

# ASSEMBLY INSTRUCTION

## MIDDLE SECTION

(W/O LADDERS)

FOR THE M38W TOWER

1982-09-27

Latest rev 2008-Feb-18

# M38W KIT - assembly of middle section w/o ladders

## Packing list

3	pcs	Corner leg 3050 mm long (all alike)
3	pcs	Joint profile
24	pcs	Stray / cross piece
6	pcs	Screw M6x16 stainless steel (16 mm)
21	pcs	Screw M6x20 stainless steel (20 mm)
27	pcs	Nut M6 stainless steel
27	pcs	Lock washer M6 stainless steel
27	pcs	Washer M6 stainless steel
24	pcs	Screw M10x20 stainless steel
24	pcs	Lock washer M10 stainless steel
24	pcs	Washer M10 stainless steel
24	pcs	Nut M10
1	pc	Reference item for distance of legs (length = 303 mm)

### Step 1.

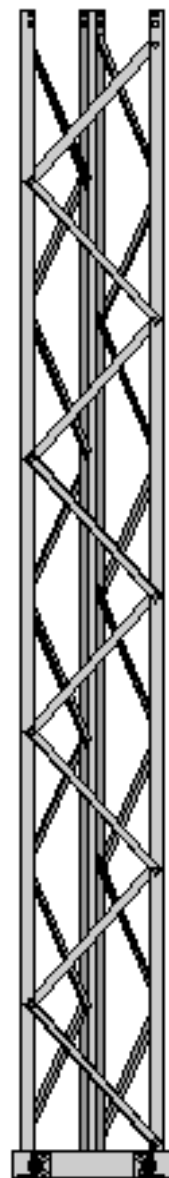
Check all parts against the packing list specified above.

### Step 2. - Ends identity is important -

Identify the three corner legs. Ends are different. One end has a label and the other has not. *Important:* label indicates downwards!



Downward ends. This end is the end of the tower section that will be pointing towards the ground. Identifying this end is important.



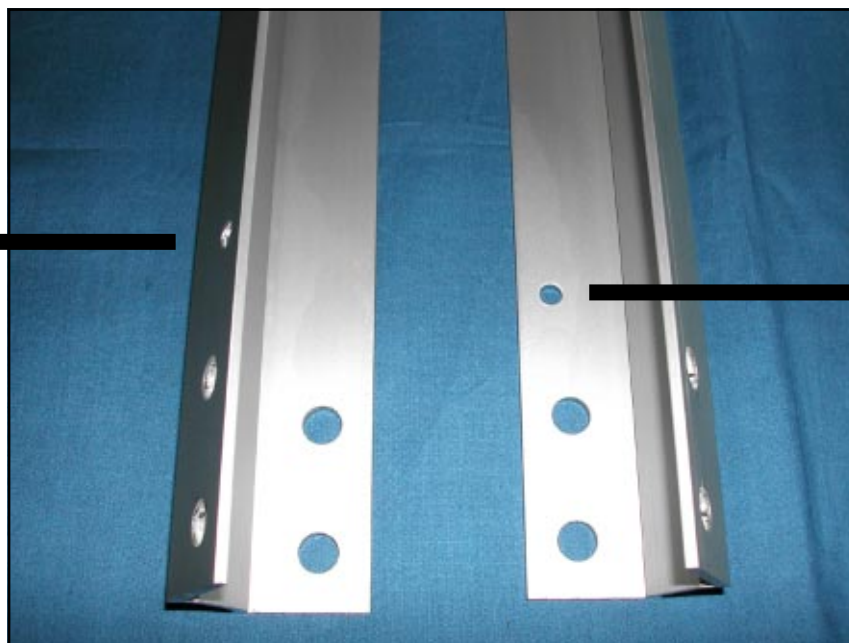
Picture showing a lower (bottom) section with triangular foot (not included in this kit) looking just like a middle section w/o steps.

# M38W KIT - assembly of middle section w/o ladders

## Step 3. - Assembly starts from the TOP of the section -

Assembly of the section will commence from the opposite end to the shown downward labelled ends of corner legs. Place two of the corner legs as picture shows. Please observe that this end is the upward end i.e. not the end having the labels.

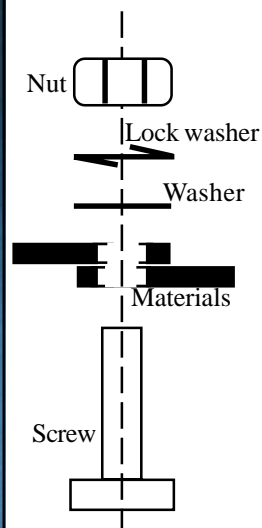
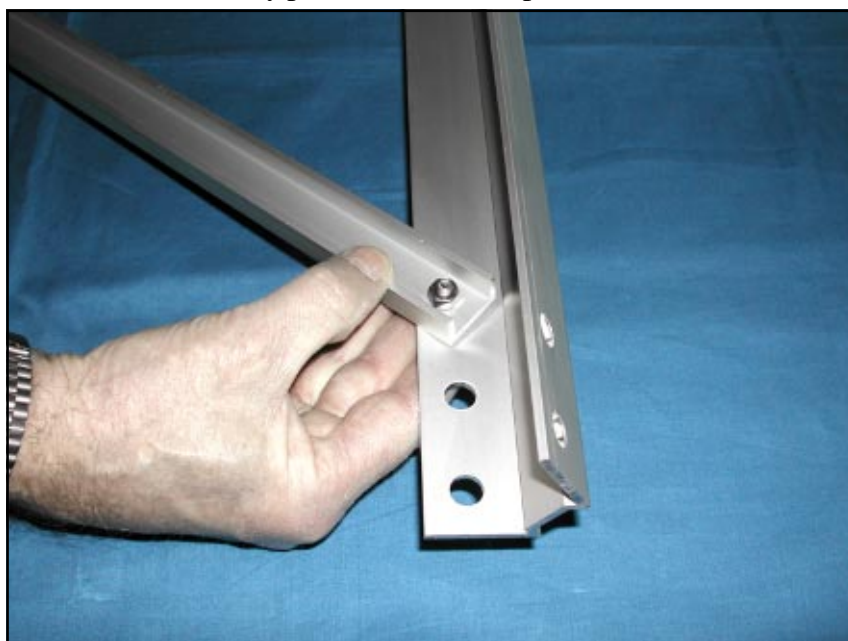
Hole 6,5mm



Hole 6,5mm

## Step 4. - Starting position is important -

Identify the Strays (or cross pieces) as well as the **M6x16** screws. *Important:* do not use the M6x20 screws here as this joint connects only the corner leg and one single stray. Place the stray end inside the corner leg profile with the flat side against the corner leg. Now, put the screw in the hole from the outside of the corner leg profile and fit the nut onto the screw inside the stray profile as shown in picture. **DO NOT TIGHTEN THE NUT!**



*Screw thread from underside (outside of construction) and further through the stray hole and finally the washer and lock washer along with the nut inside the "U"-shaped stray profile*

# M38W KIT - assembly of middle section w/o ladders

## Step 5.

This step connects two strays and a corner leg. Identify the **M6x20** screws as this connection contains more materials than in step 4. A longer screw is therefore needed.

One of the two strays to connect is already in position from step 4.

Another stray is to be positioned at the outside of the construction i.e. with the "U"-shape up-side-down. Please look at the picture here.

Put the screw the same way i.e. from the outside up through the outside stray's hole and further through the corner leg and eventually through the hole of the stray from past step.

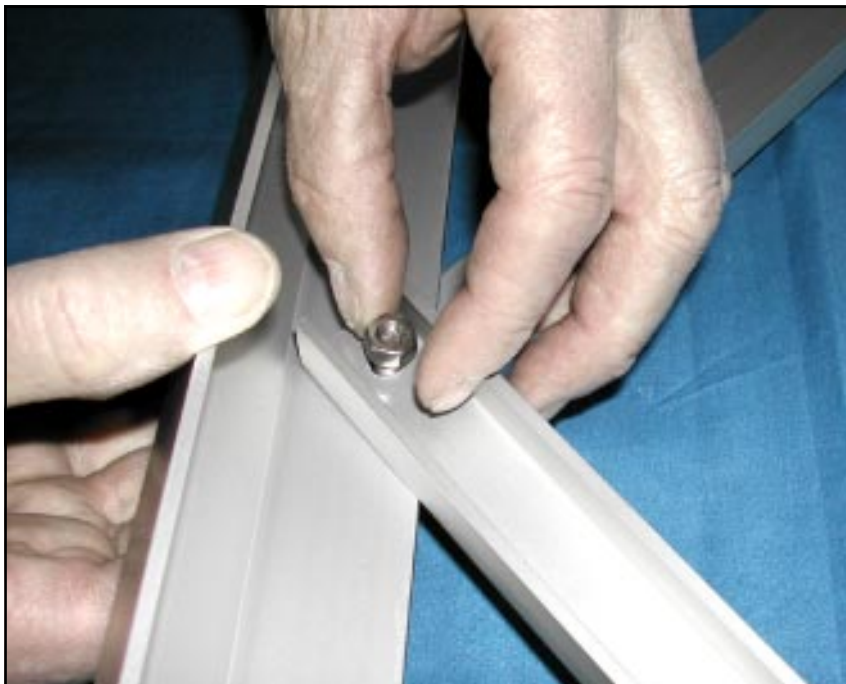
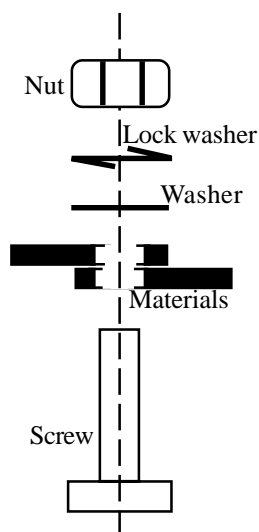
**DO NOT TIGHTEN THE NUT!**



*Two strays and a corner leg: First stray having the flat side pointing down. The other stray having the flat side pointing up and placed under the both corner legs.*

## **Please remember!**

Each connection has its screw, nut and two different washers. It is of significant importance that the position of each joint item is correct. Look at the picture for the position of each one. The washer has to be closest to the material surface. The lockwasher has to be closest to the nut. This way the joint will be secure when tightened. The screw head is close to the material.





# M38W KIT - assembly of middle section w/o ladders

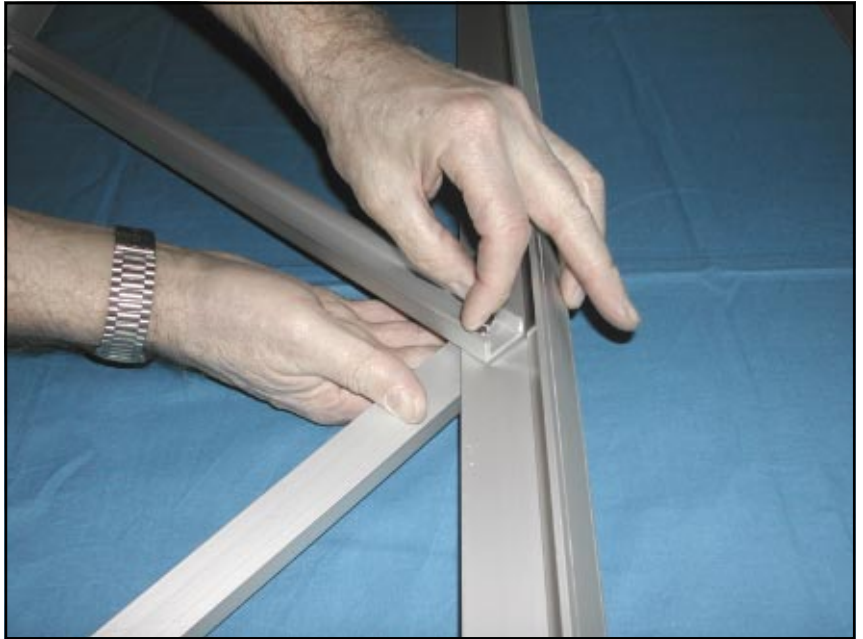
---

## Step 6.

Now continue to the next three-part joint on the first corner leg. One stray on the outside and one on the inside using the M6x20 screw, washer, lock washer and nut.

Now proceed mounting all strays onto these corner legs in the same manner.

**DO NOT TIGHTEN ANY NUTS!**



*A three material joint needs the slightly longer screw M6x20*

At this point your work will look like this. Watch the system of the strays: outside-inside-outside-inside and that a joint with three material parts has the long screw M6x20 and a two material joint has the short M6x16.



*The beginning of a middle section having strays mounted without having the bolts tightened.*

# M38W KIT - assembly of middle section w/o ladders

---

## Step 7.

Position a stray onto the left corner leg as shown in picture. Again this is a two material connection and M6x16 is used along with its washers and nut. Be observant to that the stray is to be mounted inside the construction just as picture shows or else all will go wrong in the end.

**DO NOT TIGHTEN THE NUT!**



*First stray to put on the next side of the left corner leg. The M6x16 screw is used here as it is a two material connection.*

While reaching for the next one stray among the kit parts just leave the mounted stray by folding it down to the corner leg for a while.



*The single stray left folded back while reaching for the next parts to mount*

# M38W KIT - assembly of middle section w/o ladders

---

## Step 8.

Position two strays together as a three material connection as picture shows. Use M6x20 along with washers and nut. One stray put on the inside and one on the outside.

**DO NOT TIGHTEN THE NUT!**



*There are in total three sides of a triangular section. Here the first two strays of the third side is mounted.*

Look at the work so far and observe how the strays are put. Now go on and bring the next two strays together at the next position along the corner leg. Then go on and mount all the strays on both corner legs leaving them all in a folded back position. Use the M6x16 shorter screw on the last one stray at the end of the corner leg where you find the two material joint.

**DO NOT TIGHTEN ANY NUTS!**



*As the third corner leg is not yet brought the mounted strays are left folded back while completing the mount of all strays left in the kit*



# M38W KIT - assembly of middle section w/o ladders

---

## Step 8.

You are now ready to bring the third corner leg to the construction. Be aware of the labelled end of this one. The label are to be put at the same end of the construction as are the other two labels on the other two corner legs. The picture shows the upward pointing end of the section while the labels are all at the downward pointing end. That is the reason why you see no label on the picture here. Grab the third corner leg and put it in position as picture shows.



*The third corner leg brought into position to be connected to the strays recently folded back in stand-by position*

## Step 9.

You will now attach the first of any strays to the third corner leg. This will be a three material connection why M6x20 is to be used along with its washers and nut. Start with the first stray you left folded back earlier and the next one in the row. Bring the strays in the natural way as they both will come along by one on the inside and one on the outside. Look at the picture. Remember to put the screw in through the holes from the outside so the nut will come on the inside. This do not make a big difference however but it will look better when job is finished having all nuts on the inside of the construction.



*The very first connection to be done to the third corner leg. Here a three material holding a screw M6x20 along with washers and nut*

**DO NOT TIGHTEN ANY NUTS!**



# M38W KIT - assembly of middle section w/o ladders

---

## Step 10.

Looking at the picture you will see what it will look like by now. No parts are tightened quite yet why the construction will look like this so far.



*First connection done to the third corner leg. This does not look pretty quite yet...*

Now bring the first stray on the third side to this third corner leg.

This two material connection uses screw M6x16 with the according parts washers and nut.

Preferably have the nut on the inside.

Then go along and mount all the strays on both sides. All of them.

**DO NOT TIGHTEN ANY NUTS!**



*Third side of construction being attached by the first stray on its side to the third corner leg. Here a two material connection thus an M6x16 with washers and nut*

# M38W KIT - assembly of middle section w/o ladders

---

## Step 11.

This is what it would look like when all strays are correctly mounted without being tightened.

You may take a grip at any end and gently shake the whole construction to make sure that everything is quite loose without having any nuts to fall off any screws.

## WARNING!

DO NOT PUT THIS SECTION AWAY ALONG WITH OTHER ALREADY TIGHTENED SECTIONS!  
THERE IS NO ROOM FOR UNFINISHED SECTIONS IN A TOWER!



*Neat looking assembled section. Still not ready to go into the tower as all connections need to be tightened securely*

# M38W KIT - assembly of middle section w/o ladders

---

## Step 12.

You are now to start tightening the nuts. Before you do so you will have to make sure that the corner legs are in the correct distance from each other. For this purpose you will use the supplied extra "stray" that you find much shorter than the others.

This special item you put at the end of the construction as the picture shows. Position it just outside the first diagonal stray so it stays there and lift the third corner leg to the position on top of this short piece.



*The 303 millimetre special distance profile supplied in the kit is the helper to achieve correct spacing between the corner legs*

When done you will have the distance of 303 millimetres between the edges of the corner legs.

This distance is important and will be kept correctly while leaving the piece in place.



*The 303 mm distance does not have to be mounted in any way. It stays nicely in position while in use. Do an extra measure to be sure of the distance.*



# M38W KIT - assembly of middle section w/o ladders

---

## Step 13.

Now tighten the nut at the three material connection closest to the 303 millimetre stray piece. Look at the picture. When done you tighten the very first stray in the other end i.e. the two material connection at the end of the construction closest to the 303mm piece. This way the first diagonal stray will be correctly and definitely tightened.



When the first stray is done you remove the 303mm piece and position it in the other end of the complete structure on the same side that you tightened the first diagonal stray. At this other end you do the same as you just recently did at the first position with the 303mm piece.

When this end too has a tightened stray you may go along and tighten all of the strays on this side of the construction. You do not have to use the 303mm piece for the rest of this side.

## Step 14.

Make the same on next side as you did in step 12 and step 13 using the 303mm piece.

## Step 15.

Make the same on the last side of the construction as you did in step 12 and step 13 using the 303mm piece.

## Step 16.

There are 24 pcs of large screws left along with three very short corner leg profiles. These are the items to connect two sections. You cannot get these wrong. Just remember to have the nuts on the inside. Please pre-mount this connection onto the section you have assembled. This way there will be no items lost.



# M38W KIT - assembly of middle section w/o ladders

---

This assembly instruction is one of the instructions available for the different kits we supply. If you at any point find anything unclear in the description or if there is an actual fault please do not hesitate to tell us about it. We aim to keep a high standard of our products. Construction fitness is important and so is an assembly instruction.

Assembly instructions of the M38W KIT 3m section version are

M38W KIT TOP SECTION W/LADDERS  
M38W KIT TOP SECTION W/O LADDERS

(this one) M38W KIT MIDDLE SECTION W/LADDERS  
M38W KIT MIDDLE SECTION W/O LADDERS

M38W KIT LOWER SECTION W/O LADDERS  
M38W KIT LOWER SECTION W/LADDERS

M38W KIT TRIANGULAR FOOT  
M38W KIT TWO SECTION JOINT

You may reach us at:

VARGARDARADIO AB  
POBOX 27  
SKATTEGARDSGATAN 5  
SE44721 VARGARDA  
SWEDEN

Phone +46-322 620500  
Office hours 8am - 4pm weekdays local time (UTC 6am - 2pm sun saving time and 7am - 3pm winter)  
Fax +46-322-620910  
Email [sales@vargardaradio.se](mailto:sales@vargardaradio.se)