# "MINNA"
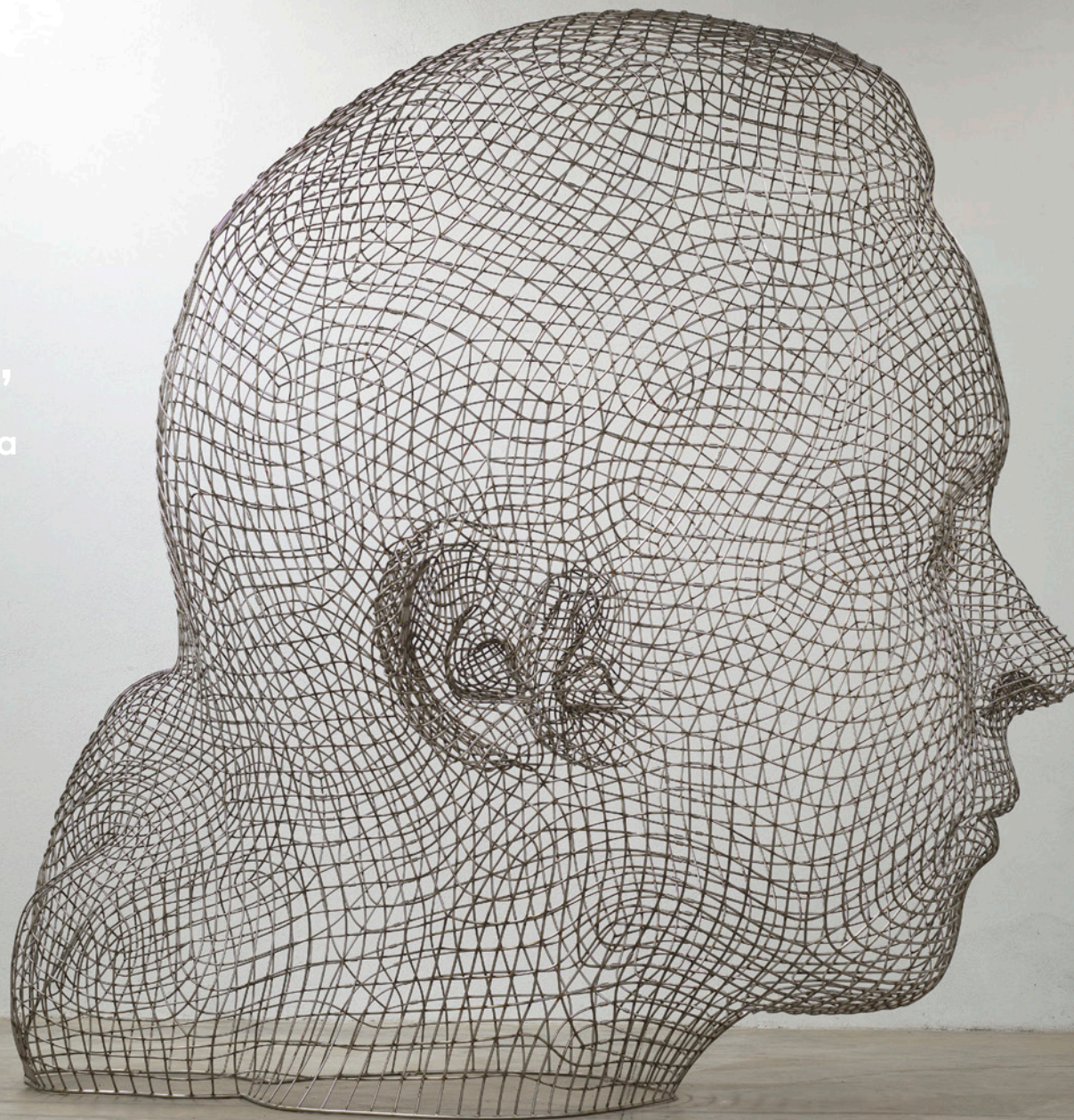## by Jaume Plensa

# INTRODUCTION

"MINNA" is a sculpture by Jaume Plensa measuring 4,97 meters long, 3,74 meters wide, 5,00 meters height. The sculpture is fabricated with a mesh of bent stainless steel 316L rod. 10 mm rods and 12 mm rods are disposed according to the structural requirements in different areas of the sculpture. The rods are welded with continuous saddle welds. Due to the large size of the sculpture, we have divided the volume in five shipping fragments. The five fragments have a disposable transportation structure that on one side gives rigidity to the fragments and on the other side makes the fragments self standing in the transportation position.

The fragments are connected to each other with bolted connectors. There are two dimensions of connectors for both rod sizes. The connectors are fastened with an allen key.

The base plates of the sculpture have to be bolted to the ground.

In this document you will find detailed instructions for the assembly process. Notice that the images used in this document were taken before the sand-blasted finish was performed. Clean disposable gloves will have to be used at all time during the manipulation and assembly of the fragments.
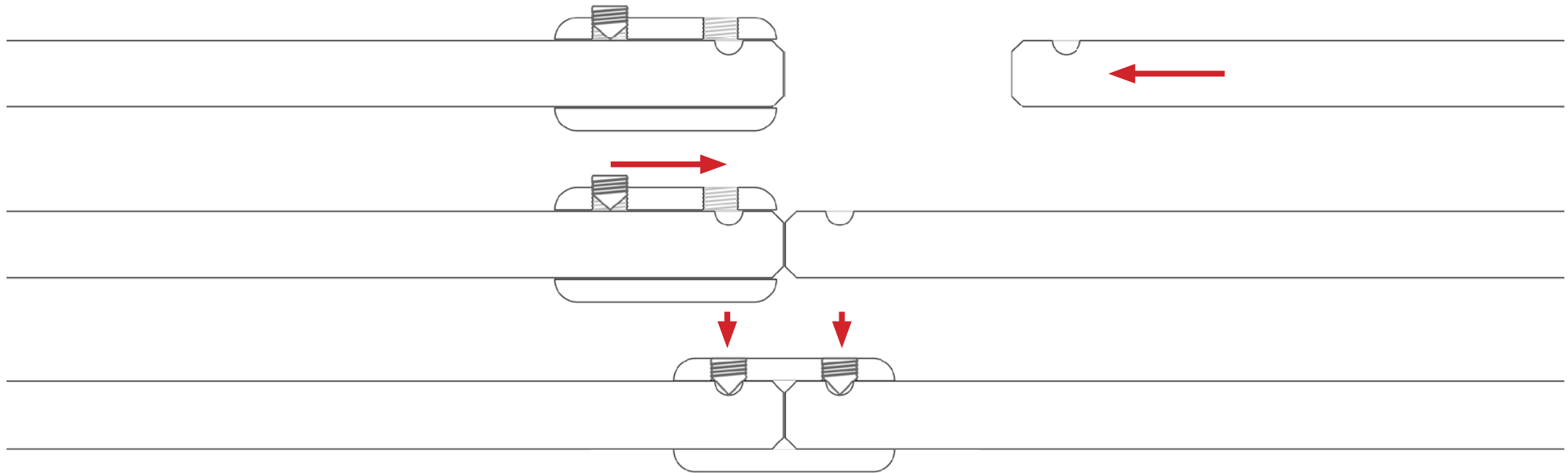
To fasten the connectors, we slide the connector to one side, we approach the rods, we slide back the connector and we fasten the grub screws.

We will start the installation by placing the tail fragment up right. Notice that before lifting the fragment up right, we will slide all the connectors on all the rod ends. We will give a very slight pressure to one of the grub screw to prevent them from sliding off.

We will start by this fragment because it is self-standing.

We will continue by lifting up the left ear fragment and placing it next to the tail fragment.

We will continue by coupling both fragments so that the end of the rods are as close as possible.
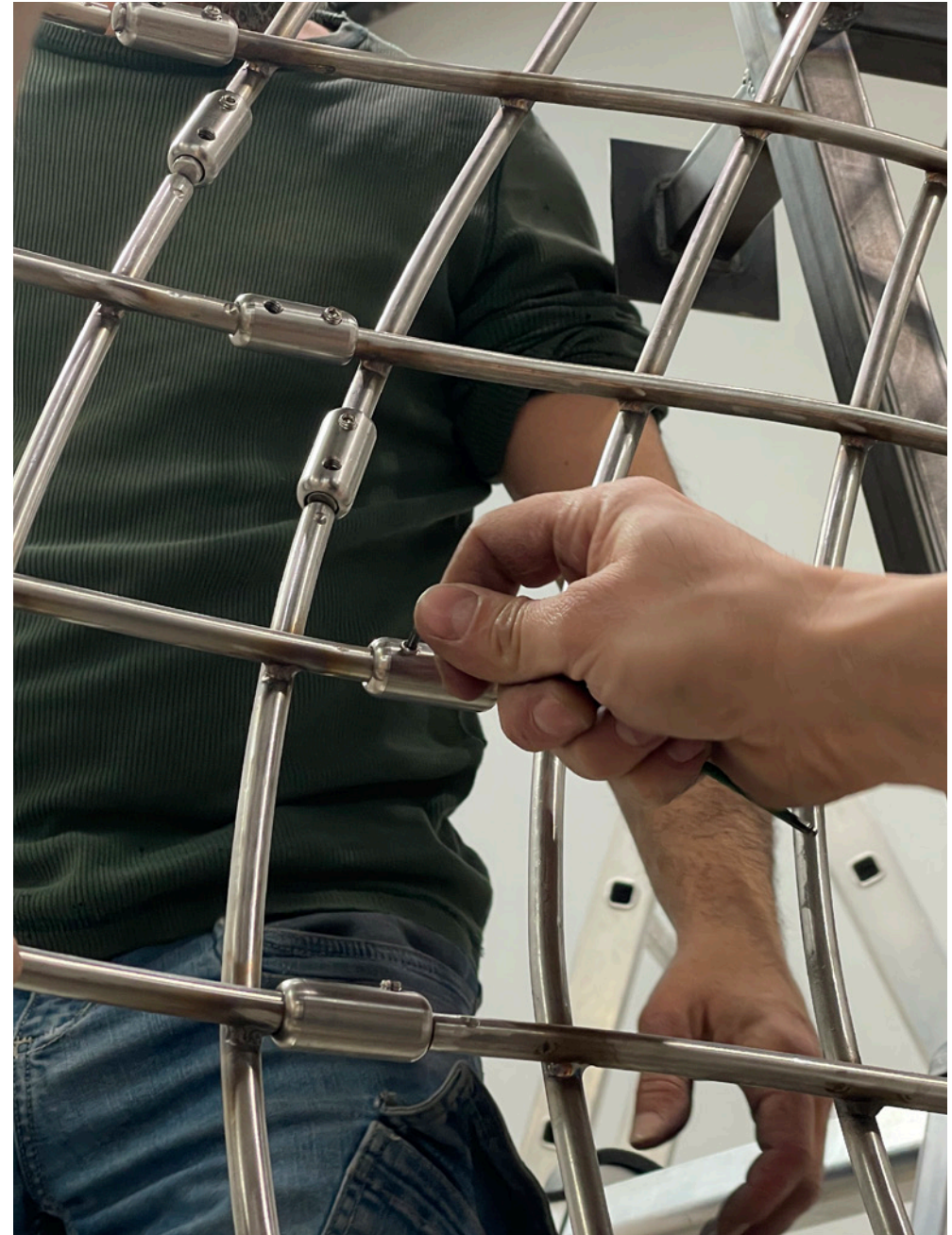
When the rods are close enough, we will slide the connector and when it is aligned with the marks on the rod, we will place and fasten the grub screws

We will always connect the fragments starting from the ground and going up. It is very convenient to have two people that help each other, one will stay inside the mesh and another one will assist from outside.

We might need to use plastic clamps to get the rods close together. In That case we will protect the sculpture to avoid scratches.

We will place a wooden stud to temporarily support the side fragments since they do not have the same stability than the tail. Once we have completely connected the first two fragments, we will lift the right ear and connect it to the tail as we did with the left ear.
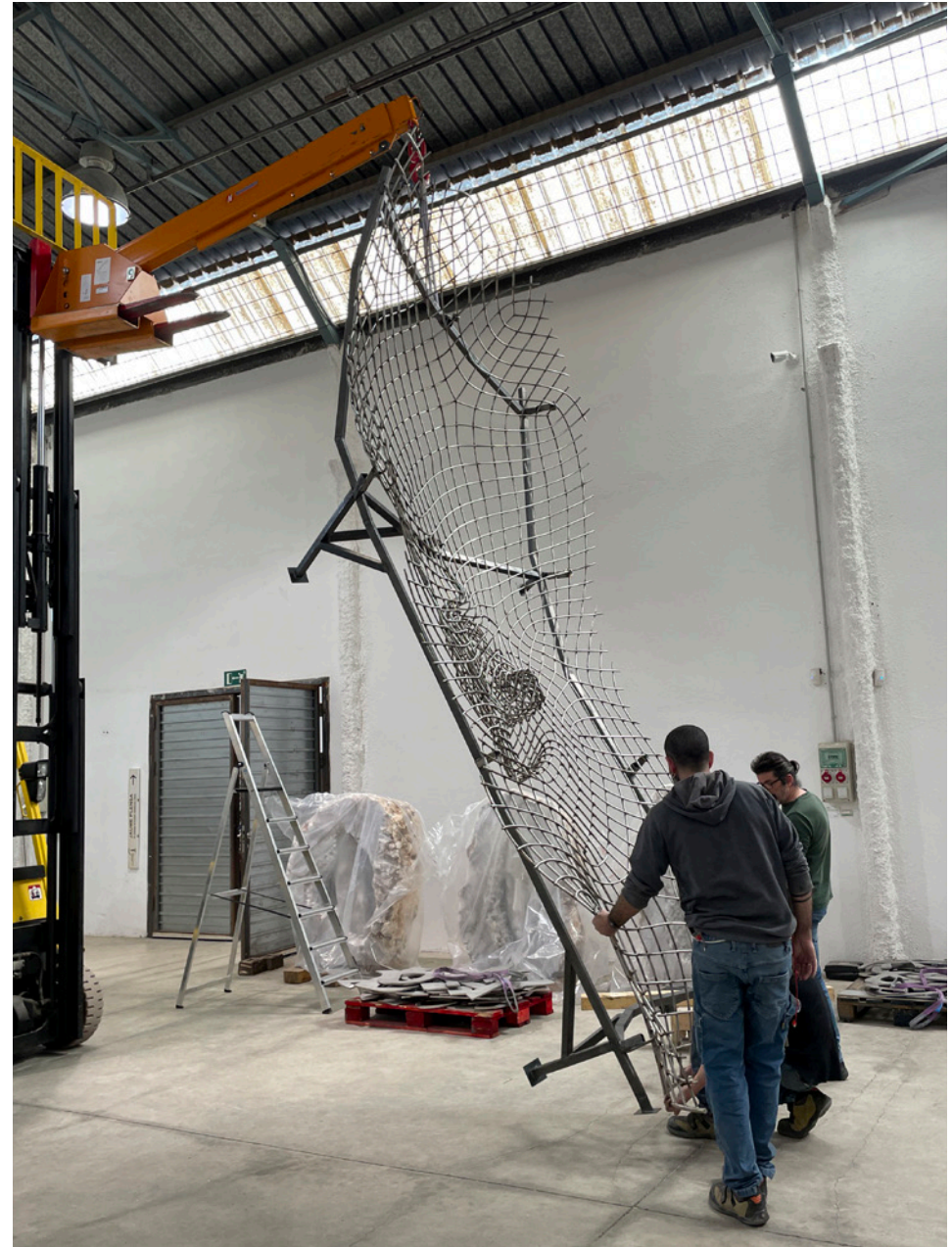
We will connect the right ear fragment to the tail fragment

After connecting the first three fragments, we will place the face standing up

We will then perform the coupling with the first three fragments. Notice than one assembly worker and a ladder should stay inside. This worker will need to be lifted from above in order to exit the sculpture.

Once the four elements of the base are fully connected, it will be time to anchor the neck perimeter onto the holes previously drilled with the help of a plastic template

The template will be shipped with the sculpture along with the connectors and the fastening tools. The M16 or equivalent anchor threaded rods and the chemical fasteners, are not included in the shipment.
Notice that the four elements can be lifted as a group in order to relocate the sculpture as long as more than one sling per fragment is used.
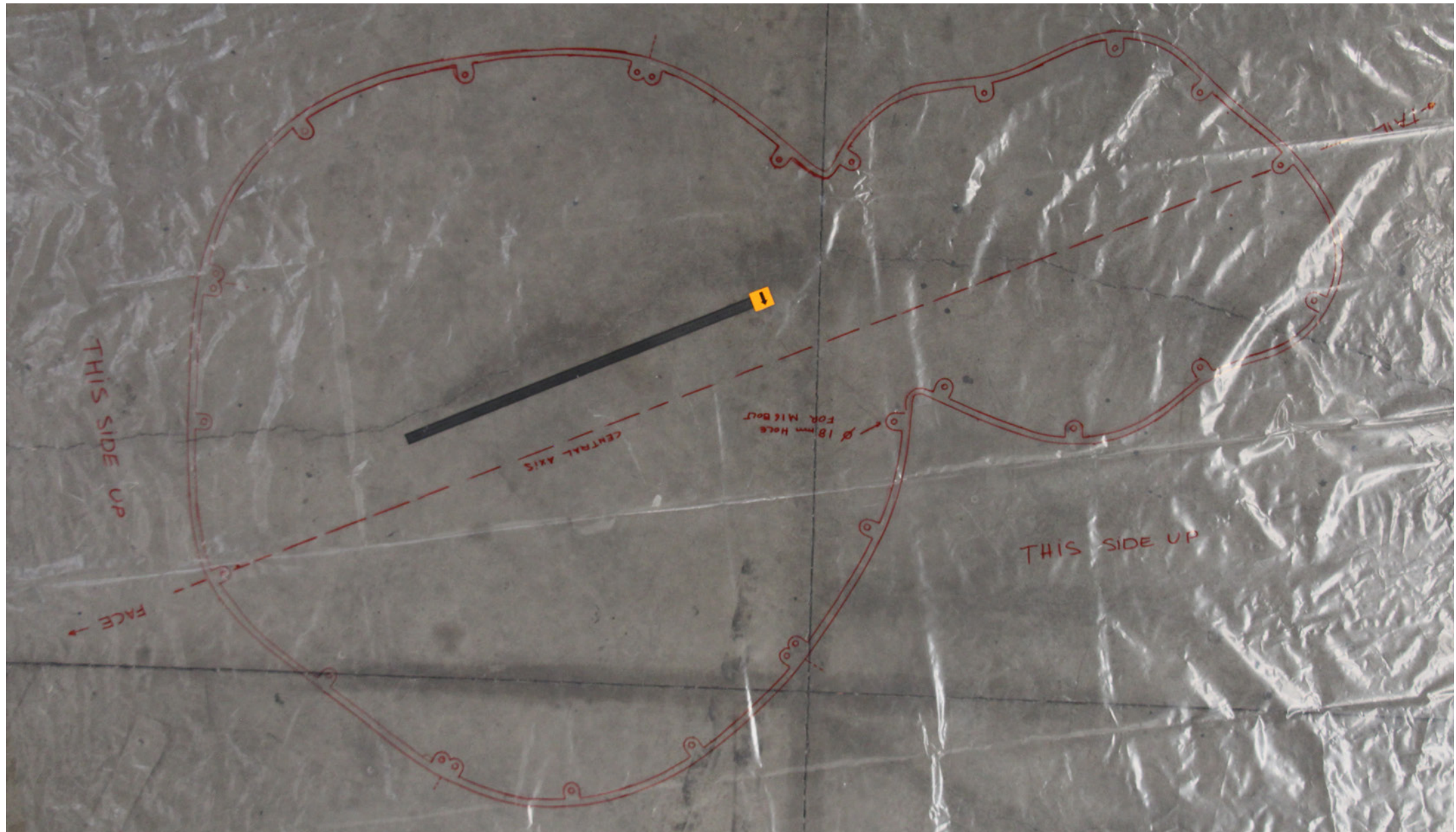
At that point, before placing the top fragment we will need to remove all the assembly material from the interior of the mesh and we will need to make sure that the worker that stayed inside can safely exit the mesh from above with the help of a crane.
We will rotate the top fragment from its shipping position and we will lift it to the top of the mesh.

The top fragment will be connected from outside

Once we have connected all the fragments, we can start to remove the transportation structure

The transportation structure of the tail has to be unbolted in two halves in order to remove it.