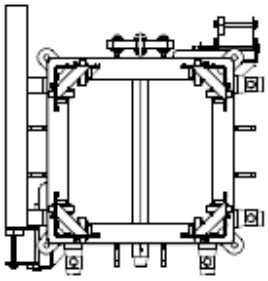
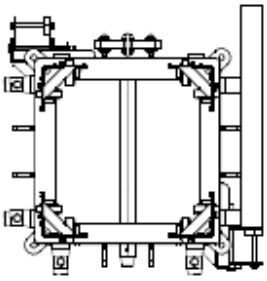
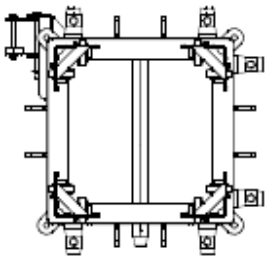
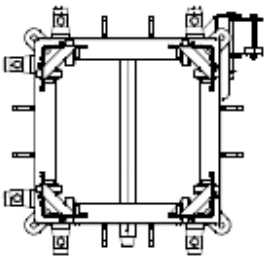
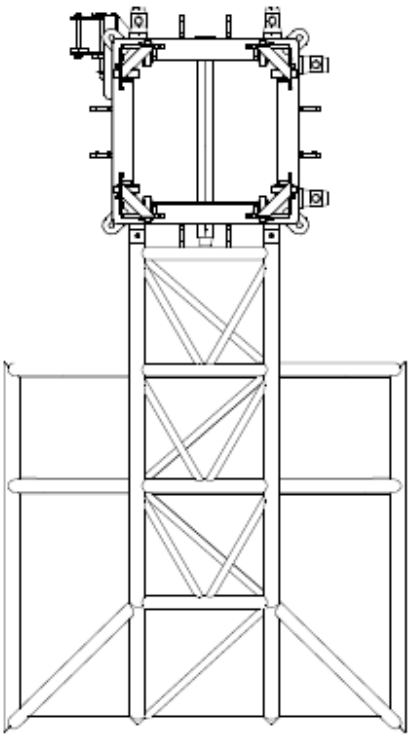
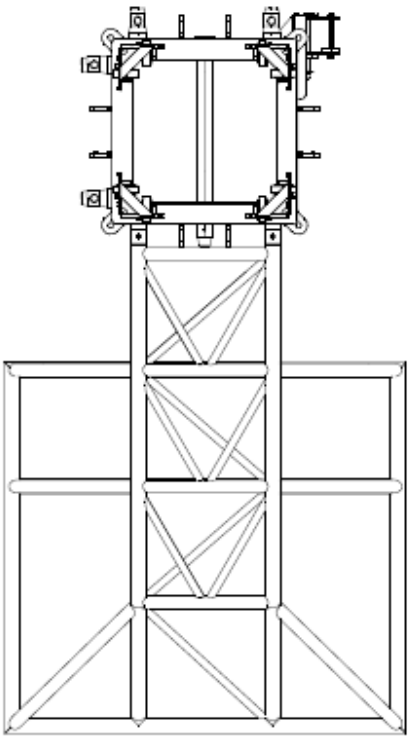






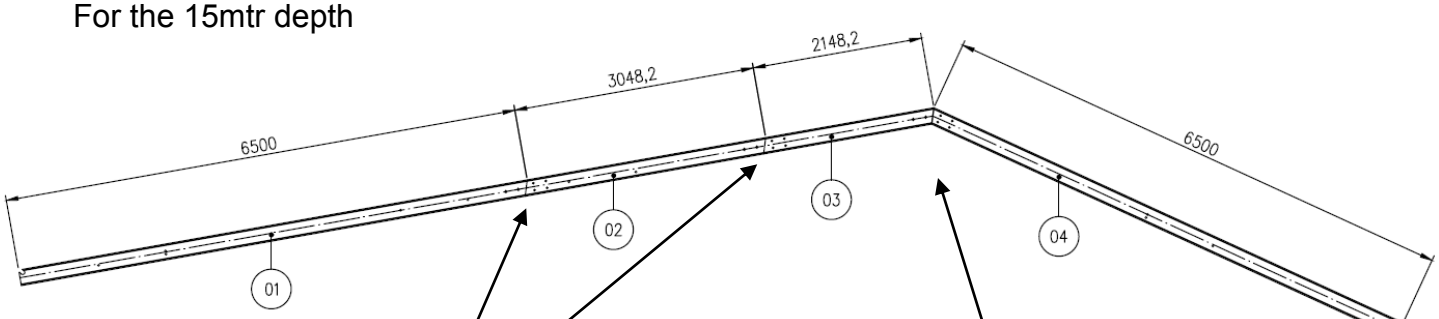


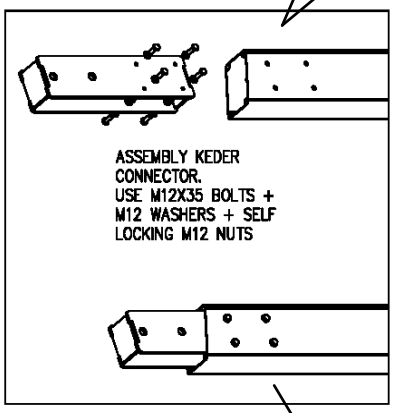


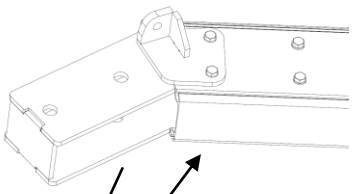


Roof keder configuration

For the 15mtr depth

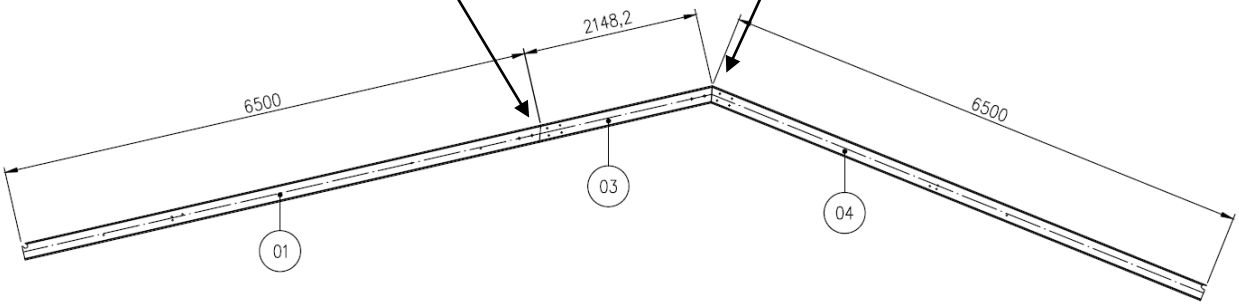






Left and right are mirrored

For the 12mtr depth



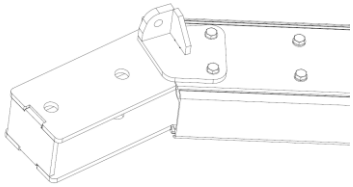
The roof keder profiles must be pre-assembled with the keder connectors.

Roof ridge connector 

Roof keder connector 

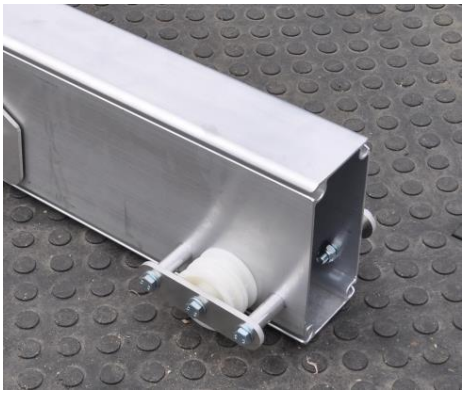
Keder connector have to be assembled with : Screws M12x35, washers and locknuts.
To connect the keder profiles to each other 2 pin D25mm length 165mm with R-clips have to be used.
The front keder profile does have a cut out to support the tube in the cover sheets in the front and the rear keder profile does have a cut out to support a tube (steel) to guide the roof cover.

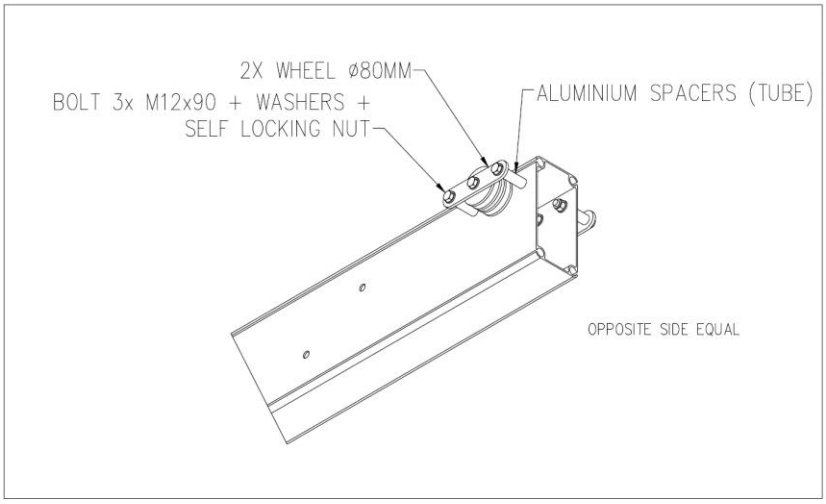
To assemble the top roof keder pressure beam connectors use Screws M12x45.
These connectors are only added where top pressure beams are tot mounted. There are left and right versions.



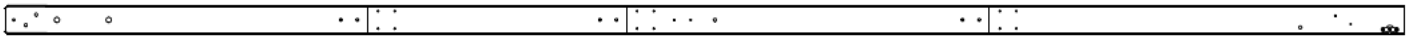
Wall keder configurations

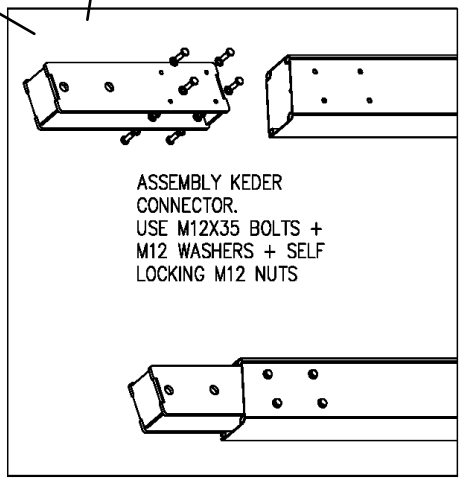
In the top of each wall keder profile a wheel set should be pre-assembled.
These are for rope guiding.





Bottom piece 3,5mtr 2,5mtr piece 3,5mtr piece Top piece 4mtr





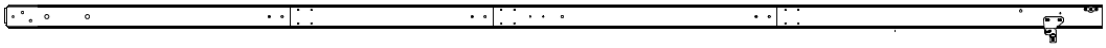
Wall keder connector

The keder profiles must be pre-assembled with the keder connectors.

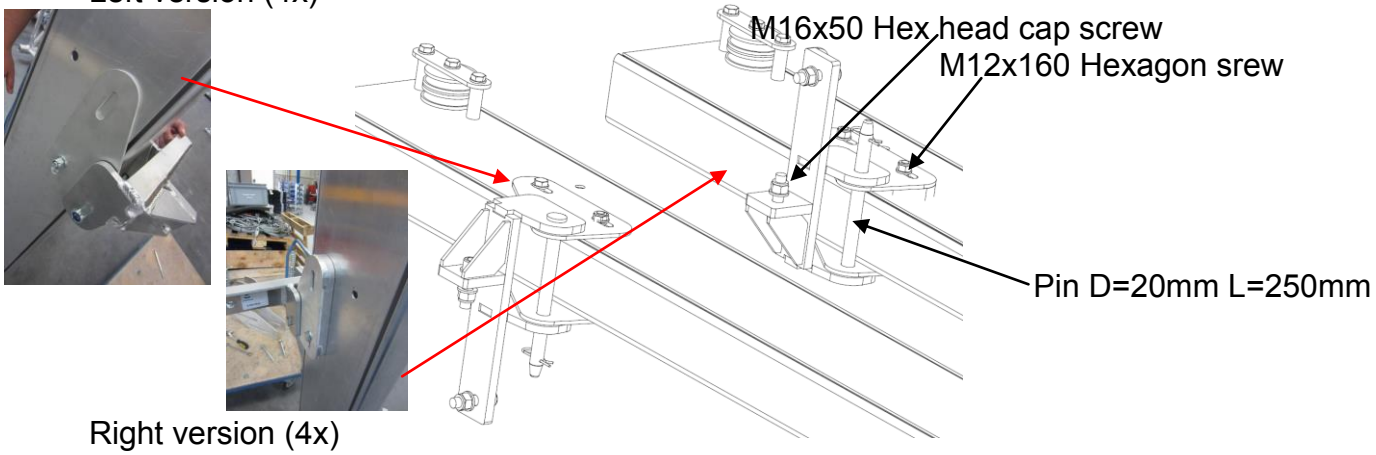
Keder connector have to be assembled with : Screws M12x35, washers and locknuts.
To connect the keder profiles to each other 2 pin D25mm length 165mm with R-clips have to be used.

Connection wall keder assemblies to the main rig.

Connection to sleeveblock

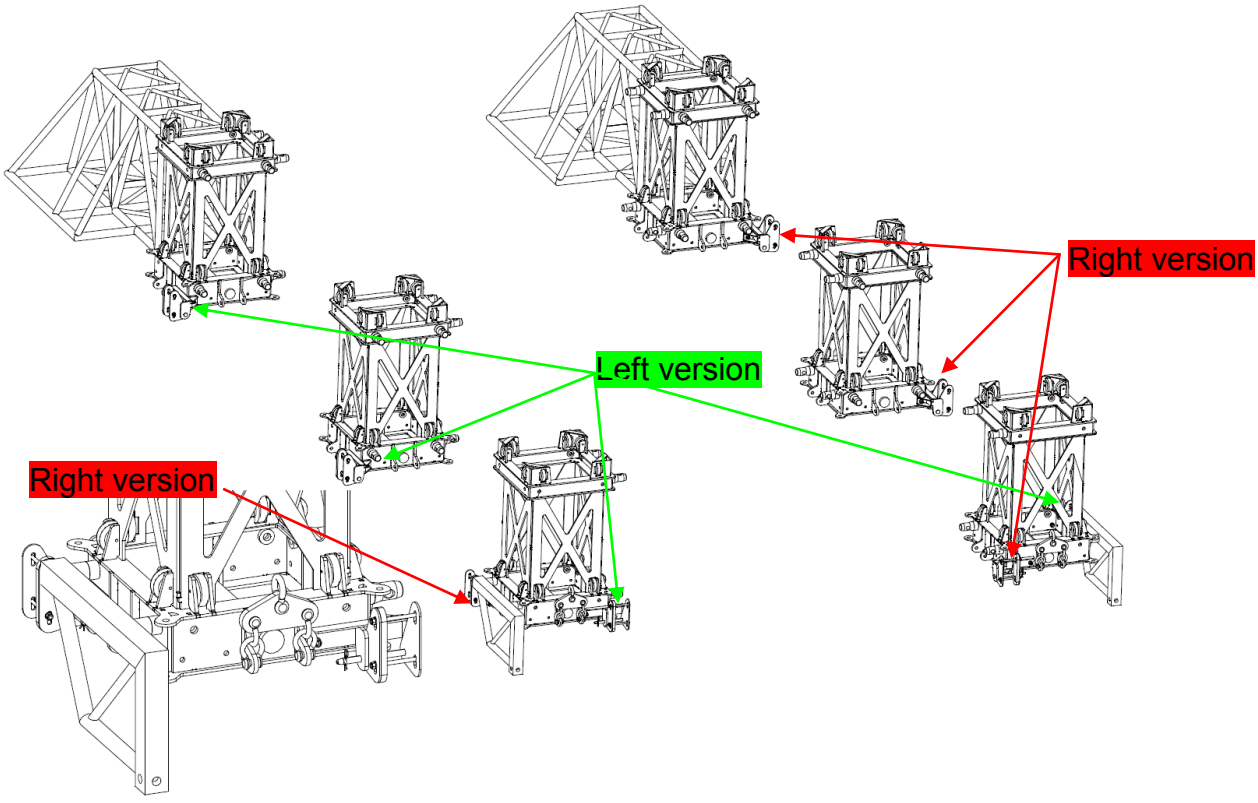


Left version (4x)



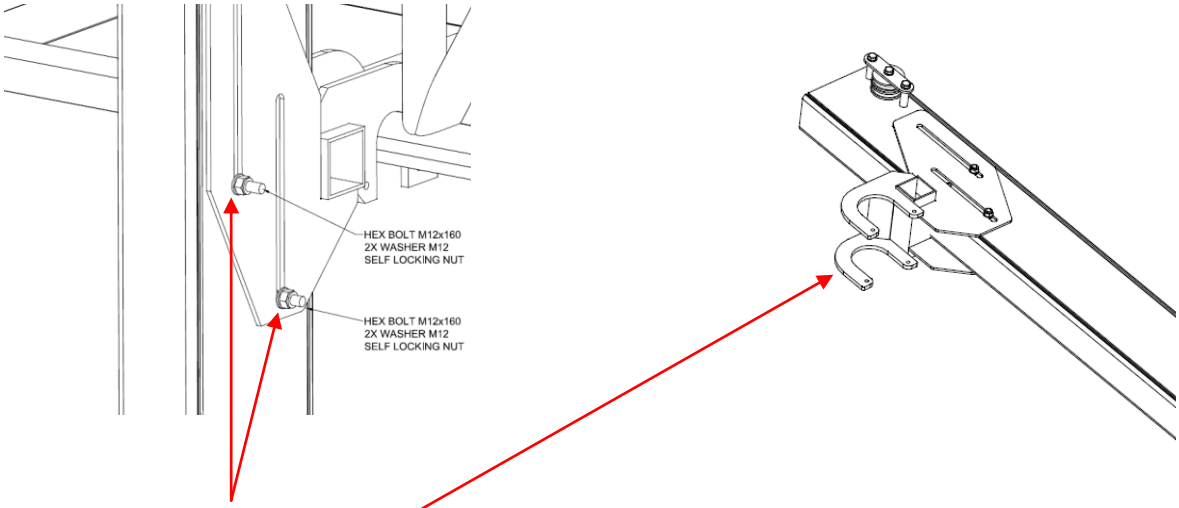
Right version (4x)

This parts must be assembled to the sleeve block after the rig is raised a little.
To assemble these keder sleeve block connectors to the sleeve block Hexagon socket head cap screws M16x50 with locknut and washers are to be used.
Triangle plates are to be preassembled to the keder profiles. Use hexagon M12x160 with washers and locknuts. (do not tighten the screws, so movement is possible)
Add the plate with the added thicker plate on one side and the flat one on the other side of the keder profile. In this way left and right version are created. For this roof 4 of both versions are necessary. The keder profile assembly is the to be connect to the sleeve block connector with the pin D=20mm l=250mm. (for wall keder pressure beam connectors see ...)



Connection tot TTS Rig

To connect the wall keder tot the TTS Rig, special wall keder rig connectors are to be preassembled to the top piece of the wall keder assembly.



Use “big” flat washers.

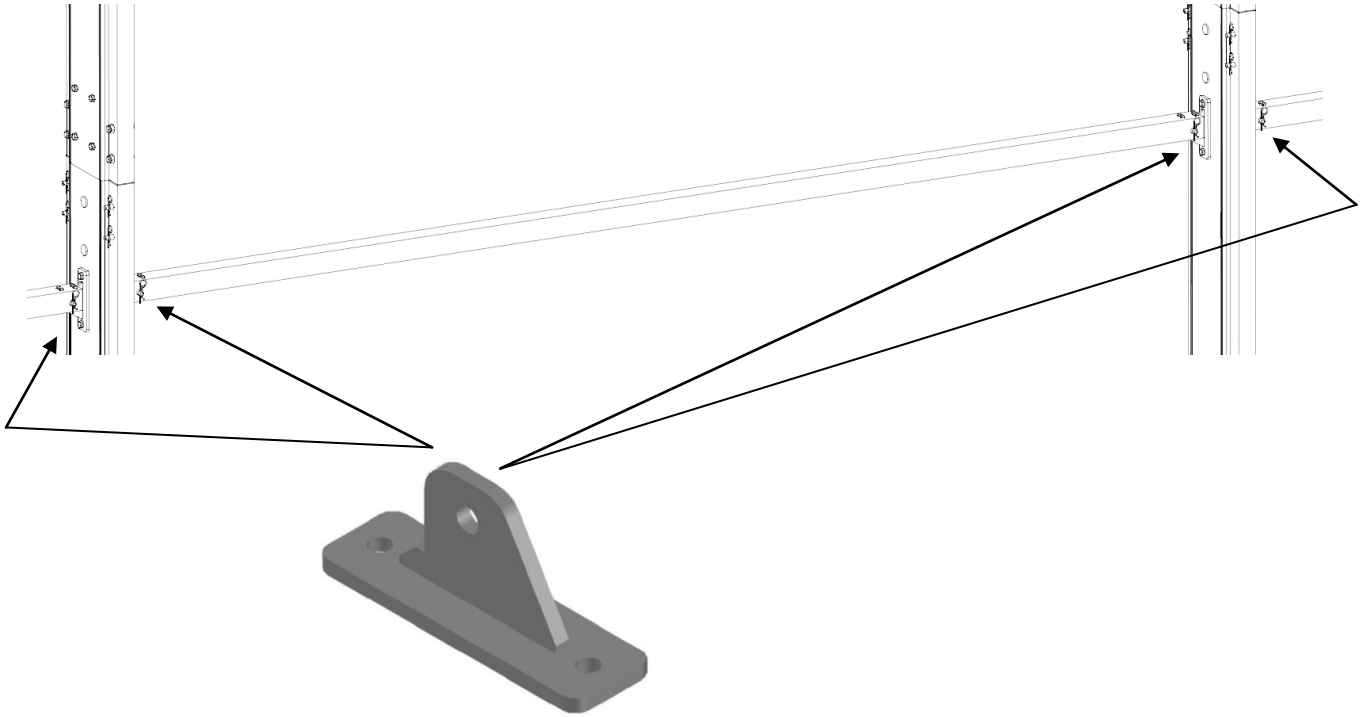
The keder rig connectors are to be
assembled with hexagon screw M12x160
with washer (big flat washers) and locknuts.
(do not tighten the screws, so movement is possible)

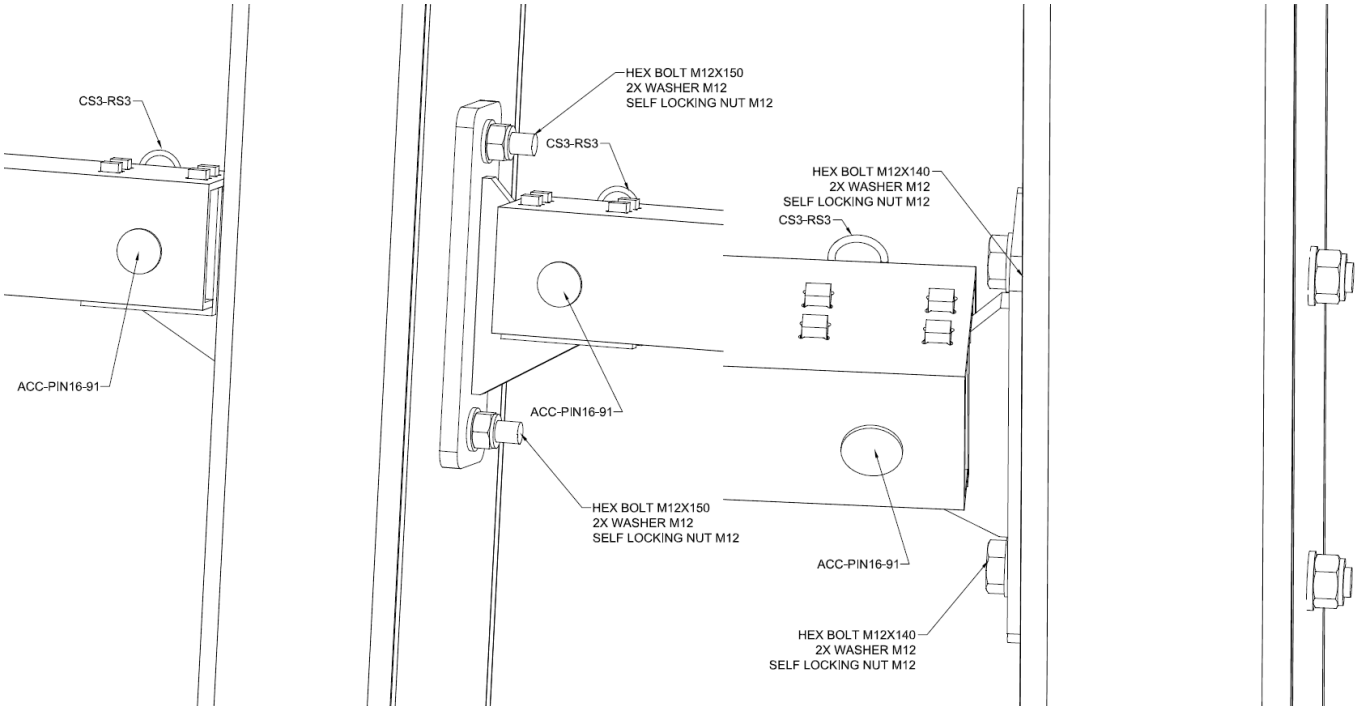
All this wall keder assemblies must be assembled with 2 wall keder pressure beam connectors. (see next page)

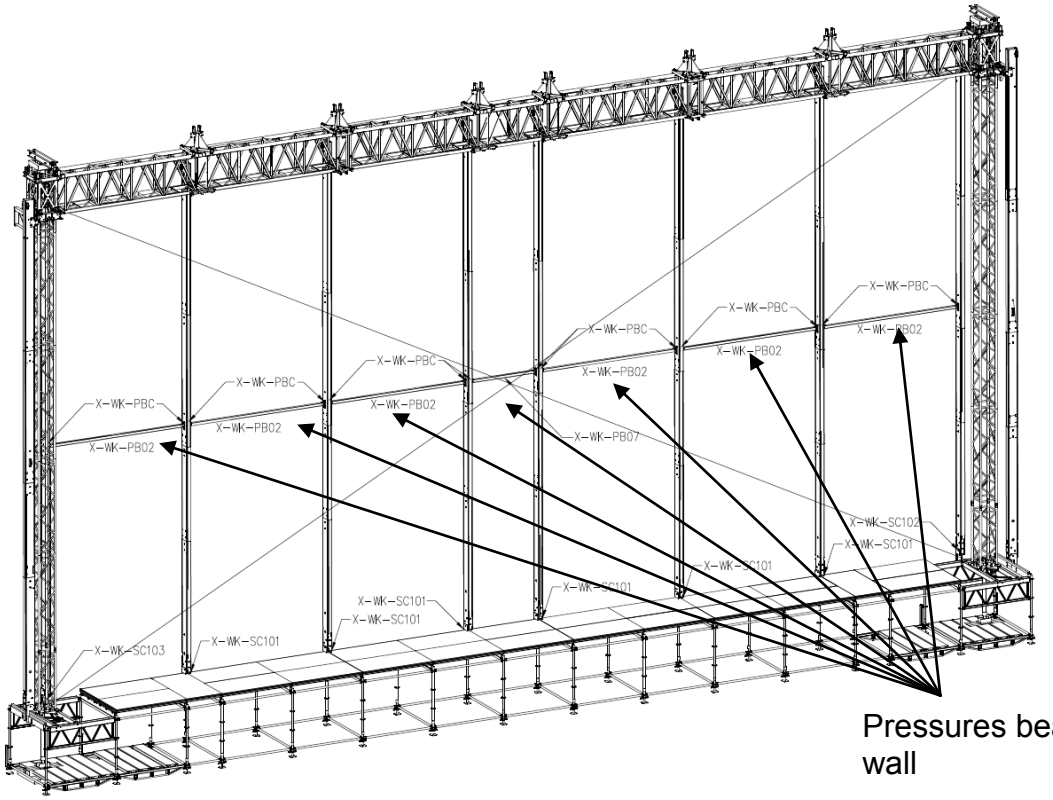
Quantity of wall keder assemblies for this roof is 10 assemblies. (for 26x15)

Wall keder pressure beam connectors must be mounted.

This parts must only be on the wall keder profile where they face another wall keder profile.

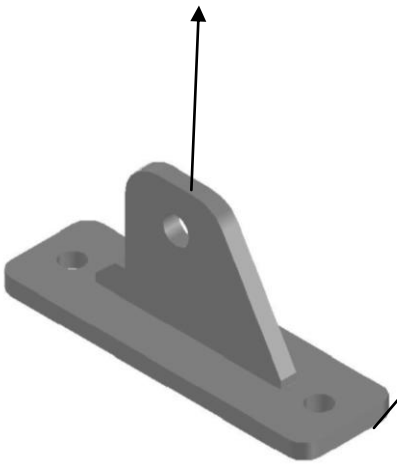






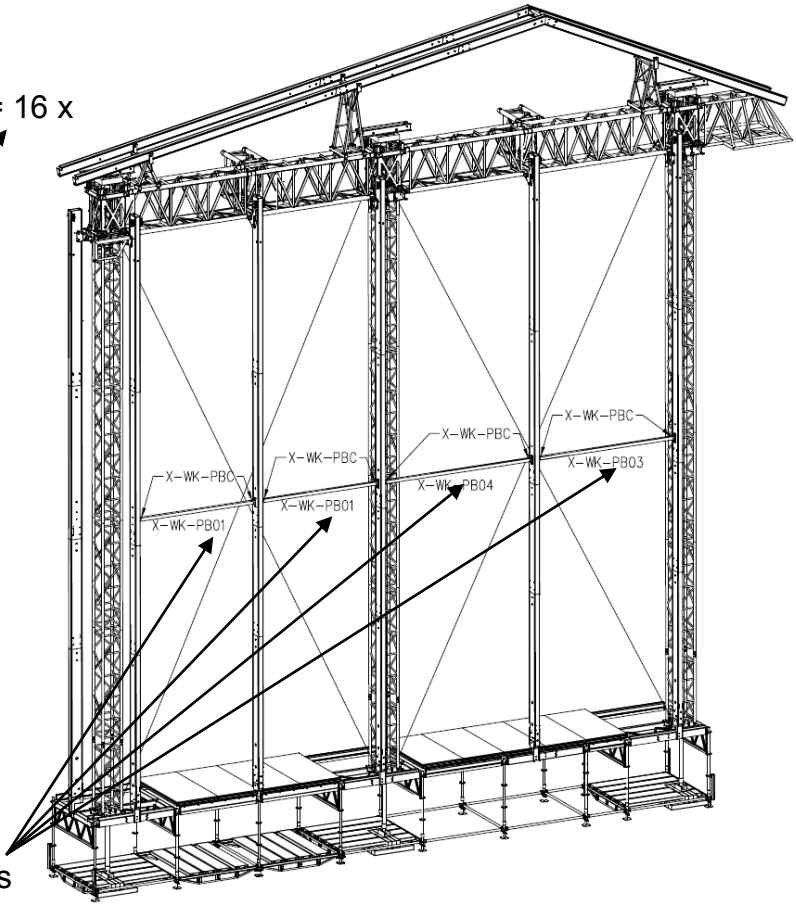
Pressures beams in rear wall

Rear wall 14x



Wall keder pressure beam connector

Side wall 2x 8 = 16 x



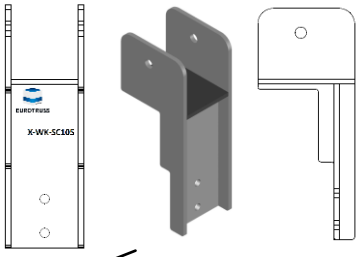
Pressure beams
In side walls

Stage connectors

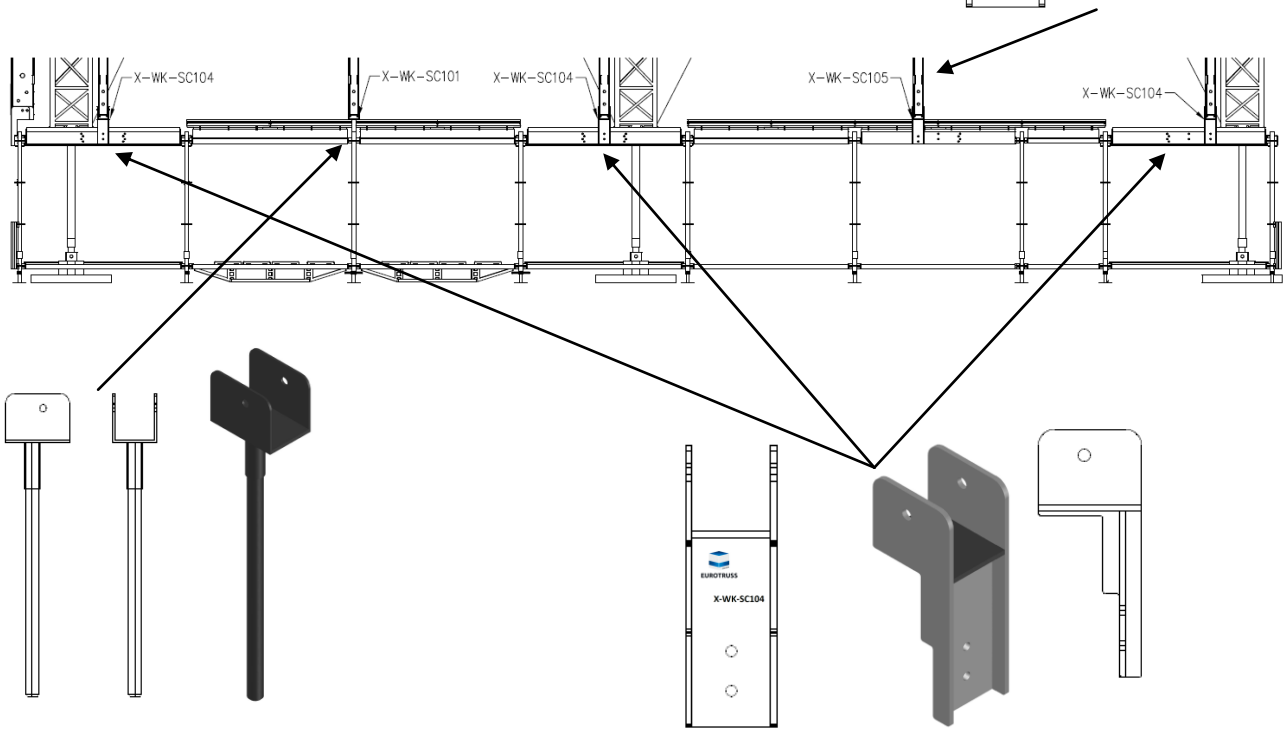
To support the wall keder in the bottom, podium connectors have to be mounted and placed on the stage construction.
See add drawings for type and position.

The stage connectors on the side are to fixed with M16 screw and nuts to the reinforced ledgers.
There more possibilities to assemble, so please check the figures.

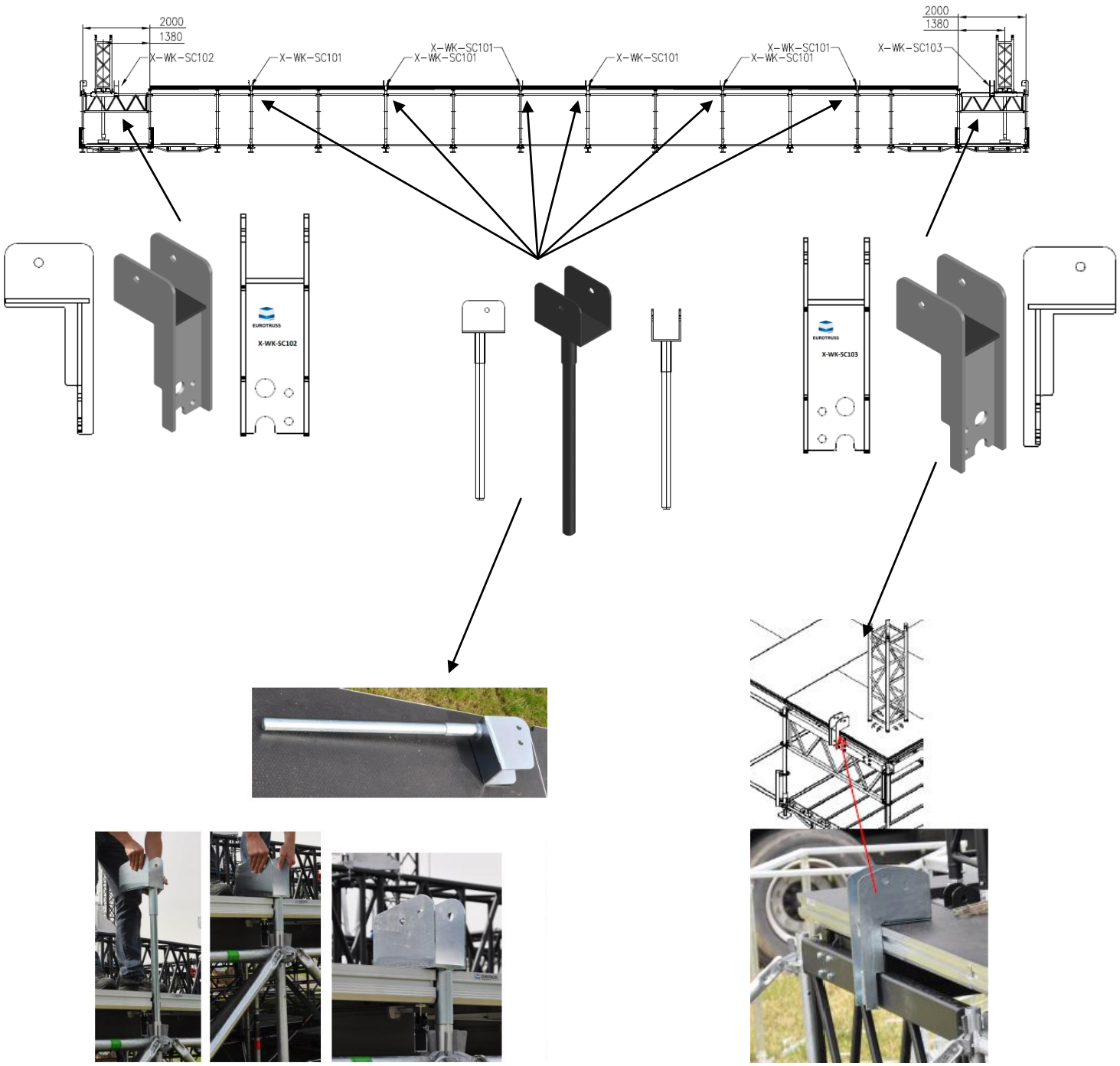
There different keder stage connectors.



Left side

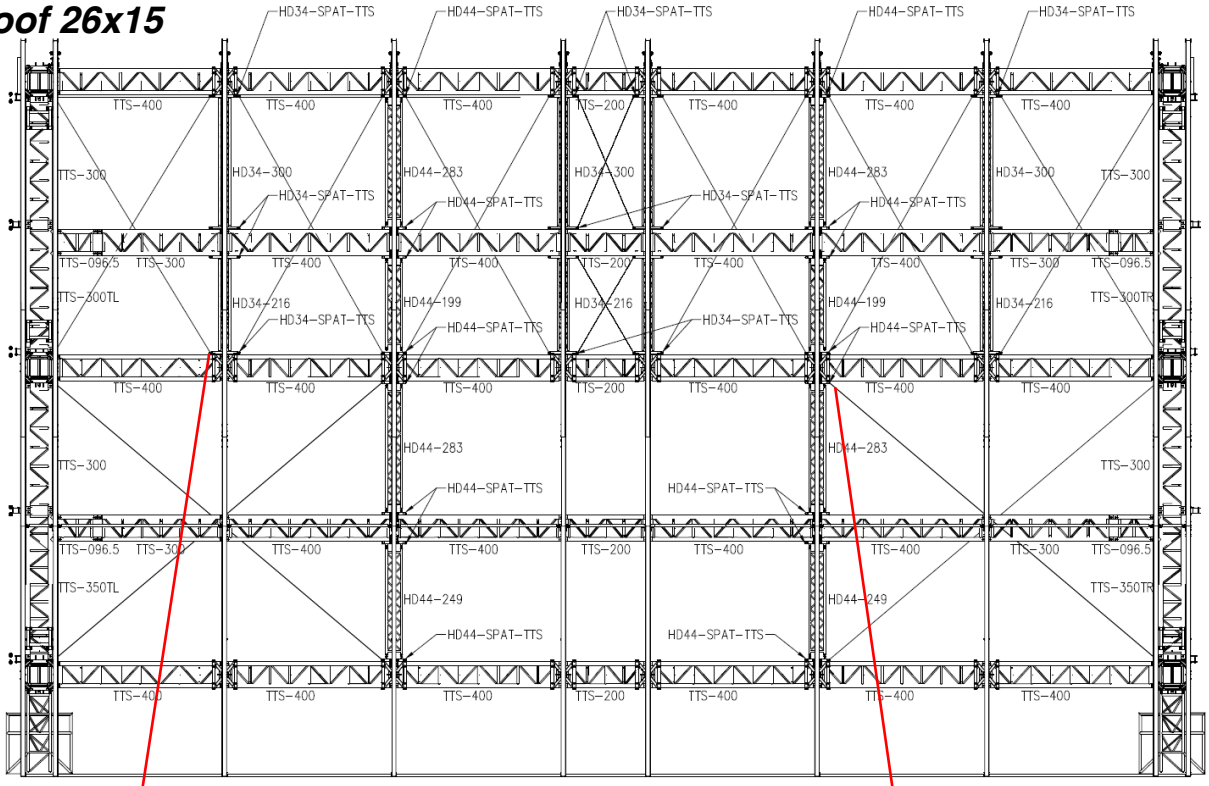


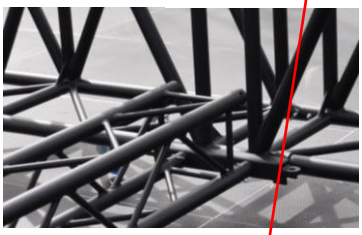
The keder stage connectors in the rear are also partly to be attached by M16 screws and nuts also.
The kederstage connector in the rear which are exactly above a scaffolding stand, are to mounted like show in figures below.

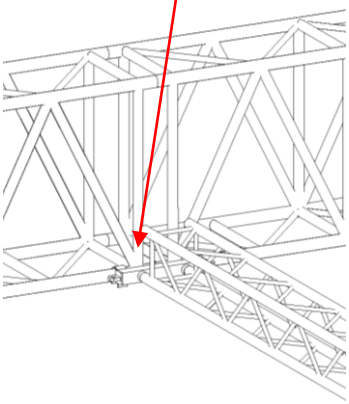


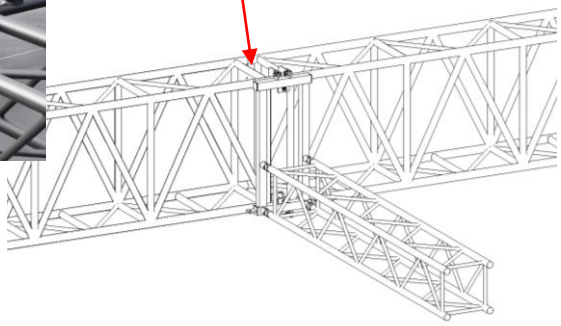
Main rig en roof structure

Roof 26x15







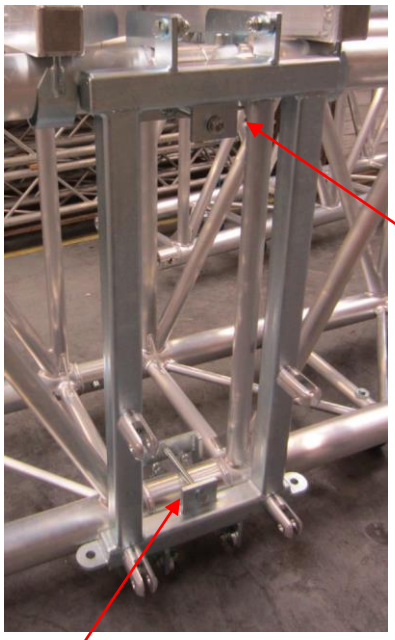


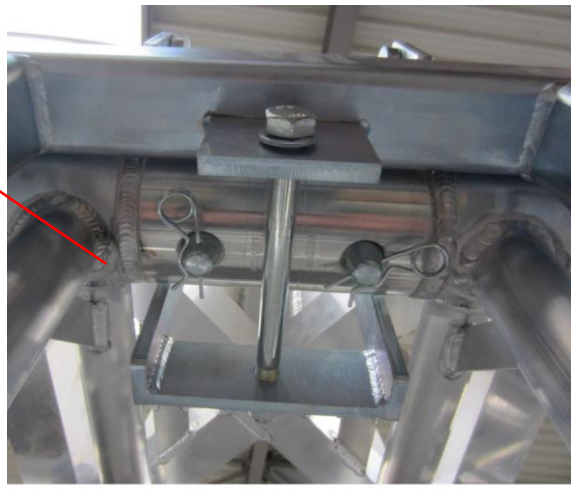
Attachment for HD34 with half connectors.
Truss with both connectors to assembled to rig
After assembling HD34 with 2x HD34-SPAT

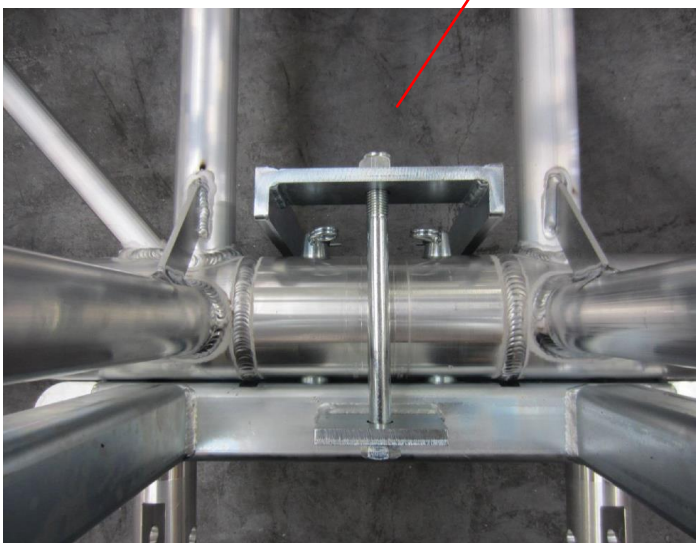
Attachment for HD44 to TT rig before assembling the HD44 truss.
The HD44 truss has to be assembled on both sides with male hinge parts.
The male hinge parts are to be connected with the female hinge parts on the HD44-SPAT.

Eurotruss B.V.
Castorweg 2
8938BE LEEUWARDEN
The Netherlands
www.eurotruss.com

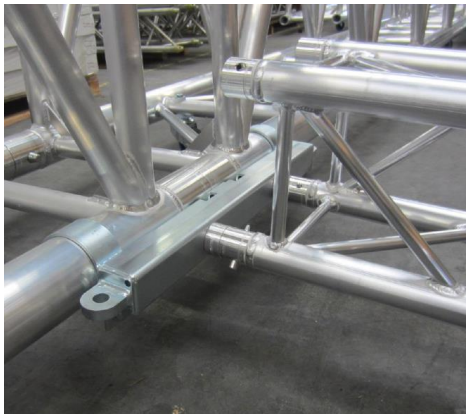
HD44 attachment



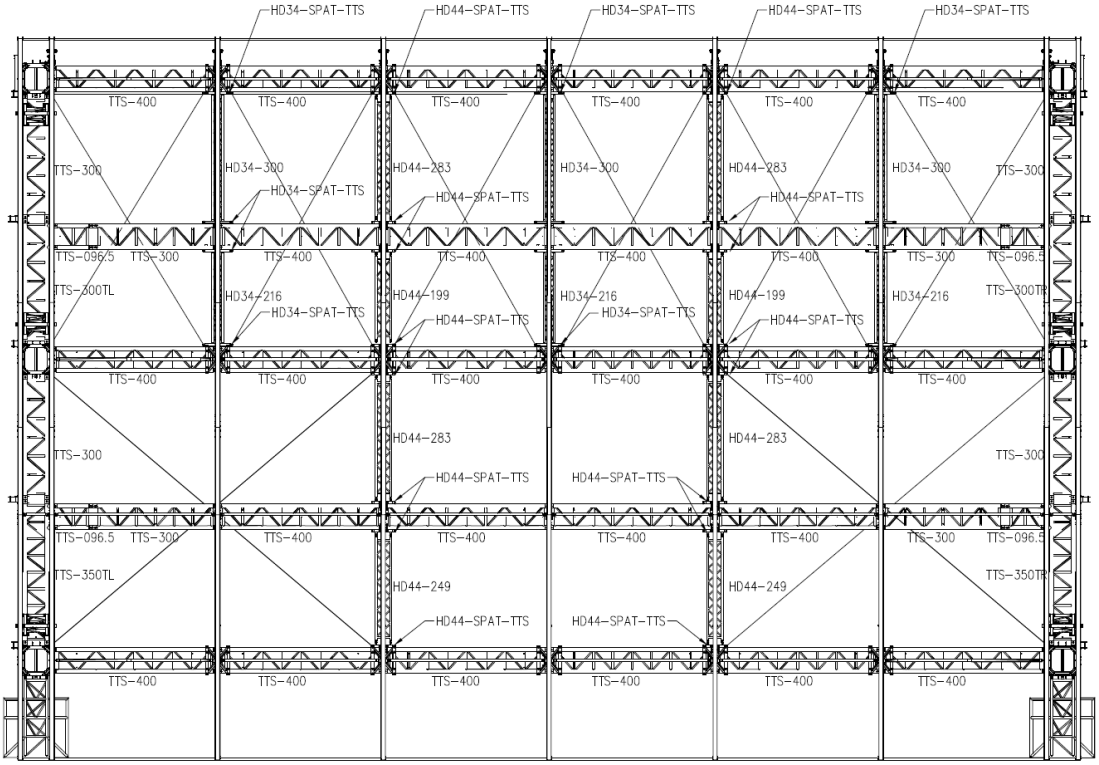




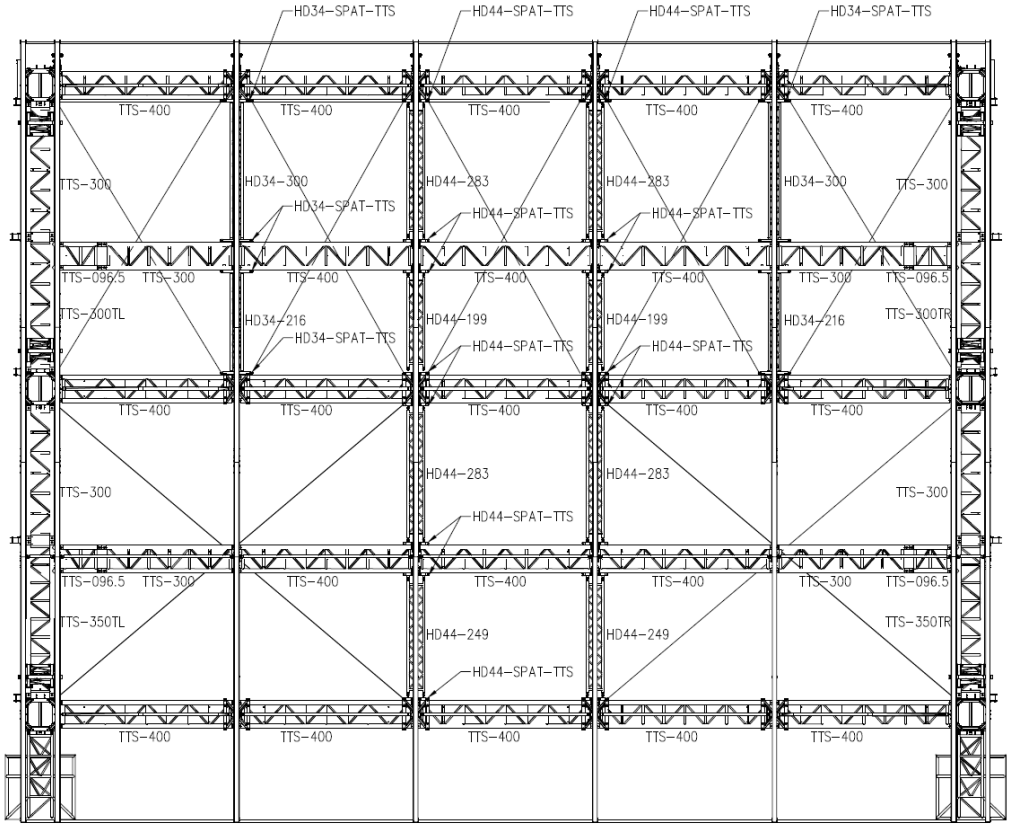
HD34 attachment



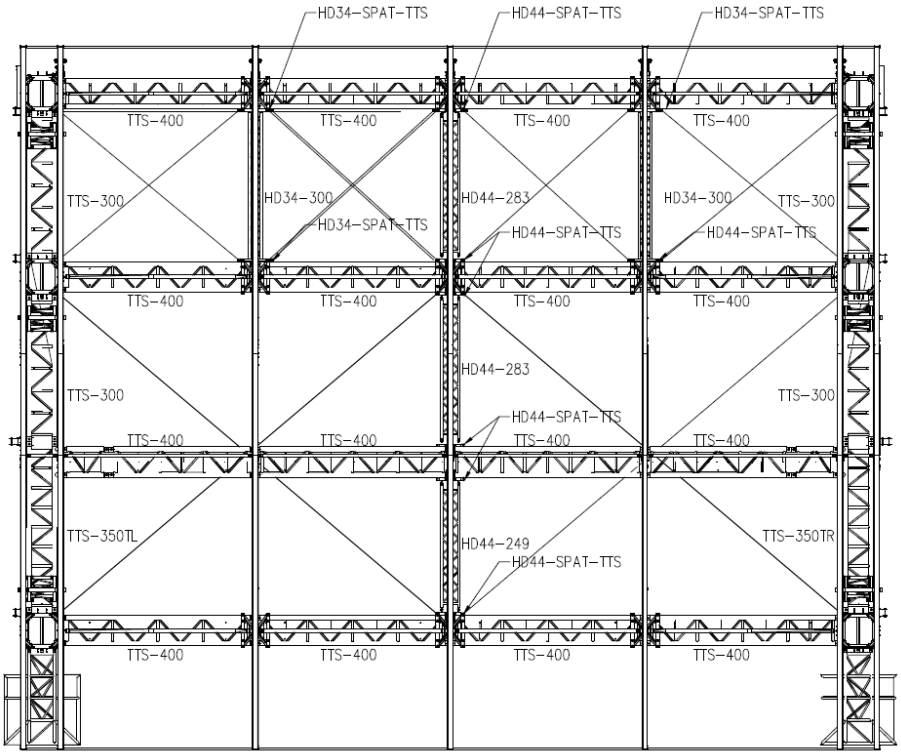
Roof 24x15



Roof 20x15

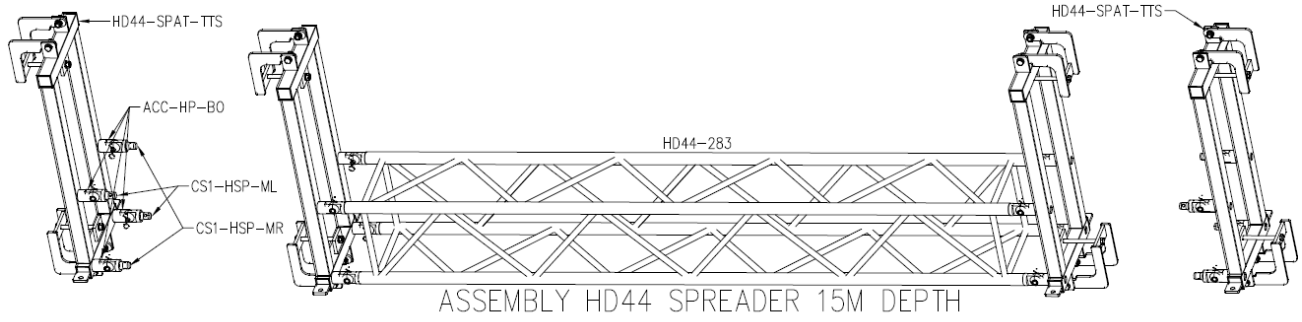


Roof 16x12

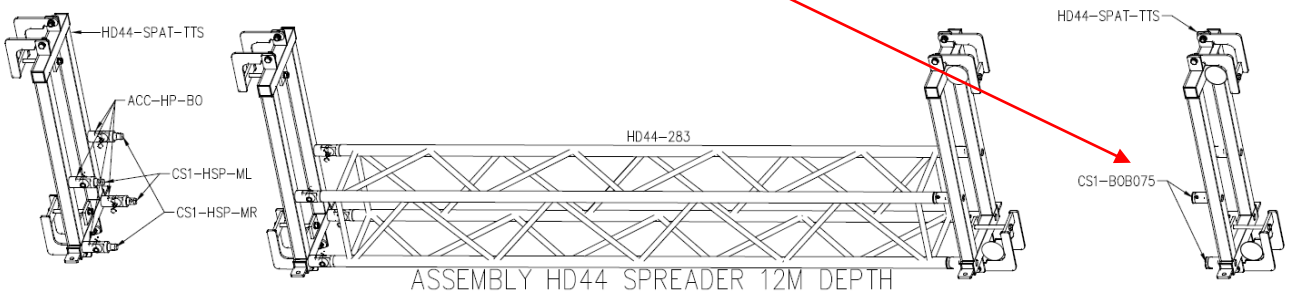


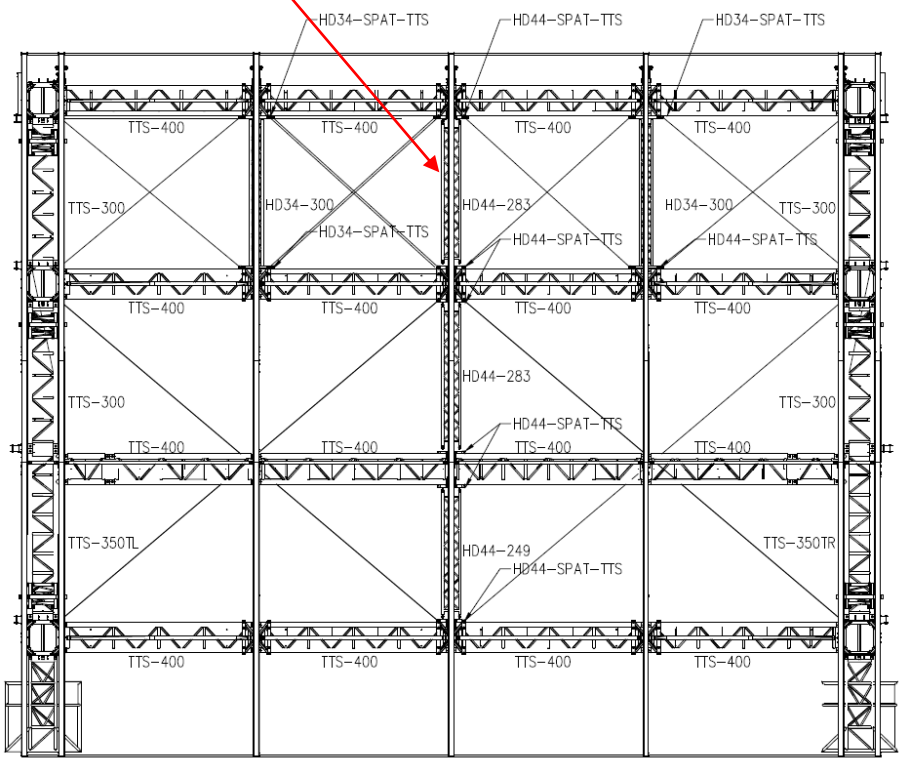
Because of the small differences in dimensions the HD34-SPAT-TTS and the HD44-SPAT-TTS between the 3e and the rear rig must be changed.
See next pages.

HD44-SPAT-TTS

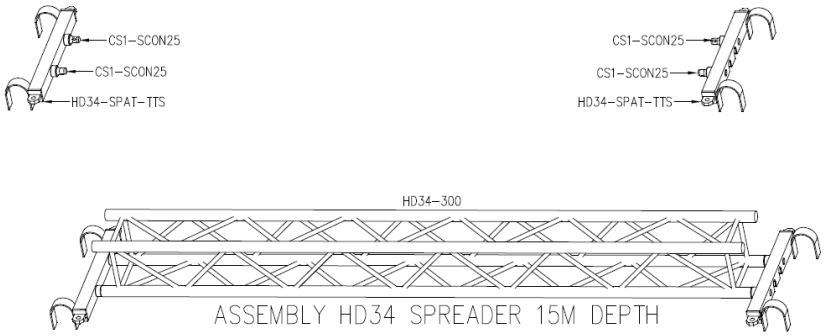


On one of the SPAT of the centre spreader truss the Bold on hinge parts must be removed and replaced by Bolt on female receivers of 75mm. The truss is then to be attached with a standard CS1 connection part.





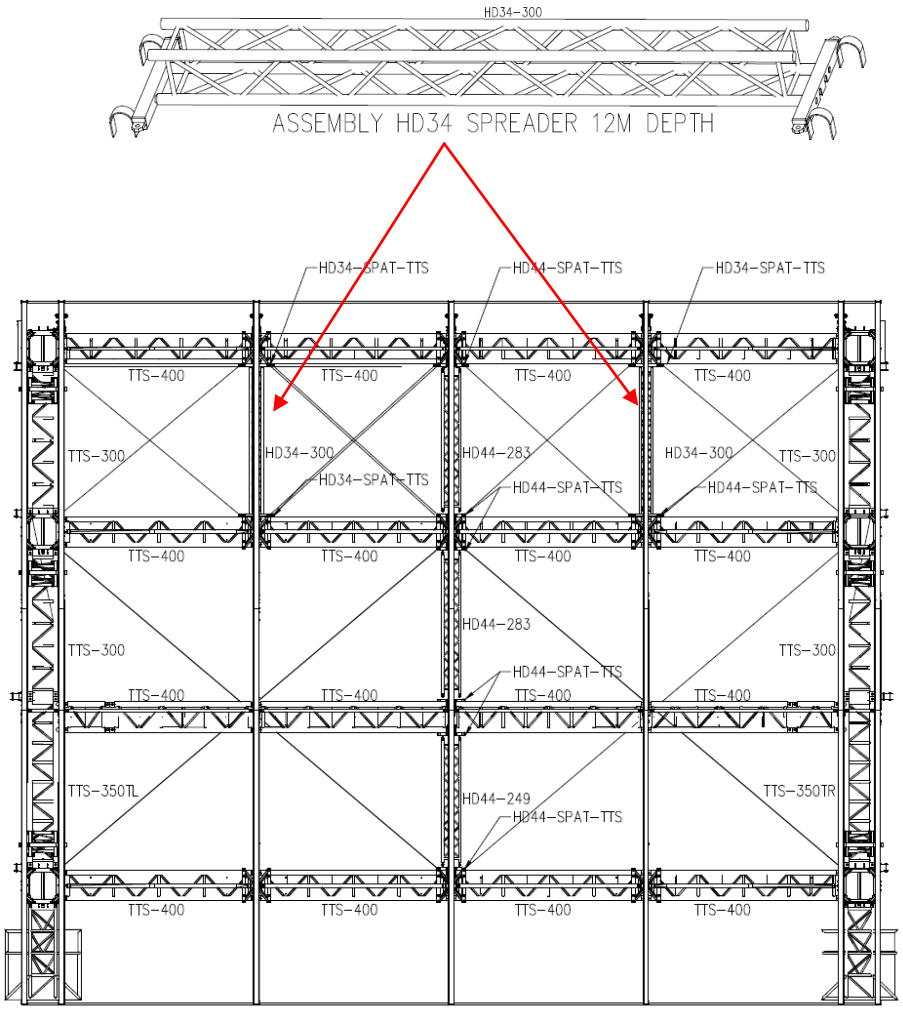
HD34-SPAT-TTS



The assembly of these HD34 attachment is with CS1-SCON25 for the 15mtr depth versions. See figure above.

All four pieces of this HD34 attachment have to be changed for the 12mtr depth version. The CS1-SCON25 has to be replaced on one side of the spreader truss with a CS1-SCON10.

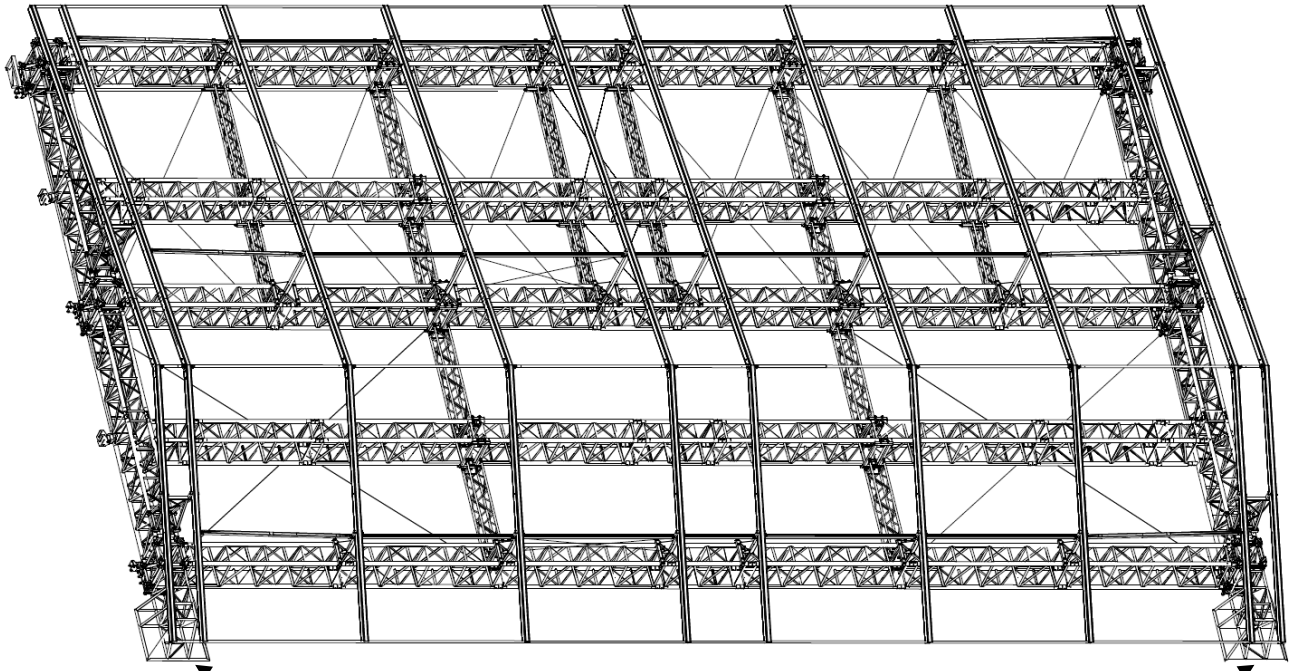
And on the other side with BLK-SCON-ST.



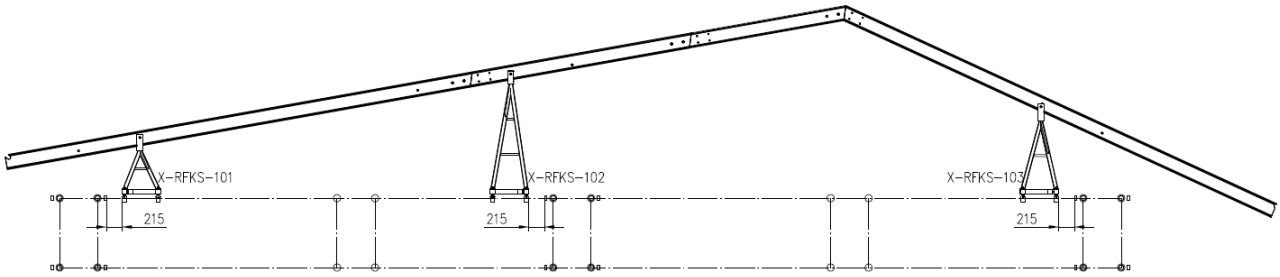
Roof keder supports

Position roof keder supports on main rig depth 15mtr

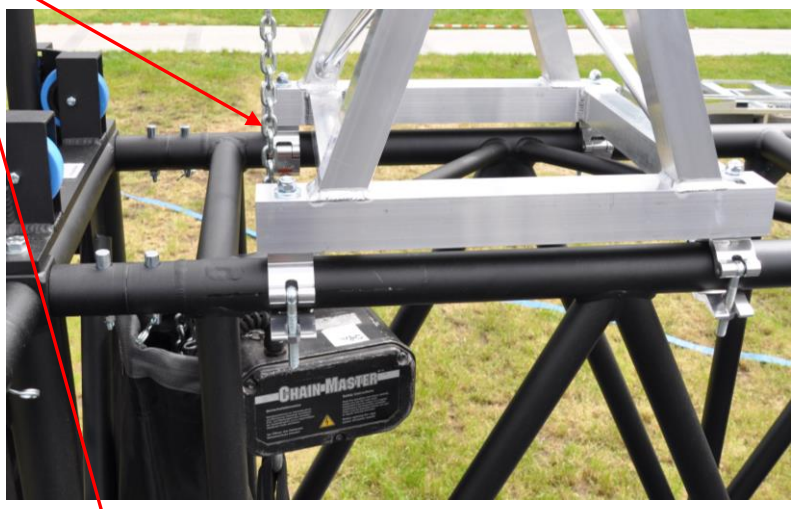
The position of the roof keder supports are explained in the main rig drawings.
The supports are to be fixed on the main rig trusses with couplers.
These couplers must not be tightened until the complete roof construction is assembled.

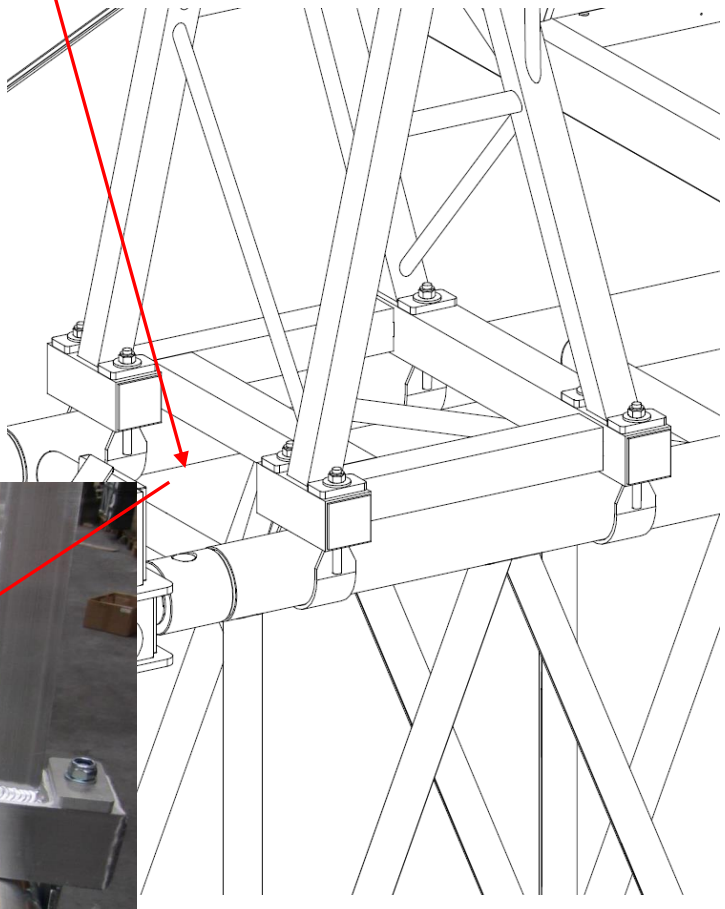


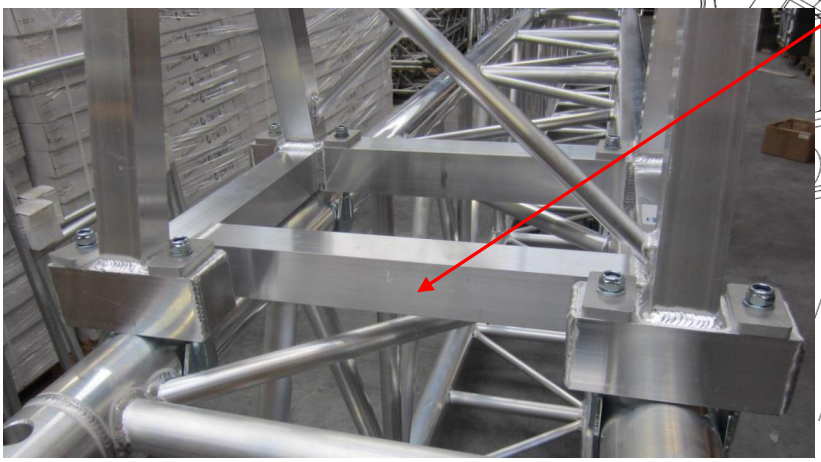
Note: Because of the narrow space for the chain hoists close to the towers the roof keder supports on the side trusses of the rig must be positioned like shown on lower figure.

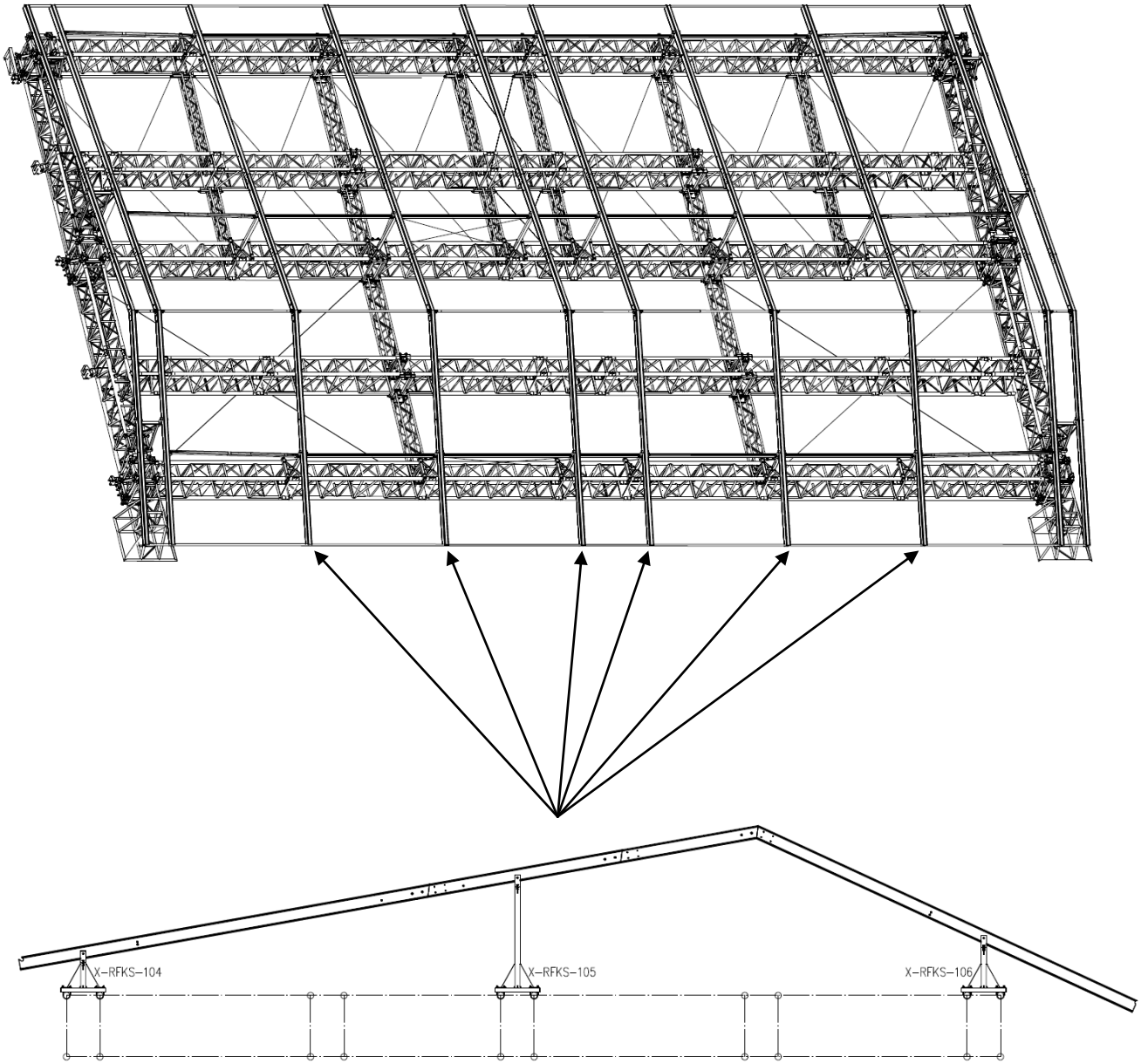


Very important is also that the roof keder support are to be placed on the main rig in the way shown in the picture. The bottom frame is not symmetric. To let the chain pass the frame must be positioned correctly.
When positioned wrong, there will not be enough space for the chain to pass.



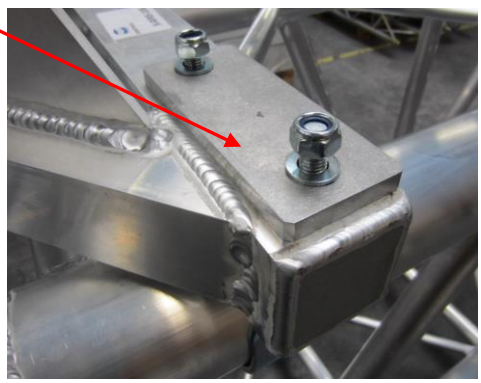






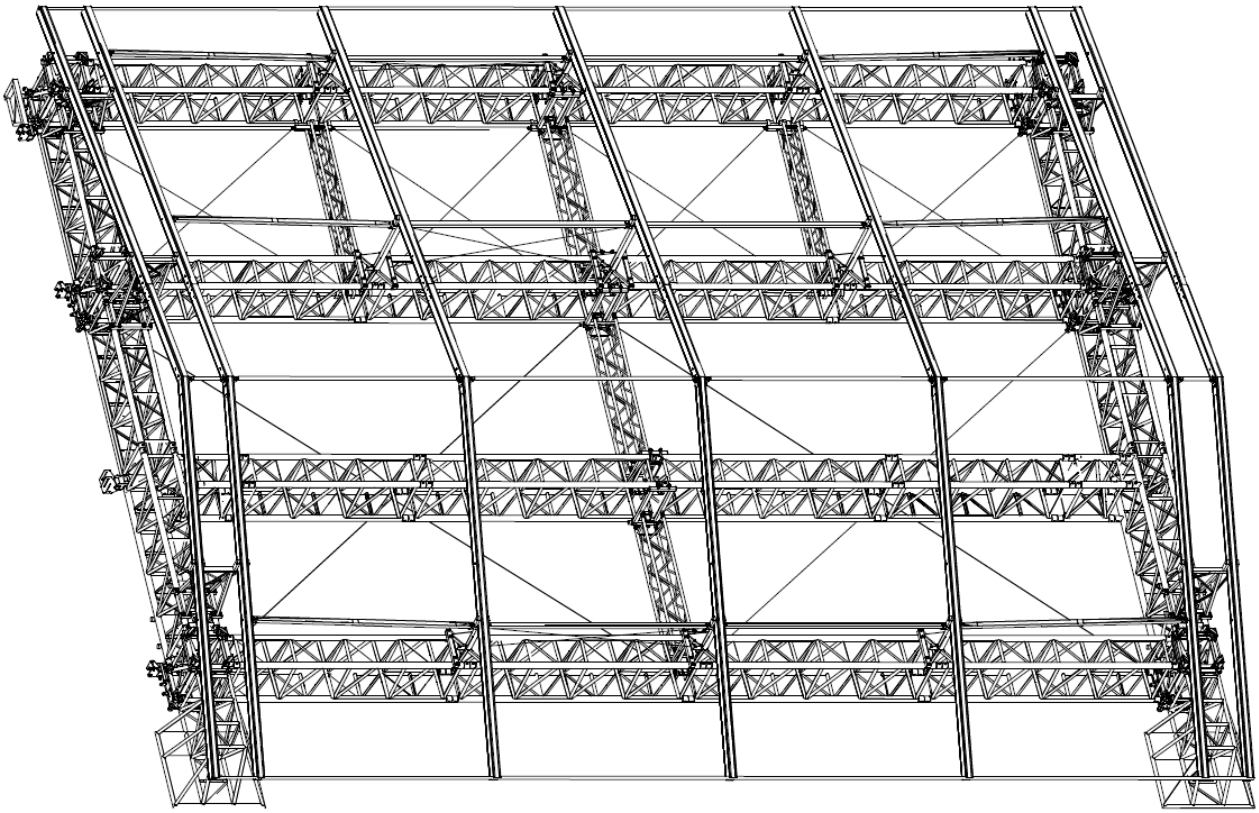
Roof keder support centre are to be mounted with brackets which are to mounted with a special shaped bracket plate with washers and M12 self locking nuts.

(smaller side towards welding seam)

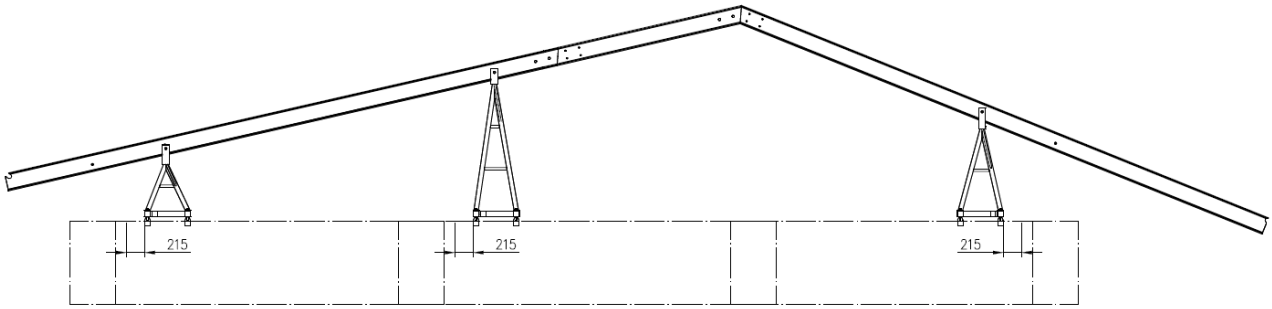


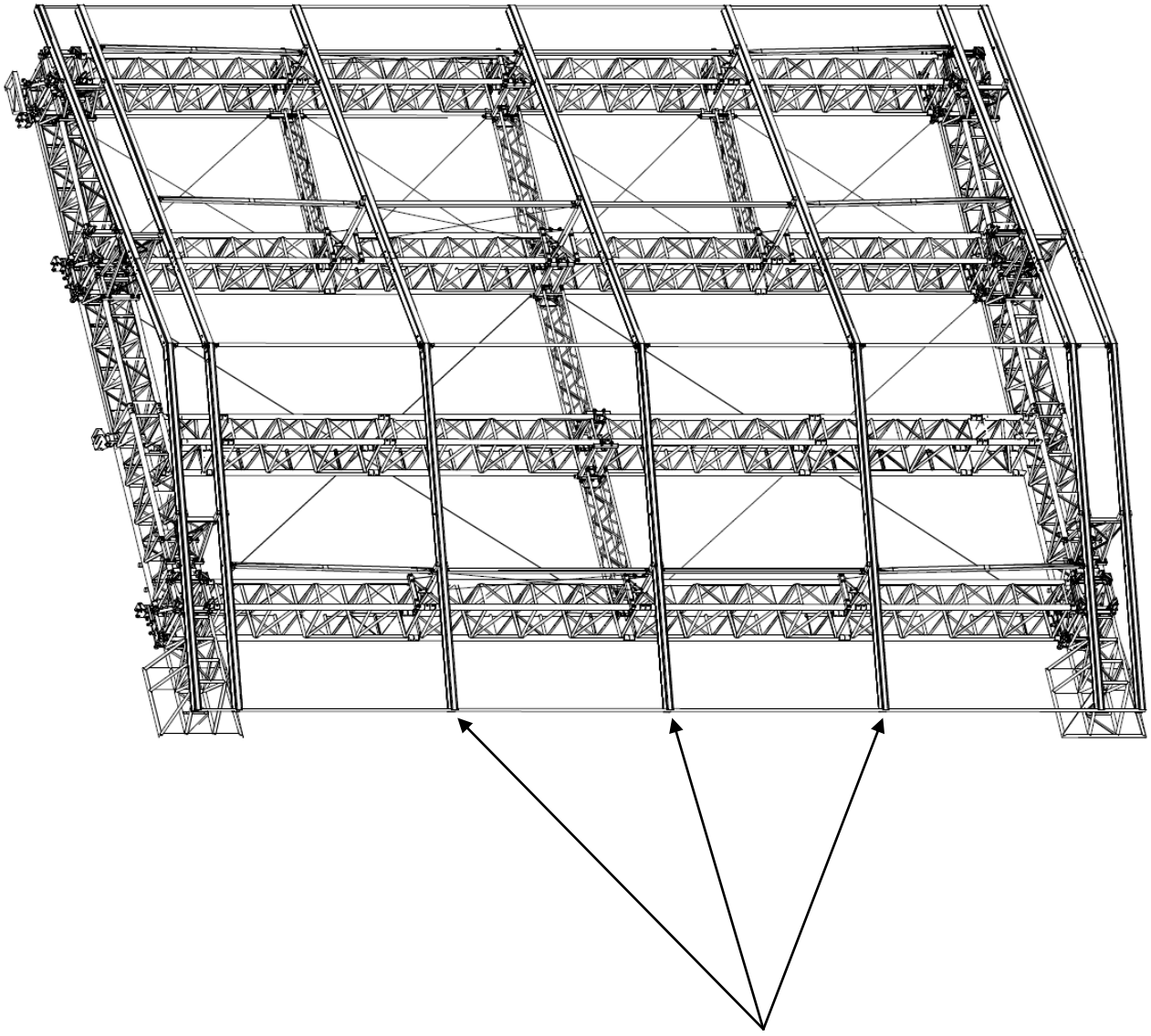
Position roof keder supports on main rig depth 12mtr

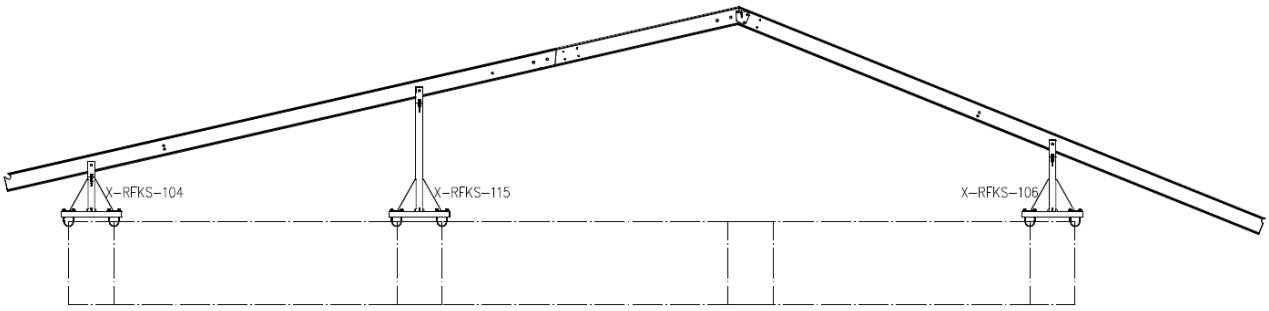
The position of the roof keder supports are explained in the main rig drawings.
The supports are to be fixed on the main rig trusses with couplers.
These couplers must not be tightened until the complete roof construction is assembled.

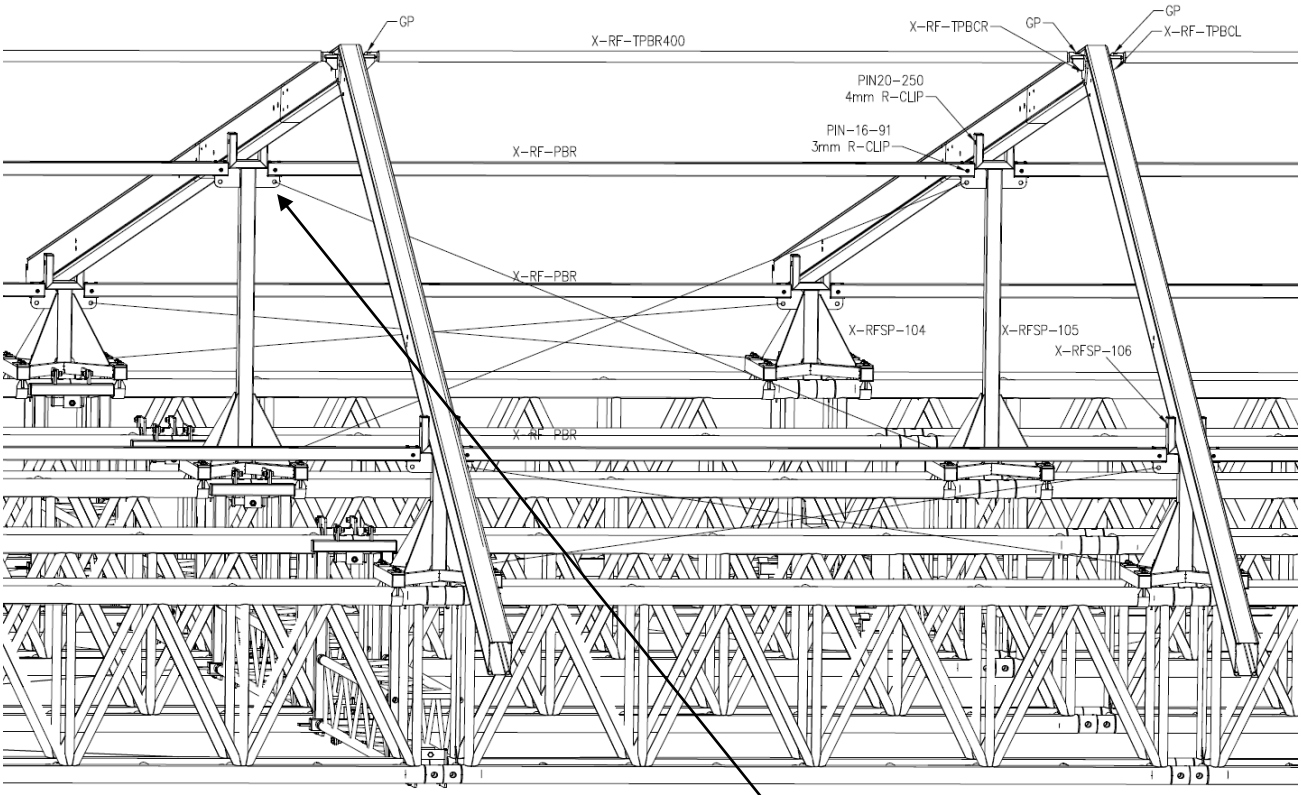


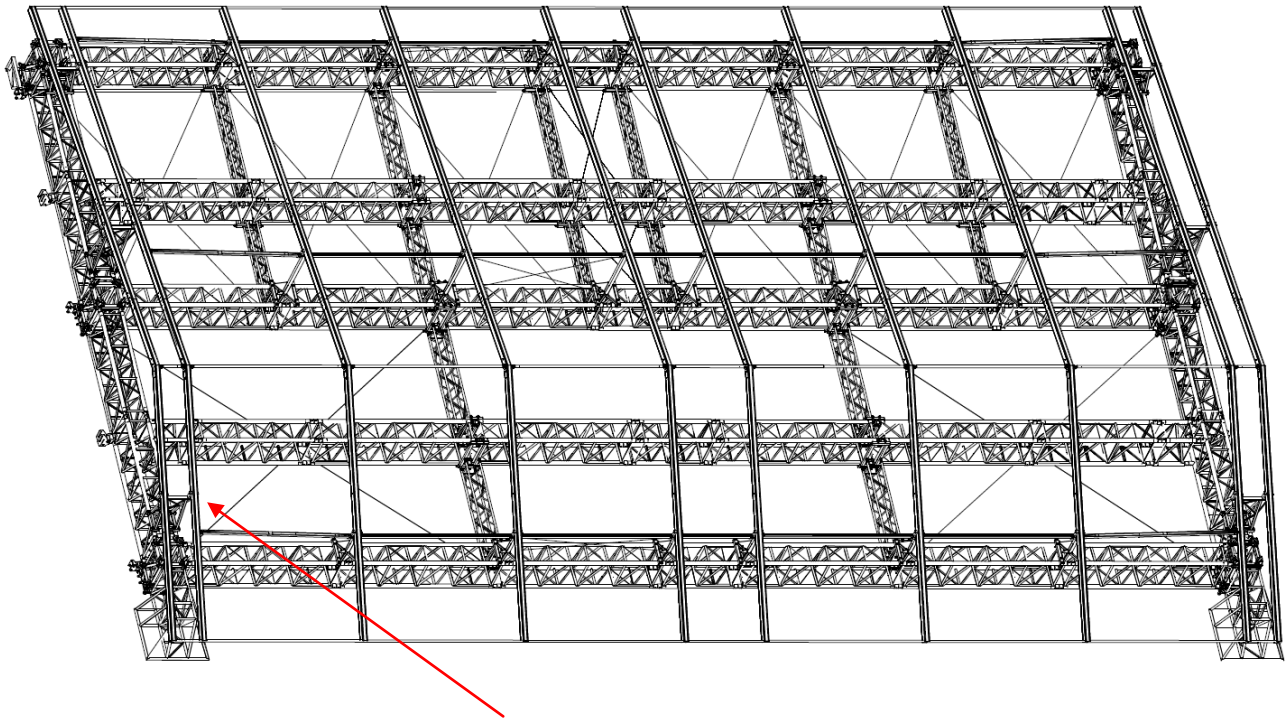
Note: Because of the narrow space for the chain hoists close to the towers the roofkeder supports on the side trusses of the rig must be positioned like shown on lower figure.





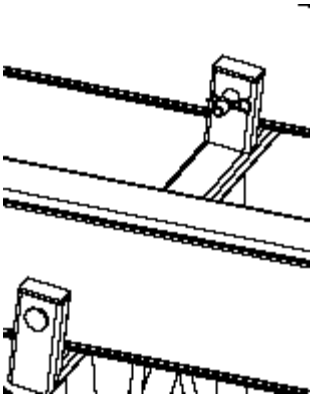


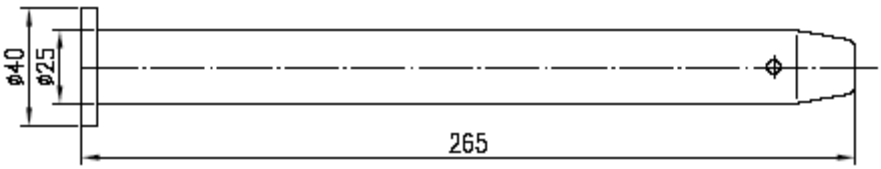




Assembly roof keder profiles

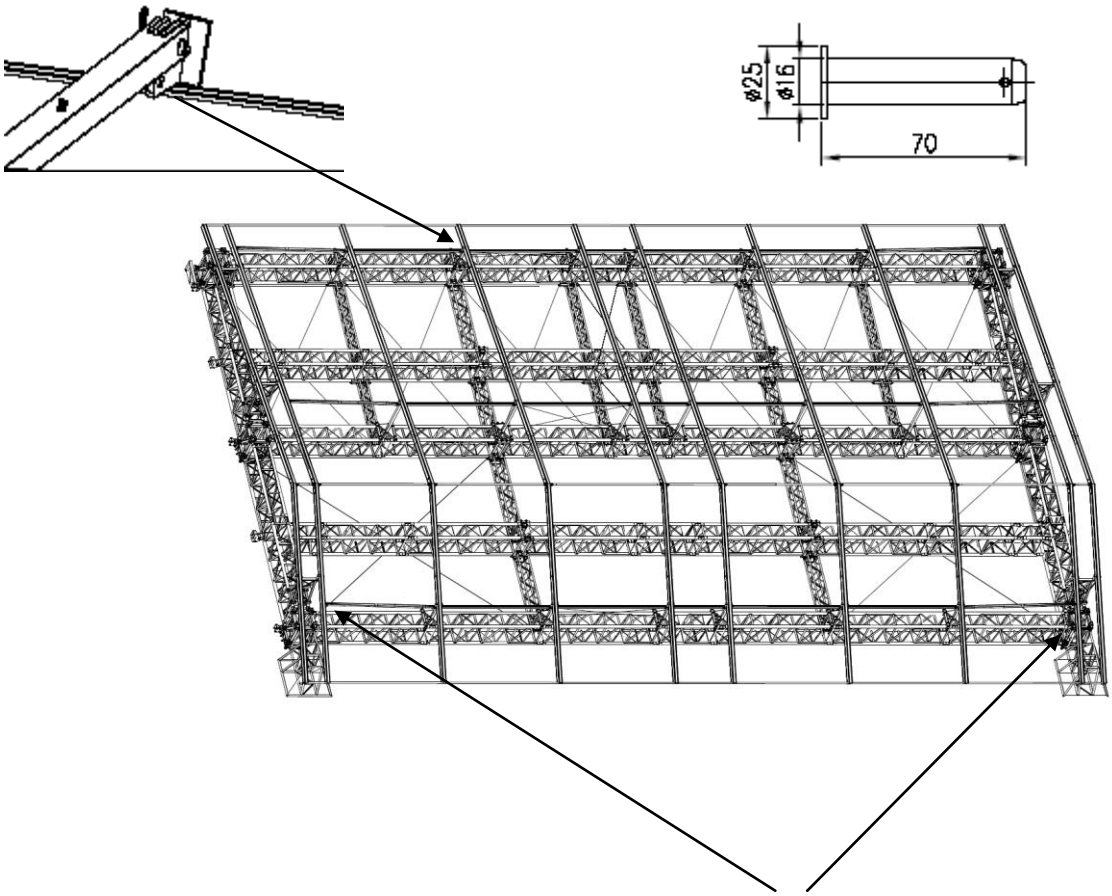
The roof keder profiles must be fixed to the supports with a fixation pin with R-clip



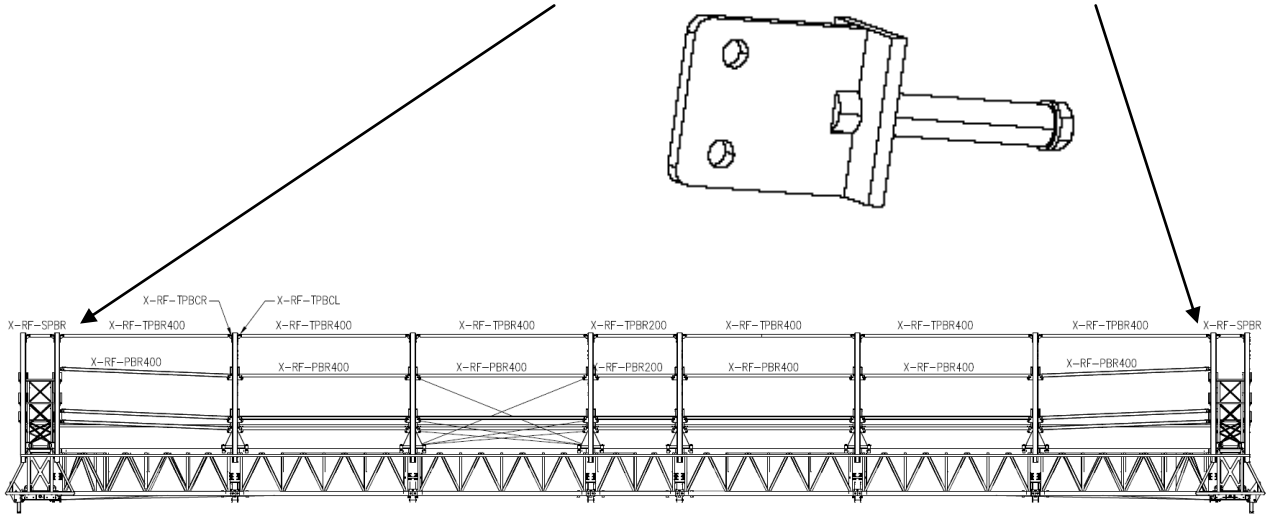


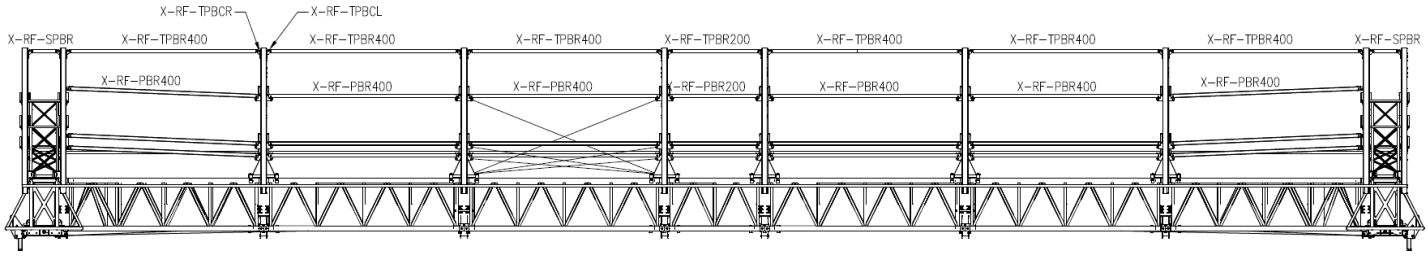
Roof keder pressure beams

The roof keder pressure beams must be attached to the supports with fixation pins and R-clip.



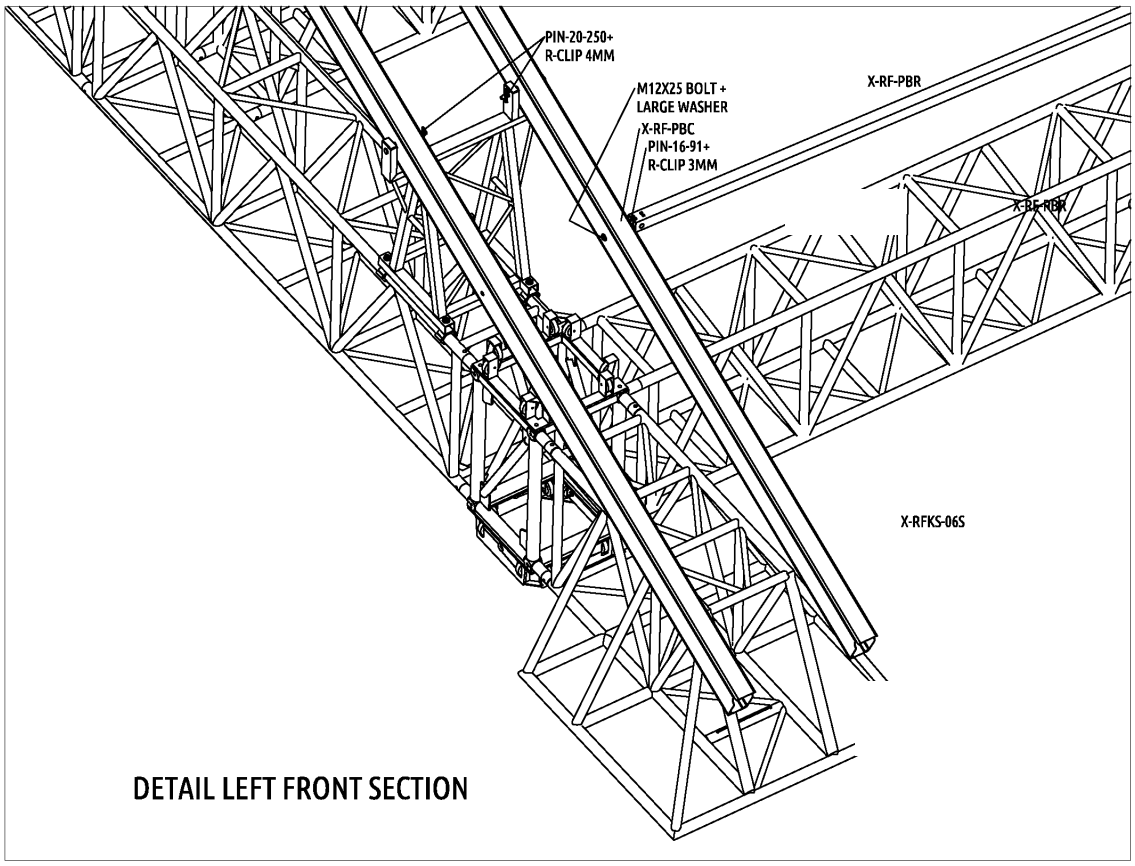
On the sides the pressure beams must be attached to the outer keder profiles.
In the outer keder profiles a pressure beam connector has to mounted. (X-RF-PBR1)

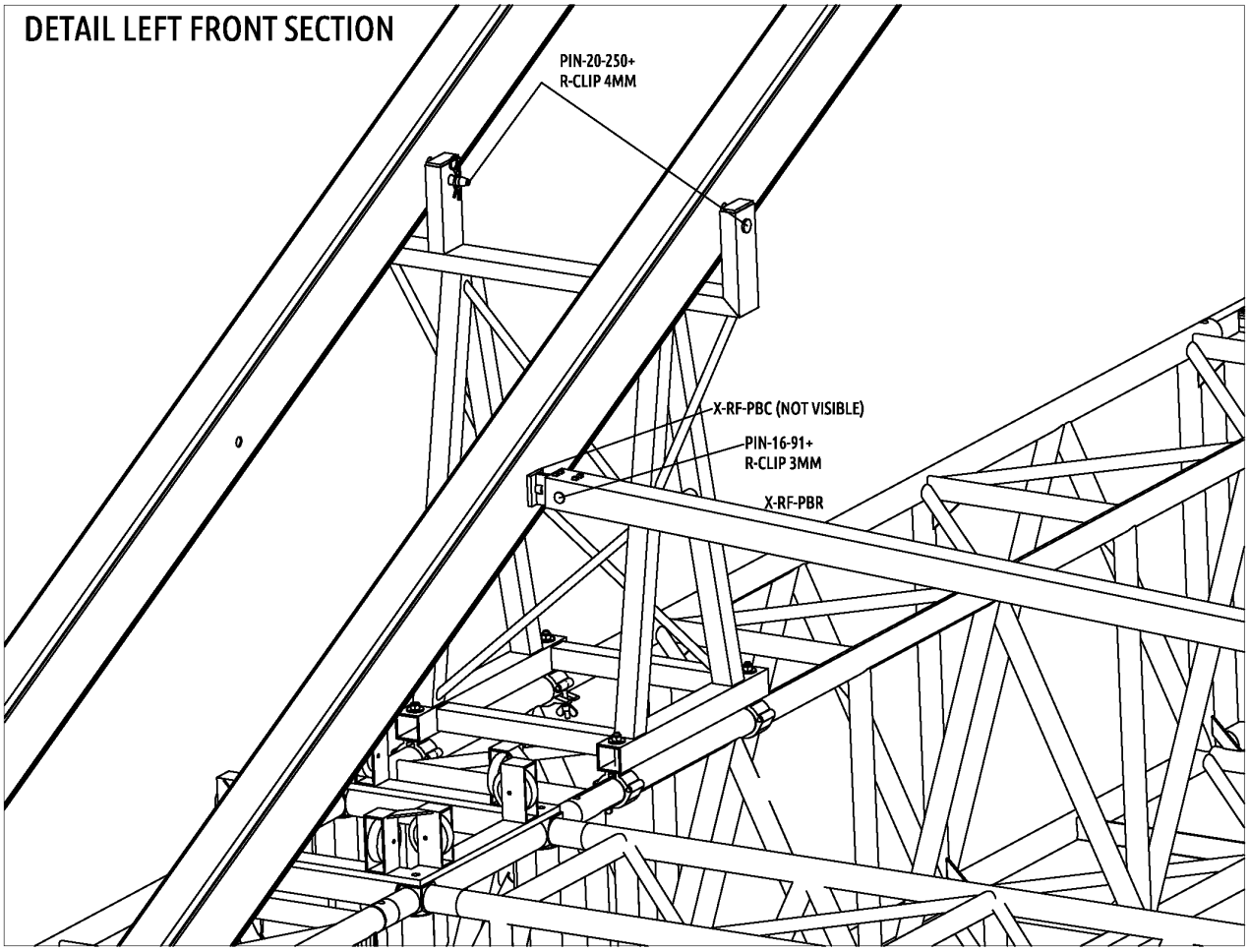




Roof keder pressure beams PR15

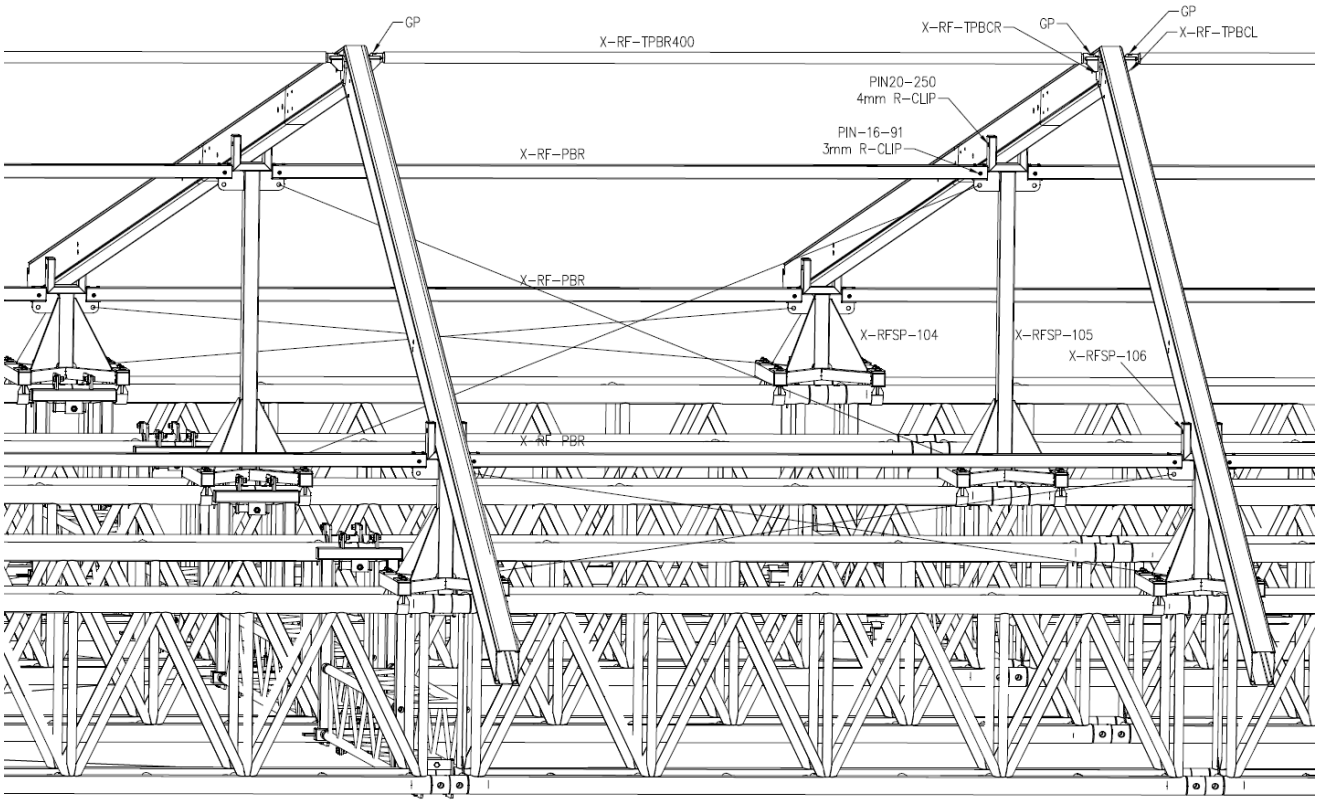
Code	Length pin-pin
X-RK-PBR-400	3710mm
X-RK-PBR-200	1710mm
X-RK-TPBR-400	3790mm
X-RK-TPBR-200	1790mm
X-RK-SPPBR	550mm



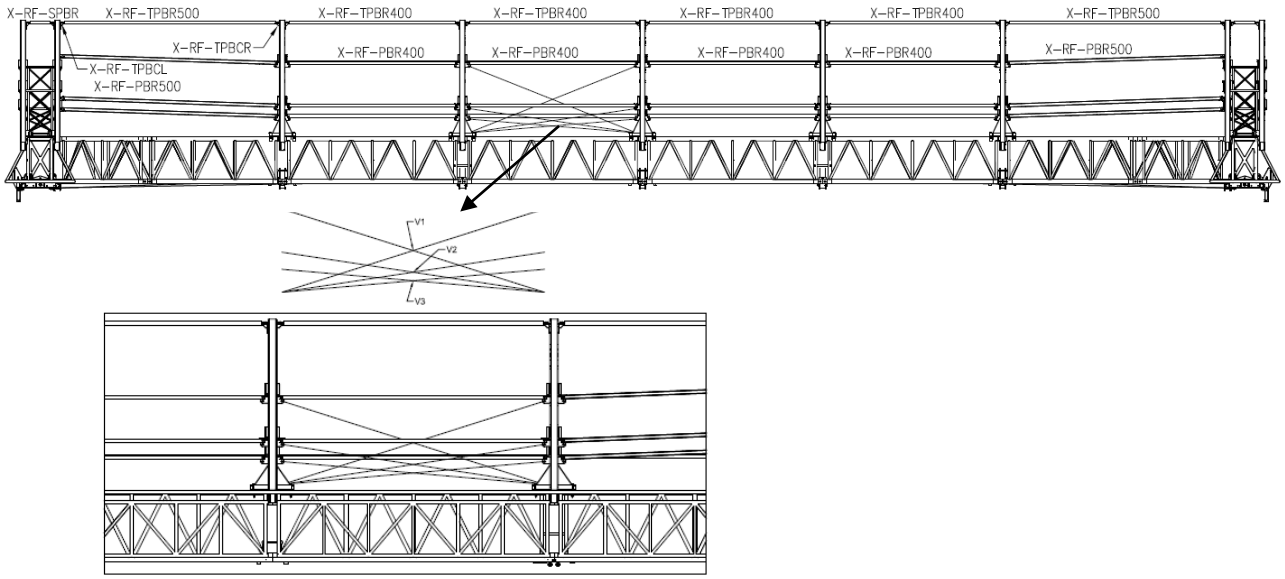


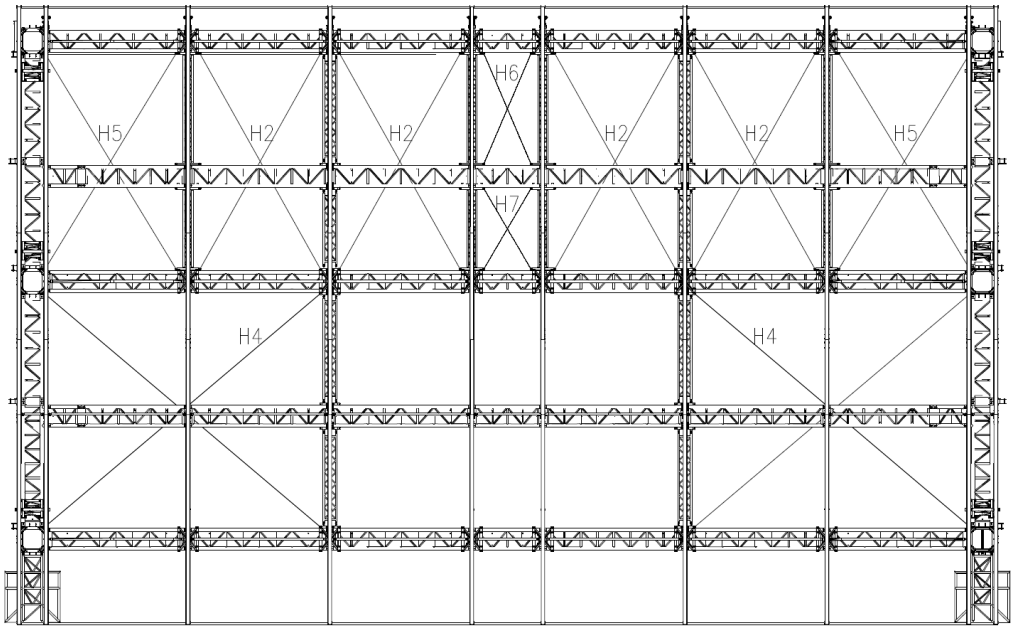
Cross wiring roof construction

Roof top

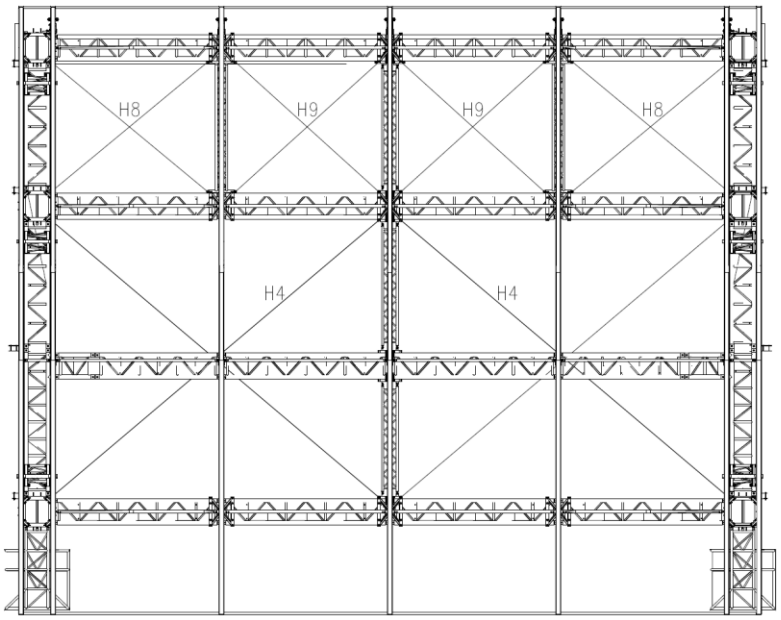


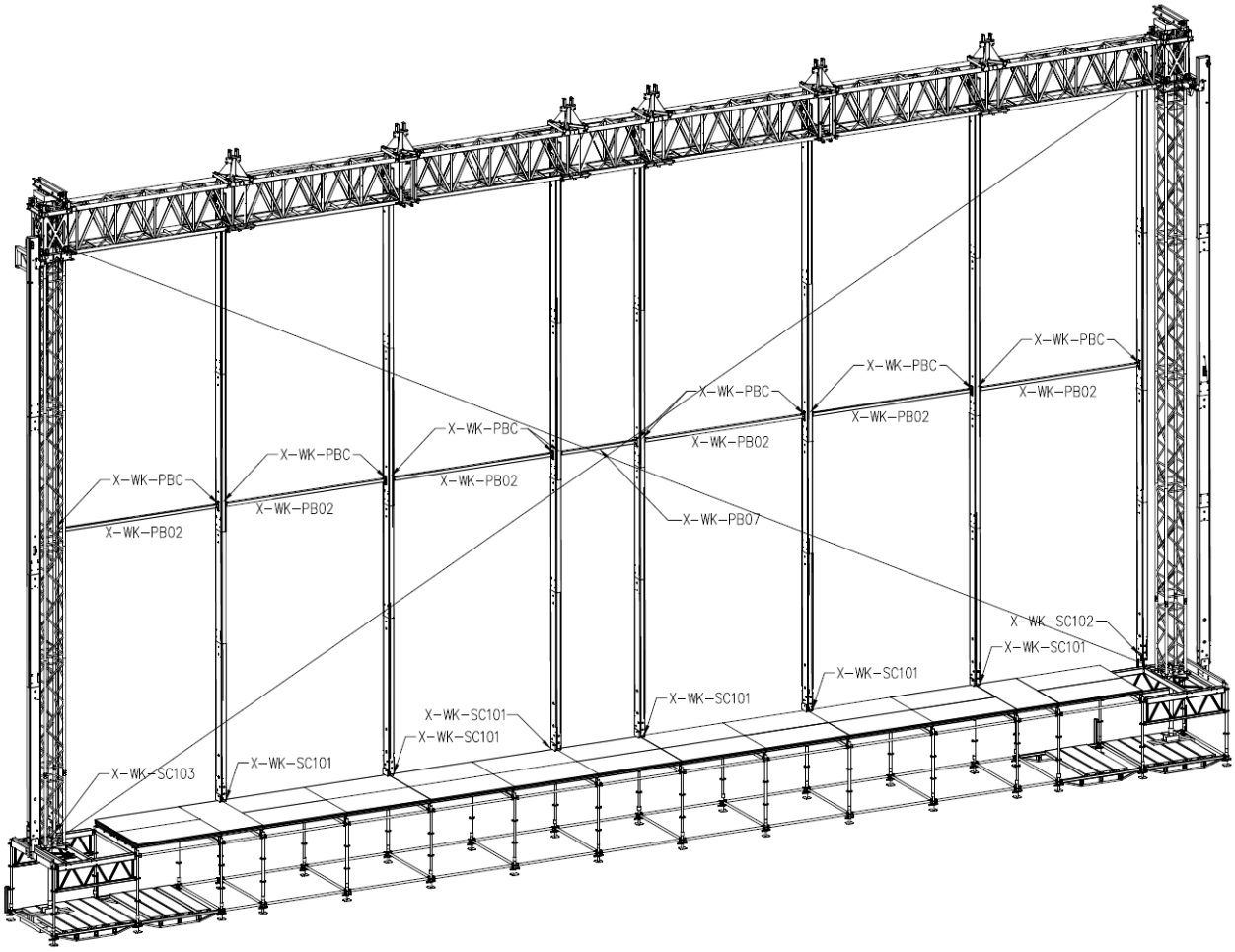
Quantity	Code	Description
1	SC-PR15-T26C	**Spancable set for roof construction top 26x15 PR-15 (combi for all variants)**
Content		
		Vertical
4	SC-ST10-0303	Steelcable wire 10mm l=303cm front and rear V2 & V3
2	SC-ST10-0326	Steelcable wire 10mm l=326cm center V1 (for 15 mtr depth / V4 (for 12mtr depth)
12	SC-AS-2T	Anchor shackle with screw collar pin 2 ton
6	SC-TB-12-12	Turnbuckle 1/2x12" jaw<>jaw





Quantity	Code	Description
1	SC-PR15-T26C	**Spancable set for roof construction top 26x15 PR-15 (combi for all variants)**
Content		
		Horizontal
4	SC-ST14-0626	Steelcable wire 14mm l=626cm H5 with 2mtr covered
8	SC-ST14-0613	Steelcable wire 14mm l=613cm H2 with 2mtr covered
4	SC-ST14-0395	Steelcable wire 14mm l=395cm H8 (only for 12mtr depth)
4	SC-ST14-0376	Steelcable wire 14mm l=376cm H9 (only for 12mtr depth)
4	SC-ST14-0932	Steelcable wire 14mm l=932cm H4 with 2mtr covered
2	SC-ST14-0255	Steelcable wire 14mm l=255cm H6
2	SC-ST14-0180	Steelcable wire 14mm l=180cm H7
20	SC-TB-78-12	Turnbuckle 7/8x12" jaw<>jaw
40	SC-AS-3,25T	Anchor Shackle (safety) bolt type 3,25 ton Lewis



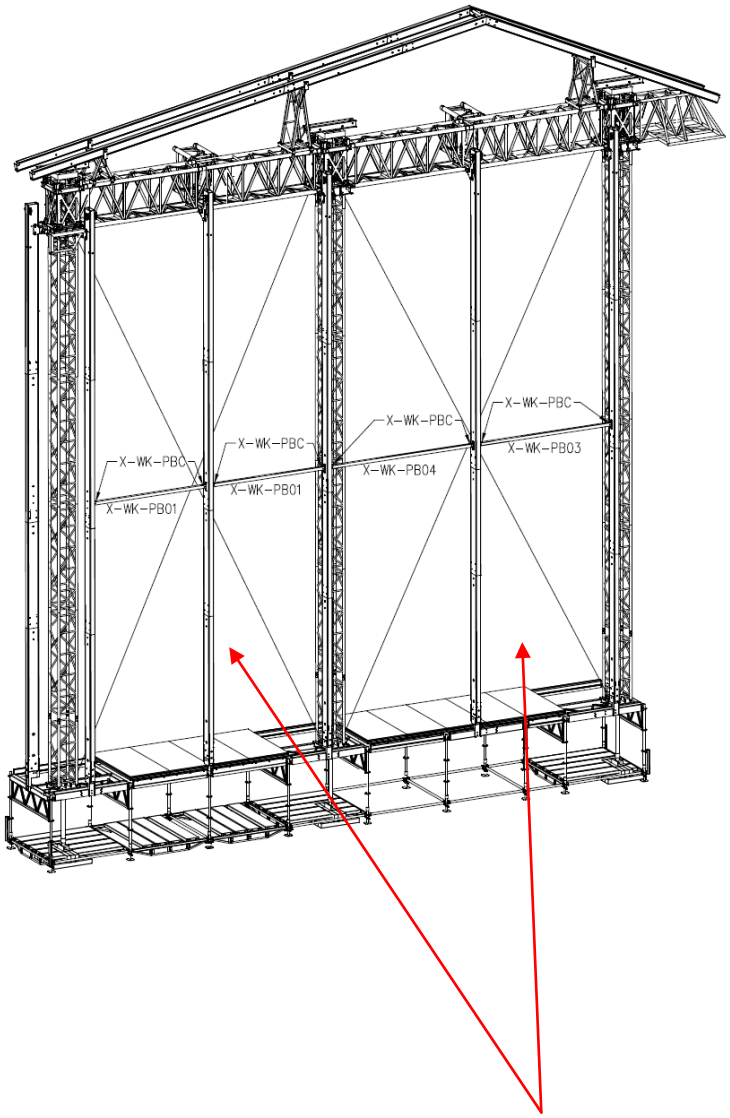


Quantity	Code	Description
1	SC-PR15-B26H13	**Spancable set for roof construction back 26x15 PR-15 cl=13mtr**
Content		
4	SC-ST16-2503	Steelcable wire 16mm l=2503cm
4	SC-AS-3,25T	Anchor Shackle (safety) bolt type 3,25 ton Lewis
4	SC-CH10-05	Variable chainset l=4mtr with 2xshackle and turnbuckle WLL 4ton

Quantity	Code	Description
1	SC-PR15-B20H13A	**Spancable set for roof construction back 20x15 PR-15 cl=13mtr add**
Content		
4	SC-ST16-1982	Steelcable wire 16mm l=1982cm

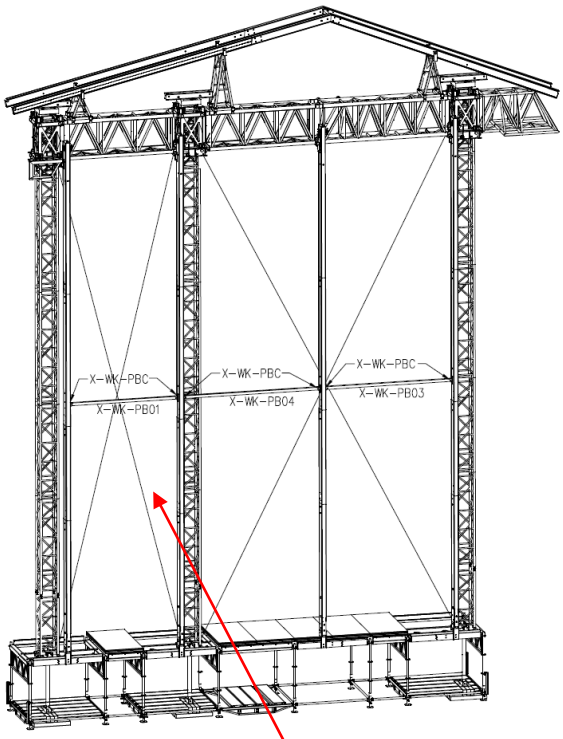
Quantity	Code	Description
1	SC-PR15-B16H13	**Spancable set for roof construction back 16x12 PR-15 cl=13mtr**
Content		
4	SC-ST16-1658	Steelcable wire 16mm l=1658cm

Vertical cross wiring in the rear wall to be attached to sleeve block in top and in the bottom to the ballast safe bases.
Use chain with shortener and turnbuckle to fix the length and tighten the cross wiring.
Cross wiring is double mounted.
For 26 mtr width and 24mtr width same set can be used. For other variants, exchange cable.



Quantity	Code	Description
4	SC-PR15-S15H13	**Spancable set for roof construction side PR-15 depth 15mtr cl=13mtr**
Content		
4	SC-ST16-1030	Steelcable wire 16mm l=1030cm
4	SC-AS-3,25T	Anchor Shackle (safety) bolt type 3,25 ton Lewis
4	SC-CH10-05	Variable chainset l=4mtr with 2xshackle and turnbuckle WLL 4ton

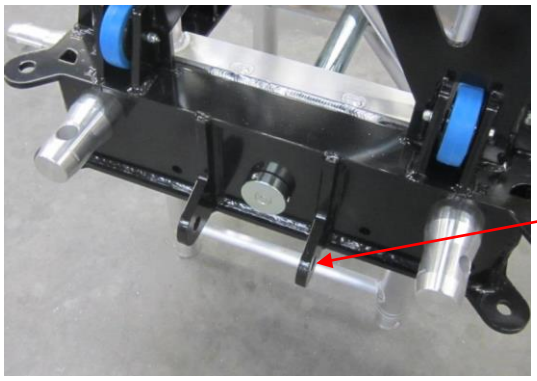
Vertical cross wiring in the side walls to be attached with shackles to the sleeve block in top and in the bottom attached to the ballast safe bases.
Use chain with shortener and turnbuckle to fix the length and tighten the cross wiring.
Cross wiring is double mounted.

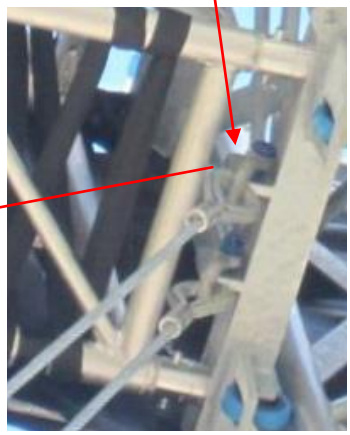


For 12mtr depth the cable of the rear cross wiring should be exchanged.

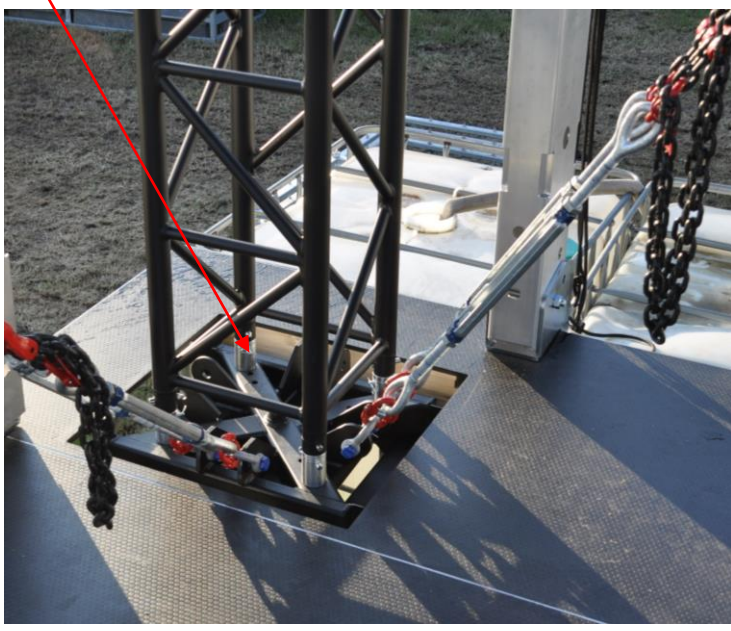
Quantity	Code	Description
2	SC-PR15-S12H13	**Spancable set for roof construction side PR-15 depth 12mtr cl=13mtr**
Content		
		Rear
4	SC-ST16-0950	Steelcable wire 16mm l=950cm

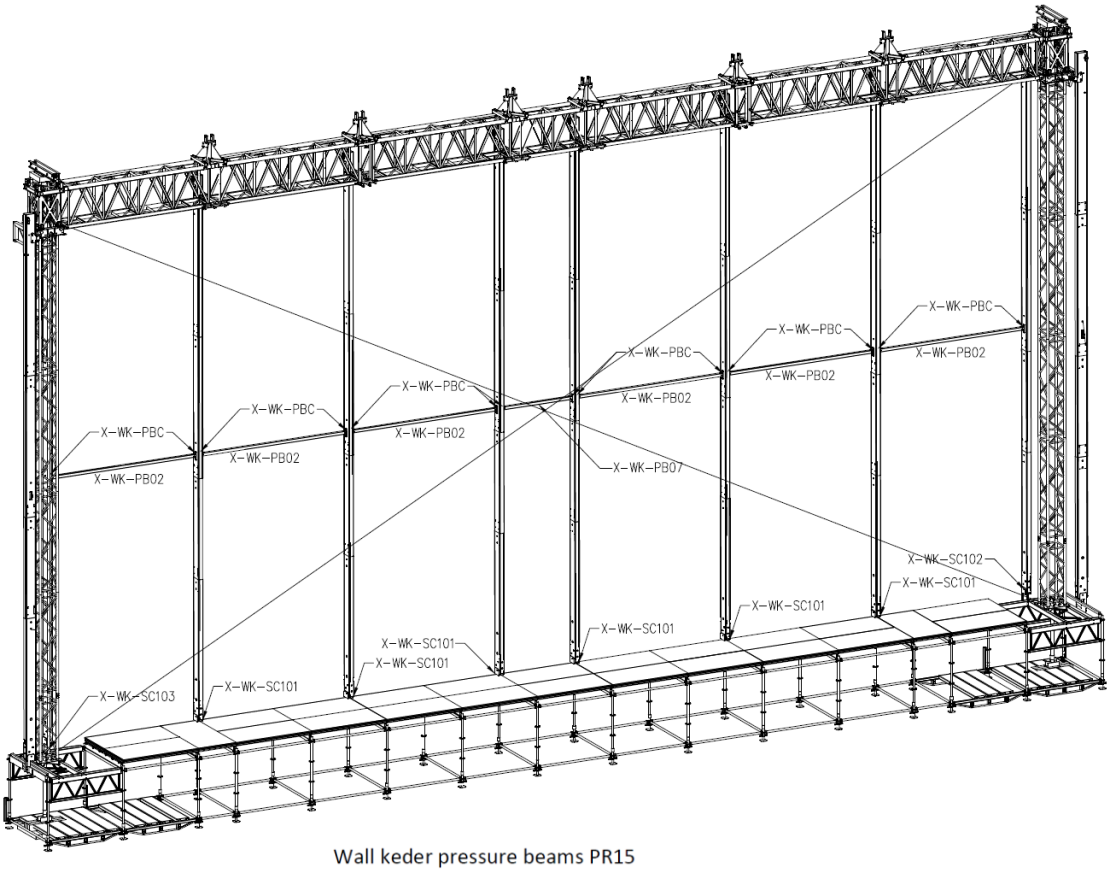
Vertical cross wiring in the side walls to be attached with shackles to the sleeveblock





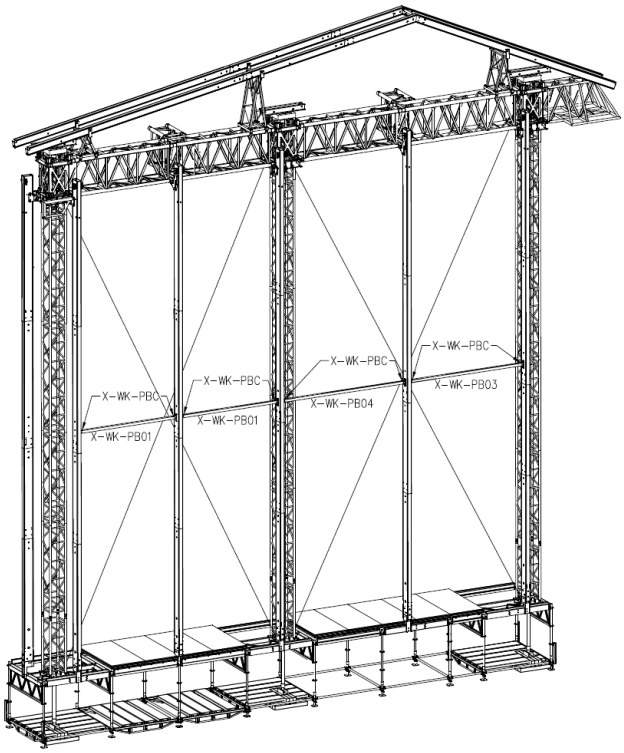
In the bottom attached to the ballast safe bases.

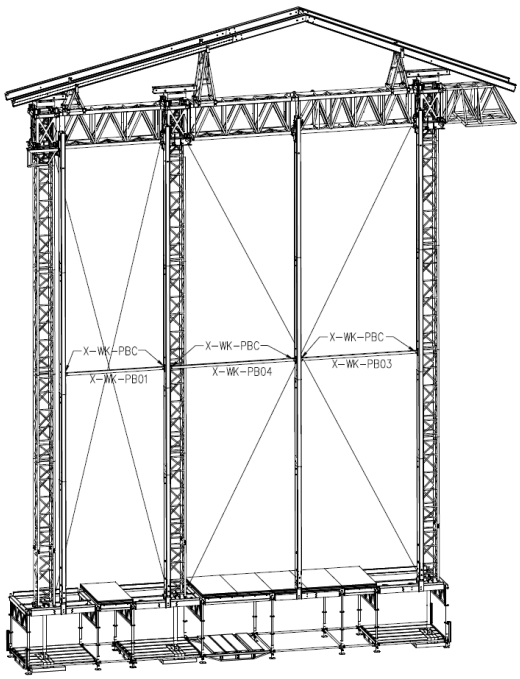




Wall keder pressure beams PR15

Code	Length pin-pin
X-WK-PB01	2760mm
X-WK-PB02	3760mm
X-WK-PB03	3260mm
X-WK-PB04	3520mm
X-WK-PB06	4000mm
X-WK-PB07	1760mm





Building stages

Stage 1: Setting up stage and ballast safes.

The stage must assembled according the drawings.
Important is the position and orientation of the ballast safes. Also the direction of the horizontal and vertical diagonals of the scaffolding construction is to be noticed.

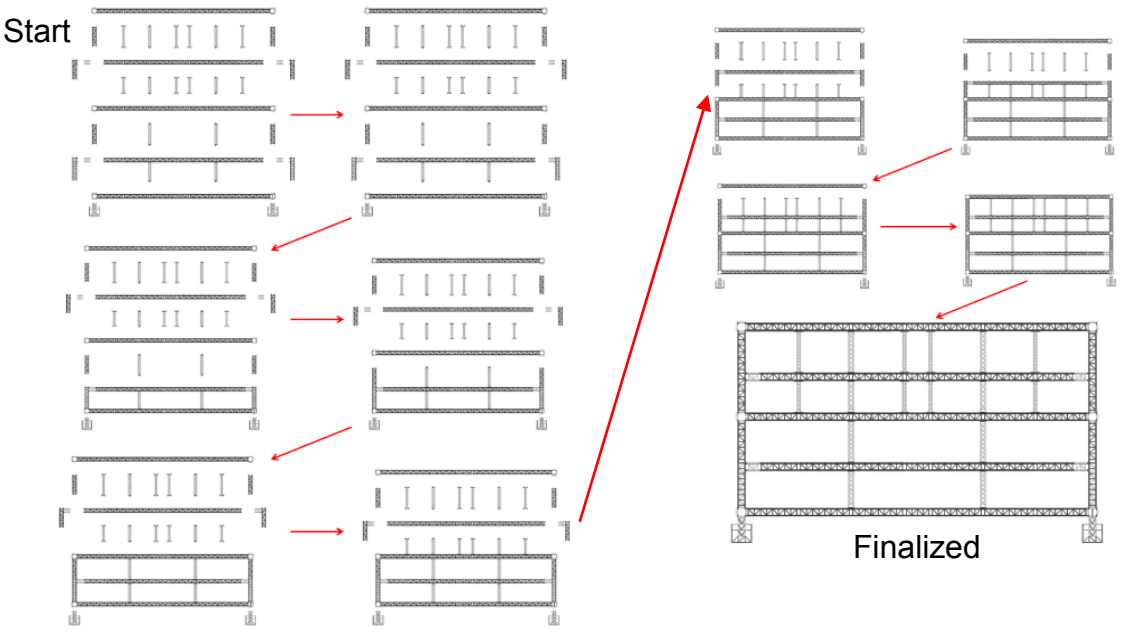
Stage 2: Assemble main rig.

The main must be assembled according the drawings.

Advisable is to assemble first the long TTS-lines from left to right and then to join them with the side trusses.
When the rig is assembled the rig has to be moved so that the sleeve blocks are above the tower positions.
The first part of the tower (1,5mtr) can be placed and connected with the receivers on the ballast safe.

! IMPORTANT	**Determine:** Where you would like to have the climbing braces.

! IMPORTANT	**Assembly:** As the trusses with T-attachment will be more difficult to assemble with the “long” lines, the best way of doing this to attach first the 96,5cm parts to the T-attachments instead of assembling them with the rest e of the “long” line.



Stage 3 : Spreader truss

The spreader trusses should be assembled and added to the main rig.
The spreader HD44 trusses must be assembled with hinge parts (male). The special attachment frame is to attached to the main rig before the HD44 truss with male hinge parts can be attached. A hinge pin 16mm does connect the hinge parts.
The spreader truss HD34 must be assembled with the special attachments on both sides and after that as a complete assembly in the main rig.
Screws and nuts must be tightened to fix the HD44-SPAT and the HD34-SPAT to the main rig. ***Advisable is, to assemble and add the spreader trusses together with the mainrig assembly.***

! IMPORTANT	**IMPORTANT:** Screws must be tightened with a wrench. (30Nm)

Stage 4: Assembling the towers

The towers can be assembled as a pre-assembly.
After the completion of the main rig the towers must be added and erected.
For the erection of the towers a tower erecting system is advisable to use.
See manual tower erecting system.

! IMPORTANT	**IMPORTANT:** As the sleeve block are to be secured to the upper part of the tower, the upper part of the tower must be positioned in the right way.

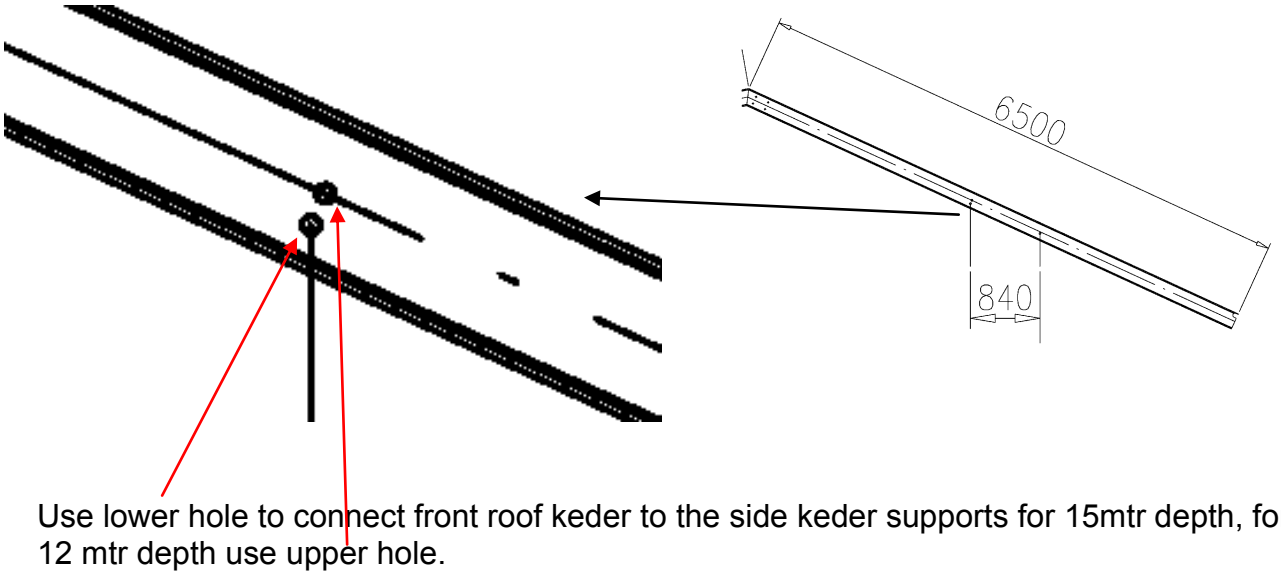
Advisable is to add a rope to the tower before erecting so the chain of the chain hoist can be added in an easy way. (without climbing in the tower)
The chain hoists can be placed after the towers are erected.
Chain hoists must be placed inside the TTS truss.
Depending on the set up of the roof the hook of the chain can be attached to the opposite truss (with round sling) or to a hook attachment plate.

Stage 5: Mounting the roof keder supports

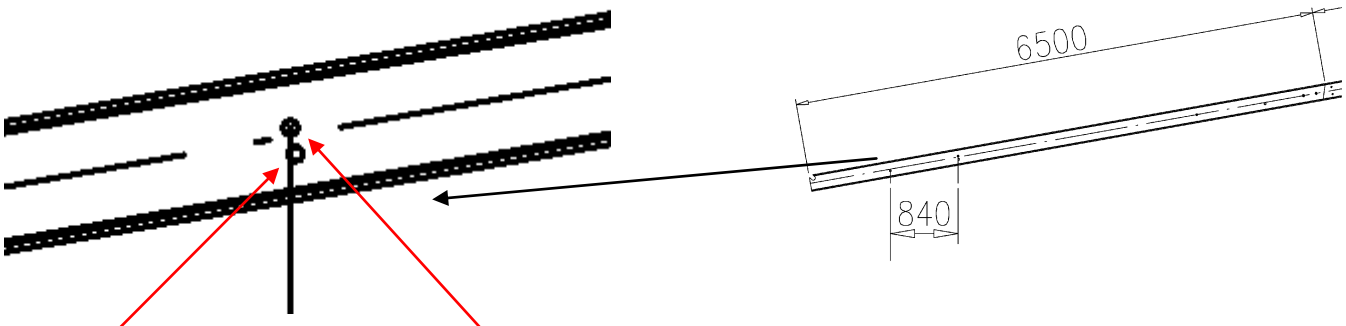
The roof keder supports are to be placed on the main rig after the towers are erected.
The position of the supports is marked at the drawings.
The brackets must be attached but not tightened.

Stage 6: Adding roof keder assemblies

The adding of the roof keder profiles can be done the best starting from the front.
For the 15mtr depth roofs, the front profile is the profile with a horizontal cut out for the front tube.
As the profiles are heavy weighted it is not advisable to make pre-assemblies of the keder profiles. Just assemble them while mounting on the roof.
The joining of the keder profiles to each other is done by placing 2 fixation pins and secure them with an R-clip.
Note: As the profiles have more connection holes just check the drawings for the right holes to use.



Use lower hole to connect front roof keder to the side keder supports for 15mtr depth, for 12 mtr depth use upper hole.



Use upper hole to connect rear roof keder tot side keder supports for 15mtr depth, use lower hole for 12mtr depth.

Stage 7 : Roof keder pressure beams.

The roof keder pressure beams can be added now.
For position and assembling see drawings.

Stage 8 : Cross wiring roof

Cross wiring vertical

Between the roof keder supports in the on one positions cross wire sets must be placed. The cross wires are to be placed between the supports in or close to the centre (see page 42). The content of a cross wire set is a steel cable with a turnbuckle and shackle.

Cross wiring horizontal

The cross wiring in the horizontal level exists out of steel cables with turnbuckles.
On the sides the cross wiring is to be attached to the sleeveblocks.
The cross wiring is to be attached to the HD44 and HD34 special attachments.
For position and details see drawings and specification span cables. Take care the protection of the steel cable is moved to the position where the trusses will be passed.

Stage 9: Adding roof cover

Adding roof cover sheets

In the rear of the roof keder profiles steel tubes must be placed. (see overview tubes)
In the rear of the outer keder profiles (76cm distance) an aluminum tube with “stops” must be placed. (see overview tubes)
The roof cover sheets do have a pocket in the front. In this pocket a steel tube must be placed. (length of the tube matches the width of the sheet + the width of the keder profile)
In the pocket of the outer sheets an aluminum tube with “stops” must be placed.
The sheets can be pulled from front to the rear to close the roof.
In the rear of the sheet an aluminum tube (length matches the width of the sheet minus a few centimeters) must be placed in the cover. With 4 or 5 ratchet span bands the sheets must be spanned to the outer lower tubes of the TTS truss.
The small outer sheets can only be placed after the roof is raised to user height.
The lower part of the sheets can be attached with small ratchet span bands to the wall keder profiles after the first part of them is placed.
In the corners the special part connected to the left and rear sleeve blocks does support the small covers and the triangle shaped coversheet.

Adding roof cover side (triangle)

The triangular part of the side can be slided in the outer keder profile.
In the bottom a tube can be added in the pocket.
This cover parts can be spanned with ratchet span bands to the bottom tube of the side TTS-trusses. This has to done after the wall keder profiles are placed.
Also the loose hanging part can be attached with small ratchet span bands to the wall keder profiles when they are placed. (outside the wall keder profile has holes to attach the hook of the ratchet band set)
In the corners the special part connected to the left and rear sleeve blocks does support the small covers and the triangle shaped coversheet. (use elastics with S-hooks)

Finalizing roof cover

The sheets do have Velcro strips to close the gaps between the sheets.

Covering: There is a separate manual which explains the roof and wall covering.

Stage 10 : Checking and tightening.

The connection of the roof keder supports must be tightened.
Before the roof construction can be raised, some points should be checked.
Checkpoints :
Are all the pins and safety's added
Are all the pressure beam's added
Is the cross wiring tightened
Are all connections, couplers tightened

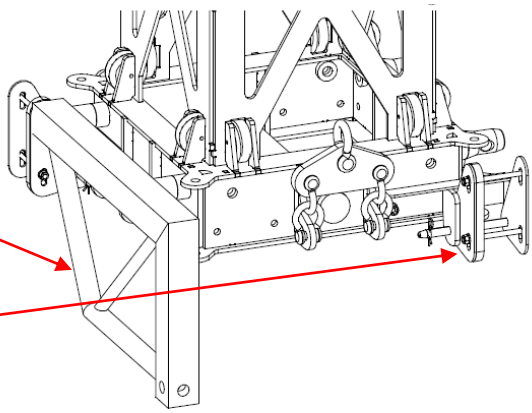
Stage 11 : Vertical cross wiring side and back wall

The upper cable of the vertical cross wiring best should be added when the roof structure is still down.
Look for the details in the drawing and the specification of the span cables.
To mount the cross wiring the roof is best to be raised a little. (1,5mtr is advisable)

Stage 12 : Preparation before raising.

Before raising the sleeve block frames must be added to the left and right rear sleeve blocks.
Use CS3 Connection system to connect. (see page 13)

Also the sleeve block rig connectors have to mounted to the sleeve blocks before raising. (see page 20)

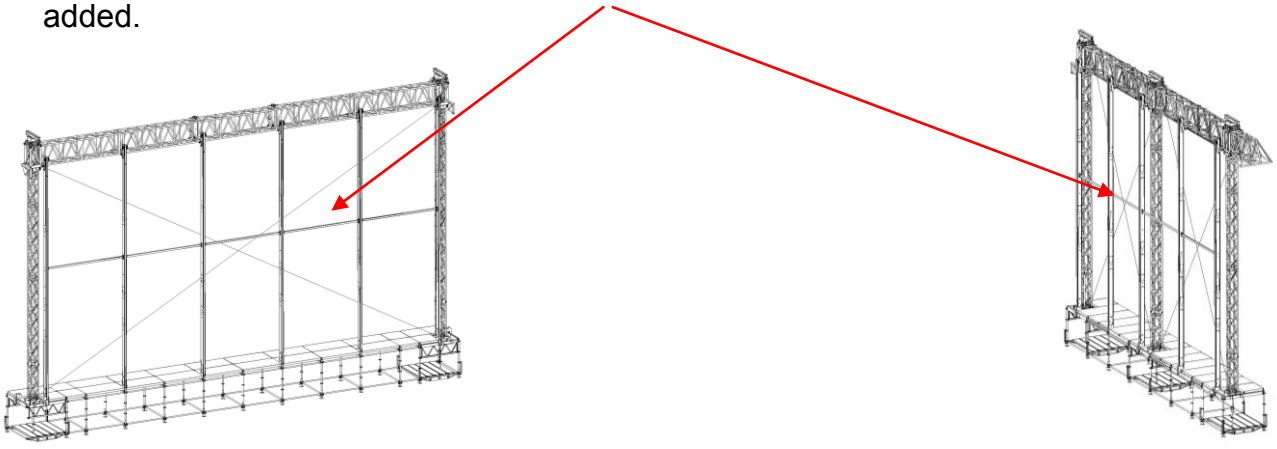


Stage 13 : Adding the wall keder.

The wall keder profiles can be added while the roof construction is raising.
It is advisable to add the keder profile to each other during the lifting of the roof.
The position of the wall keder assemblies is to be found in the drawings.
When the roof structure is on user height the last part of the wall keder can be added.

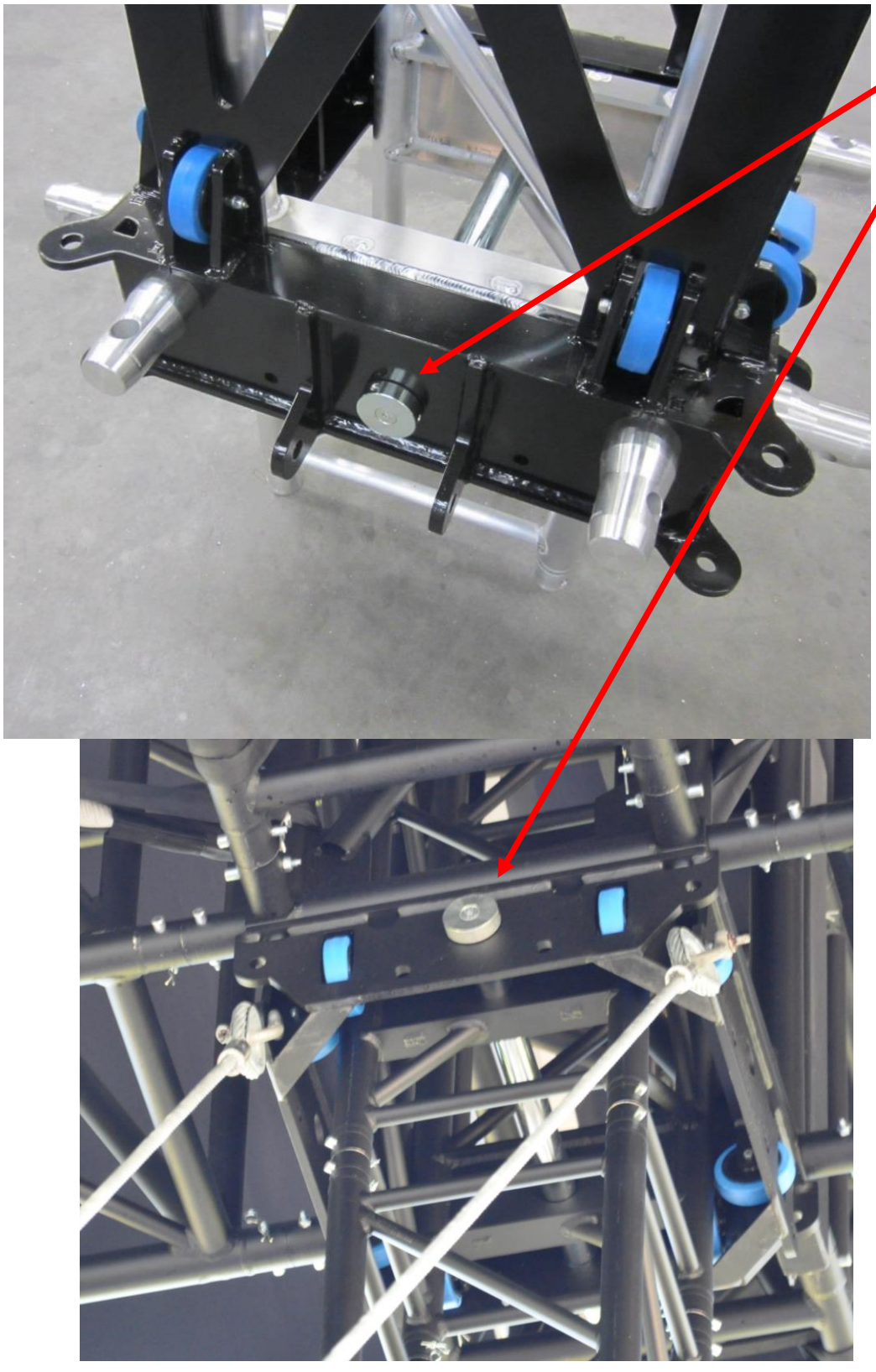
The wall keder rig connector should be secured with safety chains.

Also during this process the pressure beams between the wall keder profiles must be added.



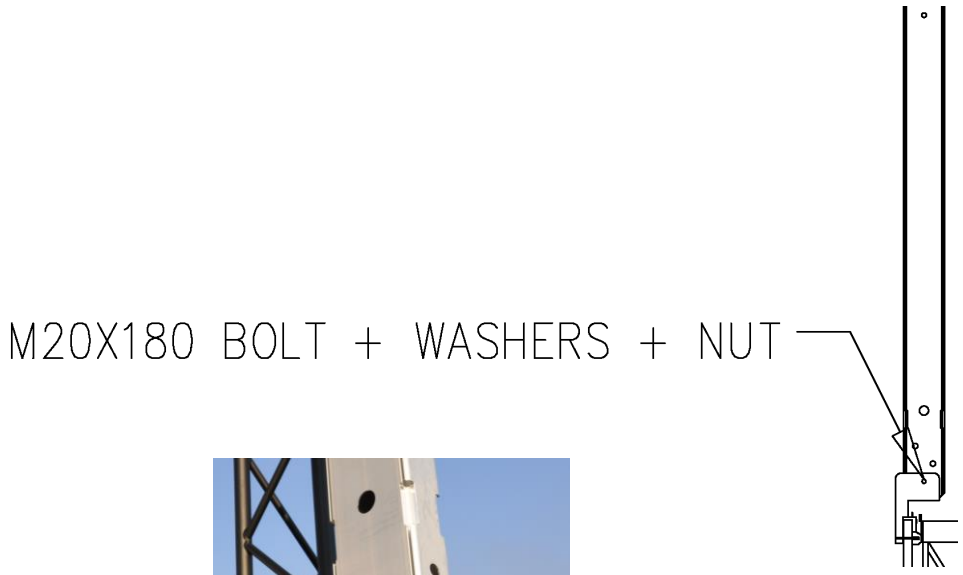
Stage 14 : Fixate main rig to towers.

After the rig is raised to user height the sleeve block fixation bar has to be placed. After the rig is fixated to the towers the load of the rig must be released from the chain hoists.



Stage 15 : Connect the wall keders to the podium.

The podium connectors for the wall keders must be placed according the drawings.
The bottom of the wall keder profiles must be connected to these podium connectors (using the M20 bolt with nut)



or

Stage 16 : Finalizing cross wiring walls.

The cross wiring of the walls can be final assembled and tightened.

Stage 17 : Placing the roof cover sheets over the towers .

After the roof is raised the small roof cover sheets (above the towers) can be placed and tightened.

Stage 18: Wall cover sheets

The wall cover sheets can be placed.
The upper sheets can be pulled up with ropes in the outer slides of the wall keder profiles and the lower wall cover sheets are to be placed in the inner slides of the wall keder profile.

Some wall cover sheets do have an (optional) possibility to use as a “door” with zippers. These can only be placed on the sides.
To raise and to span the wall covers, tubes can be placed in the pockets and with span bands they can be tightened.
The lower inner sheet can be fixed to the keder profiles with bands and hooks.
Around the corners (back towers) small sheets close the gap.

Covering: There is a separate manual which explains the roof and wall covering.

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Userloads and Ballasting

Usage limitations from static calculation.

Eurotruss roofs were designed for use outside. As long as conditions in the static calculations are not exceeded there is no limit to their use.
Conditions in static calculations. (see also static report; User information)

- Snow is not allowed.
  The load caused by snow on the roof is not taken into account in the static calculations and as such not allowed. Snow has to be removed either manually or by heating
- Wind forces up to 8 Beaufort (17,8m/s)
  A major part of the loads in the static calculations is caused by wind loads. The static calculation is based on a wind load cause by a wind speed equal to 8 Beaufort. Anything over 8 Beaufort is not calculated and as such not allowed. If wind speed increases to more than 17,8m/s (8 Bft.) the side and rear walls have to be removed. *(before the wind reaches this speed the wall covers must be removed)*
- Loading the roof with user loads higher than calculated.
  Anything over what is shown in load cases is not calculated and as such not allowed.

User loads that are present during the entire time the roof is erected may be regarded as ballast. (not allowed in every country)

Userloads

The maximum user loads are described in the static calculation and reports.

Ballast information

The necessary ballast is calculated and described in the static calculation and reports.
Make sure the ballast on the bottom of the stage is connected to the towers.

Parts identification / Glossary

Truss types used in Eurotruss Roof constructions.

FD32 Truss. Ladder truss with outside dimension of 290mm. Mainly used as support grid for light fixtures etc.

FD33 Truss. Triangular truss with outside dimension of 290mm. Mainly used as Roof cover Support

FD34 Truss. Square truss with outside dimension of 290mm. Used as general construction element for the smaller roofs. Can be used horizontally in the rig and vertically in towers.

FD43 Truss. Triangular truss with outside dimension of 400mm. Mainly used as Roof cover Support

FD44 Truss. Square truss with outside dimension of 400mm. Used as general construction element for medium sized roofs. Can be used horizontally in the rig and vertically in towers.

TD35 Truss. Square truss with outside dimension of 350mm. Optimized for use in the towers of the larger roofs. Straight braces are used as ladder.

TD44 Truss. Square truss with outside dimension of 400mm. Optimized for use in the towers of the larger roofs. Straight braces are used as ladder.

ST Truss Square truss with outside dimension of 510mm. Optimized for use in medium to large spans in rigs. Straight braces used in top and bottom plane.

TT Truss Rectangular truss with height of 1010mm and width of 580mm. Largest truss in Eurotruss range. Optimized for use in large spans.

XT Truss Rectangular truss with height of 810mm and width of 580mm. Optimized for use in large spans.

TTS Truss Rectangular truss with height of 1010mm and width of 580mm. Largest truss in Eurotruss range. With main tubes 100mm diameter. Optimized for use in large spans

Truss parts are identified as in the following example:

FD34-125 Truss type – Length in centimetres.

Standard Eurotruss Accessories used in roofs.

BOB Bolt On Bus. Used to connect truss to parts that have no Bus attached.

DC Doughty Clamp. Easily de/attachable clamp used to connect truss of fixtures to the main tubes of a piece of Truss

FDDC-xxx A combination of a Bolt On Bus and a Doughty Clamp. Is used to connect Truss (at odd angles) to other truss. Xxx denotes the effective length of the part in centimetres.

Scon-xx Screwable connector. Basically half a spigot with internal screw thread. Can be fitted to other parts that have no bus or spigot attached. Xx denotes the effective length of the part in mm.

DCDC Swivel Coupler. Two doughty clamps bolted together allowing them to rotate.

Eurotruss corners.

Eurotruss corners are described by their appearance. Some of the corners can be scribed by one or more letters, others need a number usually to describe a corner or designate a specific variety.

FD34-T T corner

FD34-T04 Specific T corner with other that standard dimensions

FD34-X X corner

FD34-L60 60° corner

In addition to these codes the letters D and U can be added to a corner indicating an extra connection Down or Up or Up and Down.

FD34-TD T corner with Down

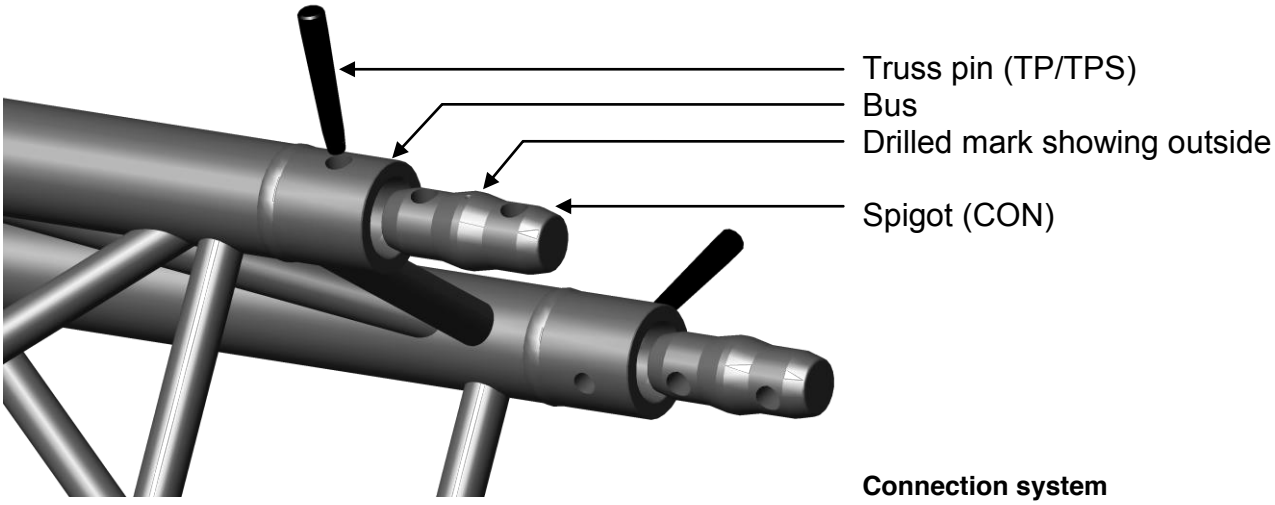
Eurotruss connection system

All Eurotruss Truss types are connected in a similar fashion. Every piece of truss has specially shaped parts welded to the end of the main tubes. These busses are shaped to receive the connector or spigot. This is a solid aluminium part used to connect pieces of truss together.
To establish a solid connection between the bus and the connector a conical steel pin is hammered in. Both Bus and Spigot have a conical hole to allow the conical pin.

The truss pins has a retaining device. Depending on the type of pins used this is either a spring clip (or r-clip) or a self locking nut (Nyloc). The type of retaining mechanism depends on the expected use. If the user wants to keep (part of) the spigots permanently mounted, the locking nut is a logical choice. A number of clients have spigots permanently mounted on one side of the truss.

Connection system

Bus	Specially shaped parts welded to the end of the main tubes.
Spigot	Aluminium connector part
Truss pin	Conical pin used to connect Bus and Spigot together.



Connection system

To connect 2 pieces of truss together, spigots are inserted in one truss. Insert the spigot with the drill mark on the outside. Spigots are fastened by truss pins that are hammered through the bus and the spigot. A correctly mounted truss pin is hammered so far in that the r-spring can easily be mounted or in case of a KCPN type truss pin until the entire length of the thread sticks out on the inside of the truss.
When all busses have their spigots mounted, carefully slide the other truss onto the spigot. Slide it on straight and make sure that the busses nearly touch. The holes of bus and spigot must nearly align! Then the truss pins can be mounted on the loose end of the connection.
You may notice that other truss products may be easier to connect. Eurotruss has done this to put tension on the connection. This takes out play in the connection and makes the connection more rigid.
Due to the nature of their use both Spigot and Truss Pins have to be considered consumables. They wear during normal usage and may have to be replaced from time to time.
Eurotruss has 3 different connection systems.
FD25, FD3x, HD3x, FD4x, HD4x, TD35 and TD44 use the CS1 connection system. The spigot is designated CS1-CON, the pin CS1-TP and the R-clip CS1-RS2.
GD and XD use the CS2 connection system. ST, XT, TT and TD50 use the CS3 connection system. TTS uses CS5 connection system
Trusses that use the same connection system can share their connection material. It is 100% compatible. Trusses that use a different connection system cannot share connection material.
Use only Eurotruss connection material in good condition.

Glossary

Tower	Vertical truss structure with the following basic components. Base, short piece of truss just longer than the height of the Sleeveblock, Hinge, Truss making up the length of the Tower, Sleeveblock, Tower top.
Base	Aluminium or Steel structure with adjustable feet. Needed to provide a level basis for the tower to be erected on.
Outrigger	Is used to further stabilize the base by enlarging its footprint. Outriggers are also fitted with adjustable feet.
Baseplate	Aluminium plate with busses welded on. Most basic form of a base allowing no vertical adjustment. Can only be used with small roofs.
Sleeveblock	Aluminium structure with wheels designed to fit around the tower. Used to connect the Rig to the tower. The rig can be lifted by connecting a hoist or motor to the Sleeveblock.
Spancable	Cable with spanner used to stiffen up the construction.
Spigot	Aluminium connection part. Is used together with 2 truss pins to connect the main tube of a truss part to another.
Truss pin	Hardened steel pin used to fixate the spigot in the bus of a piece of truss
R-clip	R-clip or R-spring is used to secure the Truss pin. There are also Truss pins available that use a self locking nut for this purpose. This is especially useful for Truss pins that are left in the construction or (semi) permanent constructions.
Roof endpart	Special piece used to connect the roof gables to the main rig. Connection to main rig via DCDC's.
Hingepart (set)	Part that allows to truss parts to be hinged. Is used in the tower to build the tower horizontally and then erect it. Eurotruss uses hinge parts in FD/TD truss and in the ST/XT truss. There are a number of different versions, each with their own place in the construction.
Tower top	Part that forms the top of the tower. There a two basic forms of the towertops. The manual towertops has two hanging points. One for a manual chain hoist, the other for a safety cable.
Safety cable.	Steel cable used for dead hanging of the rig. Safety cable is used between the Towertops and the Sleeveblock.
Safety chain	Combination of chain with shortened and cable spanner that can be used instead of the safety cable. The safety chain allows more height compensation.
Roof cover	All the screens forming the watertight roof.
Side walls	Screens forming the walls of the roof structure. Usually 50% open gaze.
Cornerblock	Rigid square (or rectangular) construction with bolt holes in all directions. Cornerblocks are universal base components from which a variety of corners can be built. The bolt holes can also be used to bolt other attachments to. Standard attachments for cornerblocks are Bolt On Busses (BOB) and hingeparts (Female Bolt On).
Roof top	Part the attaches the roof gables to the Rooftop Support. This may be a ustom part or it may be composed of a cornerblock with Hingeparts.

Appendix

Appendix A Consumables and other spare parts

CS1-CON	Conical Connector for Truss Systems HD, FD
CS1-TP	Conical Truss Pin for Truss Systems HD, FD
CS1-RS2	R-Clip 2mm for Truss Systems HD, FD
CS3-CON	Conical Connector for Truss Systems TT, XT, ST, FT and TD50
CS3-TP	Conical Truss Pin for Truss Systems TT, XT, ST, FT and TD50
CS3-RS3	R-Clip 3mm for Truss Systems TT, XT, ST, FT, XD (GD) and TD50
CS5-CON	Conical Connector for Truss Systems TTS
CS5-TP	Conical Truss Pin for Truss Systems TTS
CS5-RS3	R-Clip 3mm for Truss Systems TTS

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