

DIPLOMAT DENTAL s.r.o.
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SLOVAKIA



INSTALLATION MANUAL

For dental units

Classic Line

DC170, DC180

TABLE OF CONTENTS

1. Media availability	3
2. Unpack boxes and get the base plate (if ordered)	4
3. DM20 – Unpack, prepare place and move the chair	6
3.1 DM20 chair unpacking.....	6
3.2 Fixing DM20 chair to the floor (no Base Plate is used).....	12
3.3 Fixing DM20 to the installation base plate with adjustable balancing (no drilling).....	13
4. DE20 – Unpack, prepare place and move the chair.....	14
4.1 DE20 chair unpacking.....	14
4.2 Fixing DE20 chair to the floor (no Base Plate is used)	20
4.3 Fixing DE20 chair to the installation base plate with adjustable balancing	21
5. Spittoon block fixing	22
6. Dentist’s pantograph installation	24
7. Light arm and pantograph installation	26
8. Spittoon block connections	31
9. Pulling the bundle of conductors and tubes to the chair.....	34
10. Air and water connections in the chair	35
11. Electric connections in the chair	39
12. Assembling accessories	48
13. Finalizing of installation	57
13.1 Adjusting installed elements	58
13.2 Disinfection of new dental unit before its first use	59

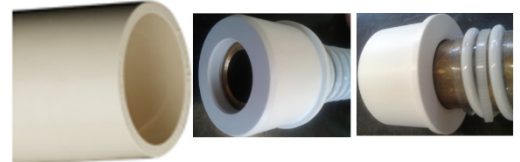
1. Media availability

Before starting to unpack, the service technician has to ensure:

1. That place for the chair or unit is appropriately prepared according to Drill Plan.
2. That all required media are available
3. That all local, national and international requirements are in compliance.

Namely we talk about availability of these basic media inputs/outputs:

1. Drain pipe: PVC tube \varnothing 32 mm, 30 mm over the floor level



2. Suction tube (PVC socket \varnothing 32 mm, 30 mm over the floor level)

3. Electro-installation PVC tube \varnothing 21:
 - for input power cable 3x2,5mm² Cu, (length over the floor level 1000 mm)
 - for Equipotential grounding wire CY 1x4mm² – GNYE (yellow-green)



4. Electro-installation PVC tube (\varnothing 16):
 - for suction unit steering wire 2x1mm² Cu
 - and possibly for control cable for door opening



5. Central water inlet pipe: 1/2" tube finished with socket with inner thread G1/2", 20 mm over the floor level



6. Air pressure: 3/8" tube finished with external thread G3/8"



2. Unpack boxes and get the base plate (if ordered)

The stomatological set is packed in two containers: the unit and the chair.

Stomatological Unit container



Chair container



Remove the cover plate and all the 4 side plates of the unit container in the following order.



Now move the unit carton box aside from the pallet.



There is a chair BASE PLATE (optional item). If present then take it out.



Unpack all parts of the unit.



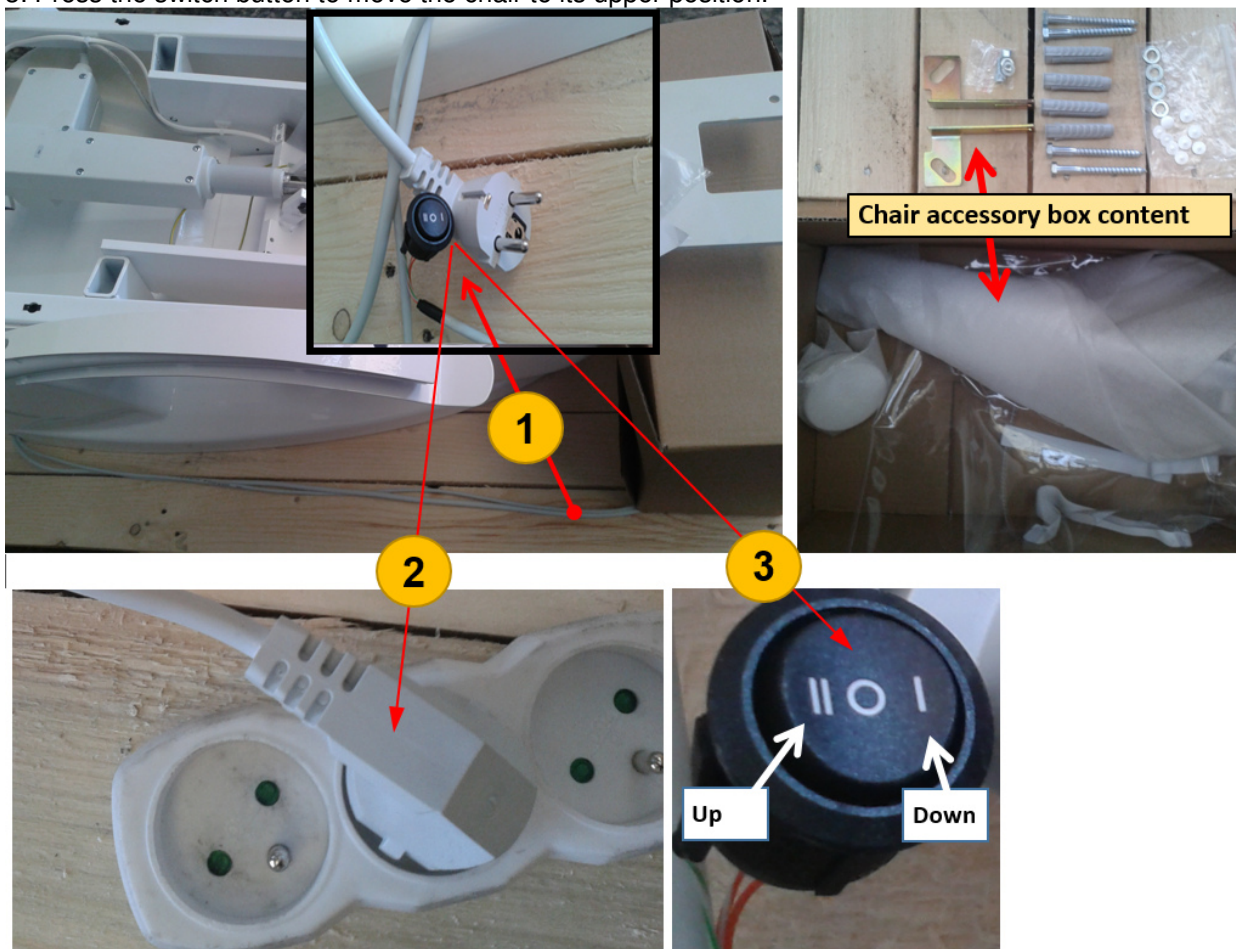
3. DM20 – Unpack, prepare place and move the chair

3.1 DM20 chair unpacking

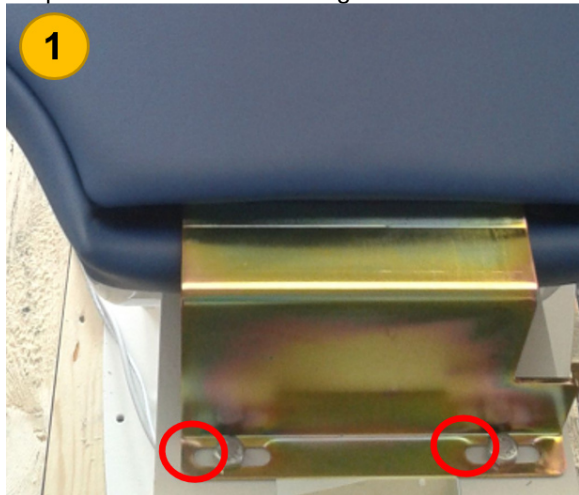
After the chair is unpacked from wooden box, it looks like this:



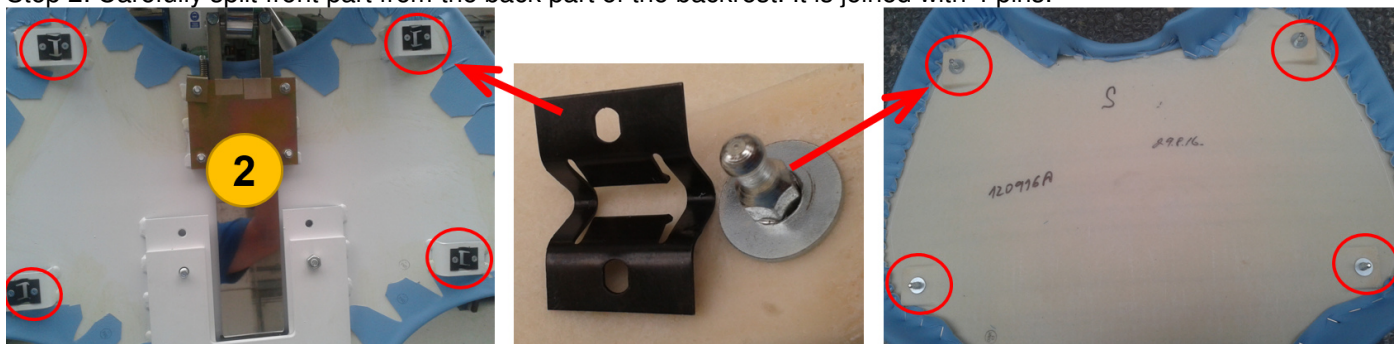
- 1: Take out 2 cables from the chair accessories box.
- 2: Connect the chair plug to 230V socket
- 3: Press the switch button to move the chair to its upper position.



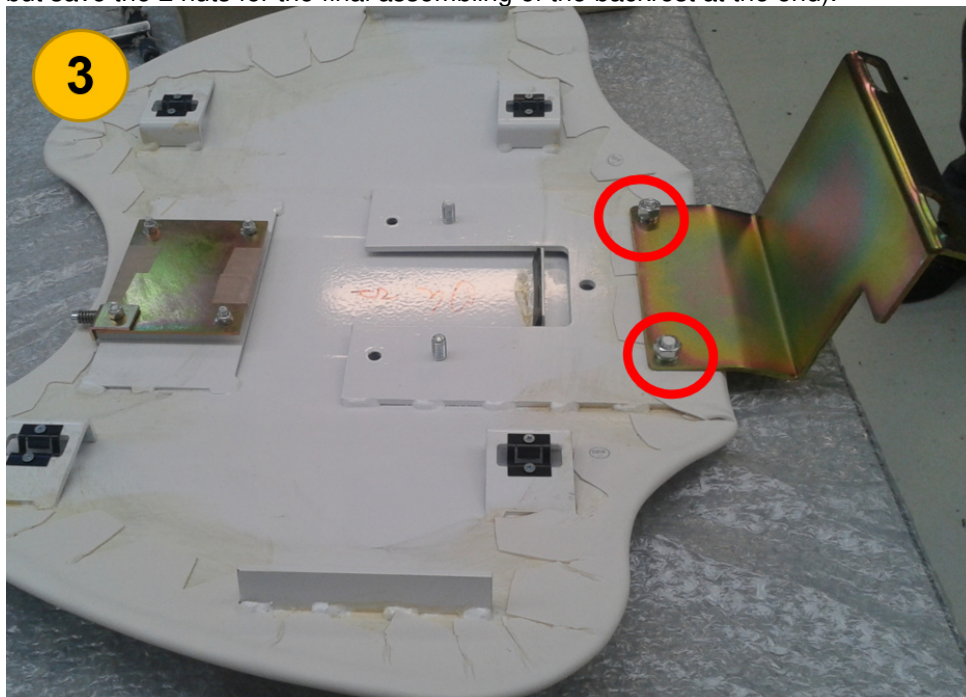
For transporting purposes the backrest is fixed to the chair via temporal console.
 Step 1: Unscrew 2 nuts fixing backrest to the chair. Save the nuts for later use.



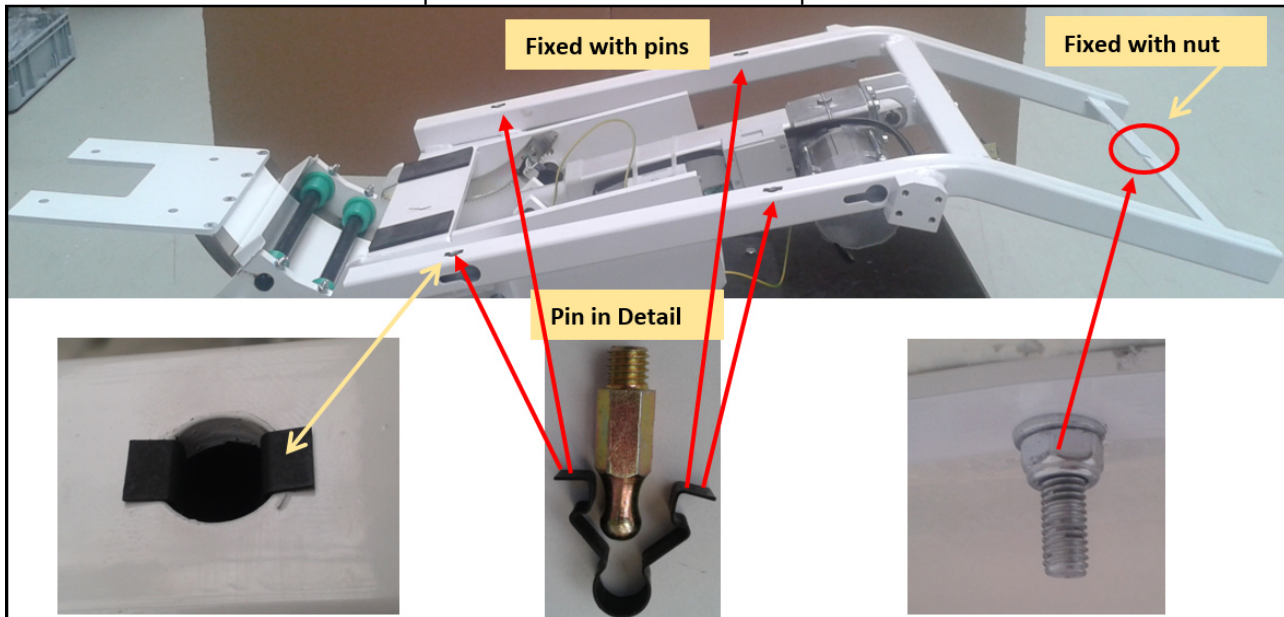
Step 2: Carefully split front part from the back part of the backrest. It is joined with 4 pins.



Step 3: Unscrew 2 nuts fixing temporal console to backrest (the console is no more needed, but save the 2 nuts for the final assembling of the backrest at the end).



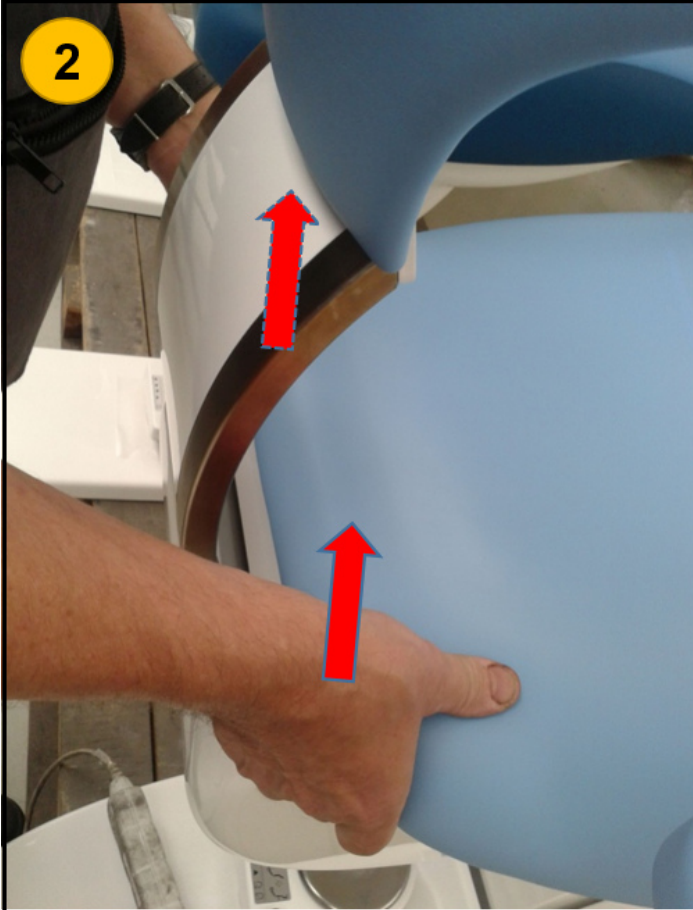
The seat is fixed to the chair with 4 pins and one nut. Follow the steps below.



Remove the seat from the chair by unscrewing the nut and pulling out the seat:
 1: Unscrew this nut located at the bottom of the seat



2: Hold the seat like shown below and slightly pull up the seat using both your hands



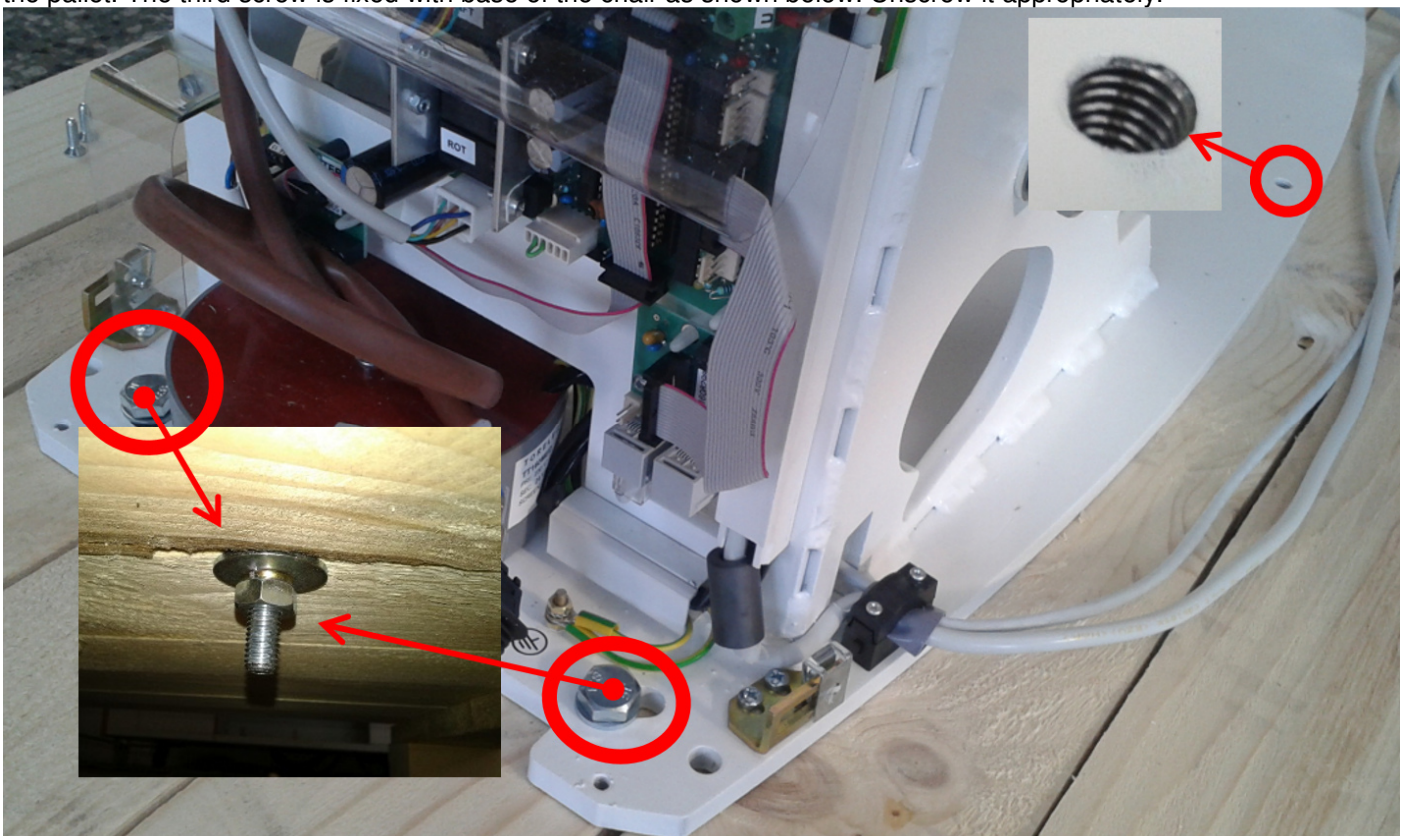
Unscrew 4 screws and take down front cover of power unit (energoblock cover)



Unscrew 4 screws and remove the chair cover



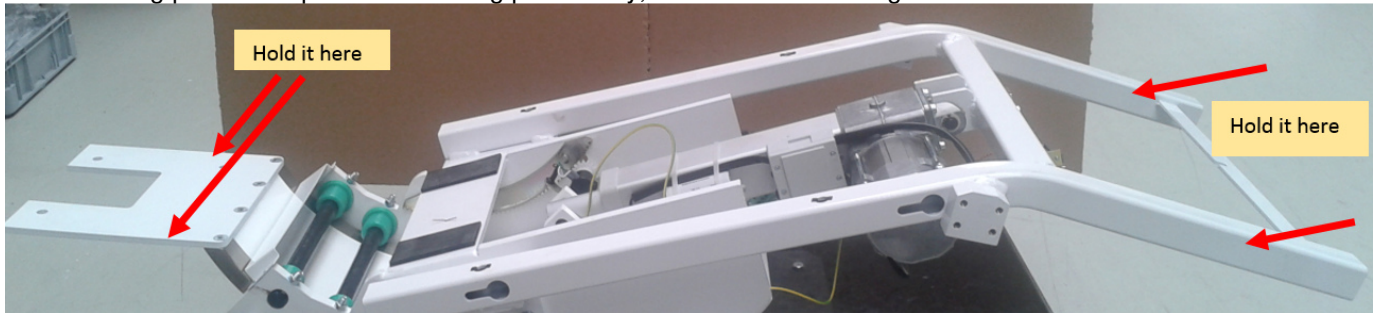
The chair is still fixed with 2 screws and nuts to the pallet. Unscrew marked fixing screws and nuts at the bottom of the pallet. The third screw is fixed with base of the chair as shown below. Unscrew it appropriately.



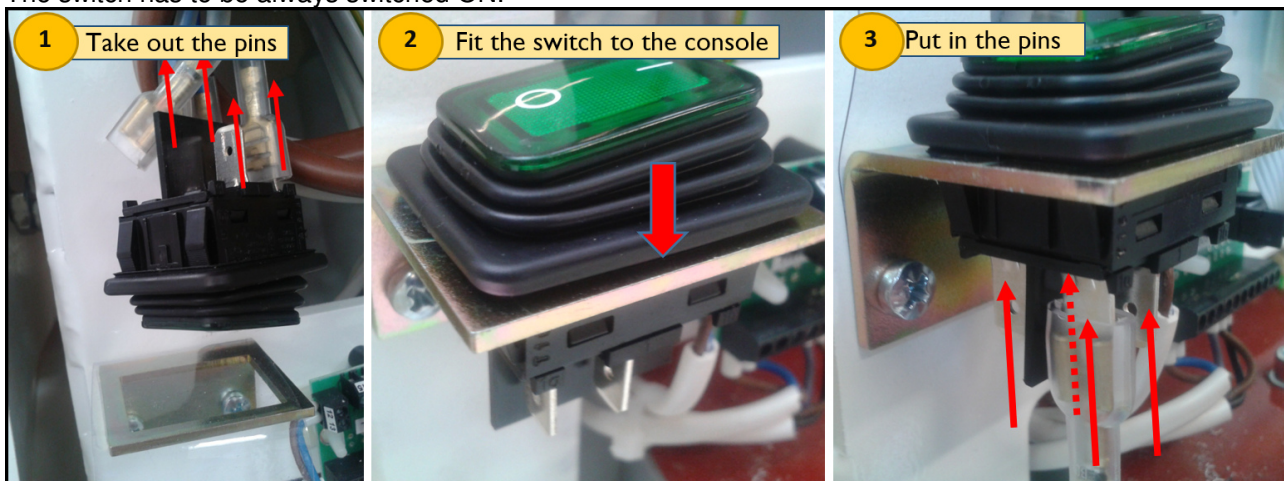
Before moving the chair on its place (chair base plate), move the chair to its lower position for easier handling and chair move.



When done, move the chair from the wooden pallet onto the chair base plate. While moving please keep it at the holding points only, to avoid chair damage.

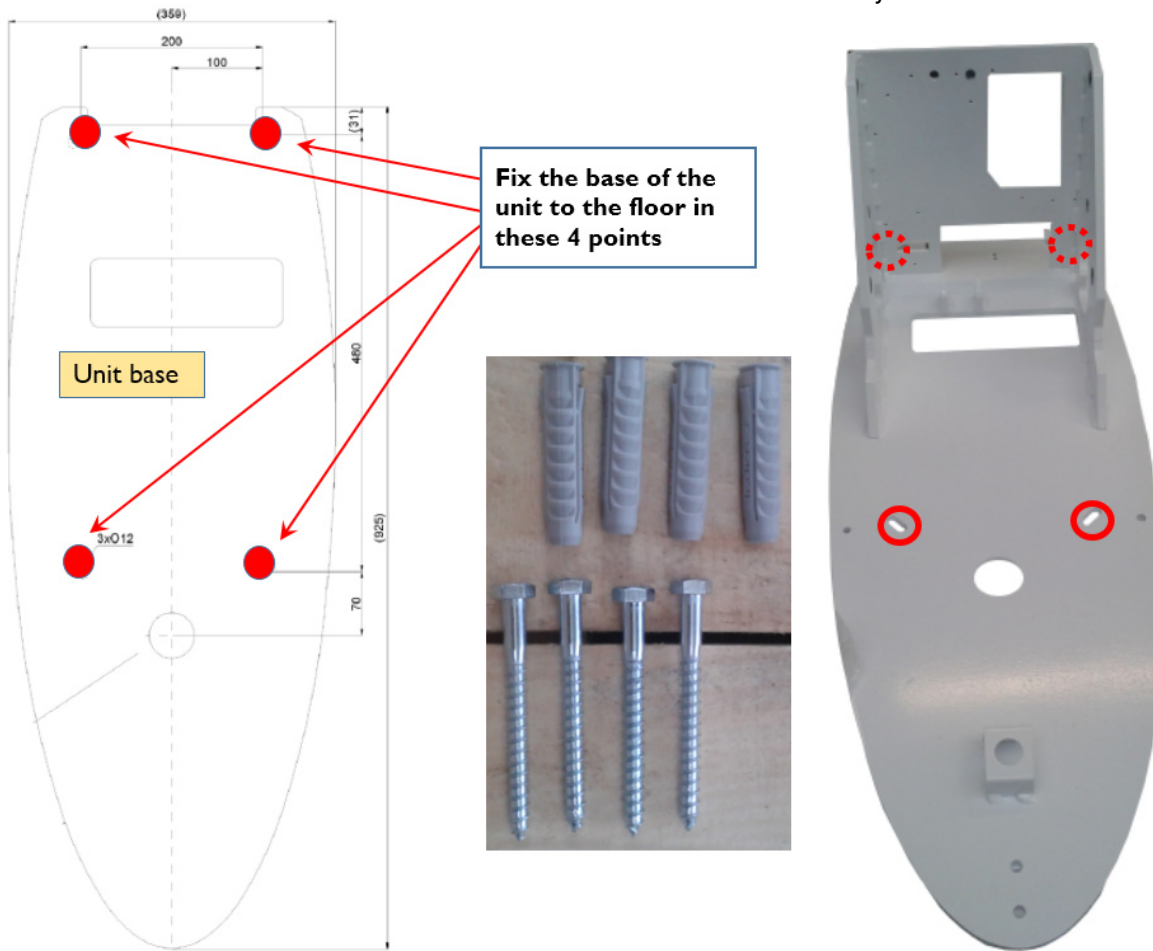


The switch shown below is used in cases when the chair is used standalone. When the chair is used with stomatological unit, it has no purpose – it is temporal switch. Put and fix this chair power switch to the console holder. You have to disconnect 4 pins and then connect them back. The switch has to be always switched ON.

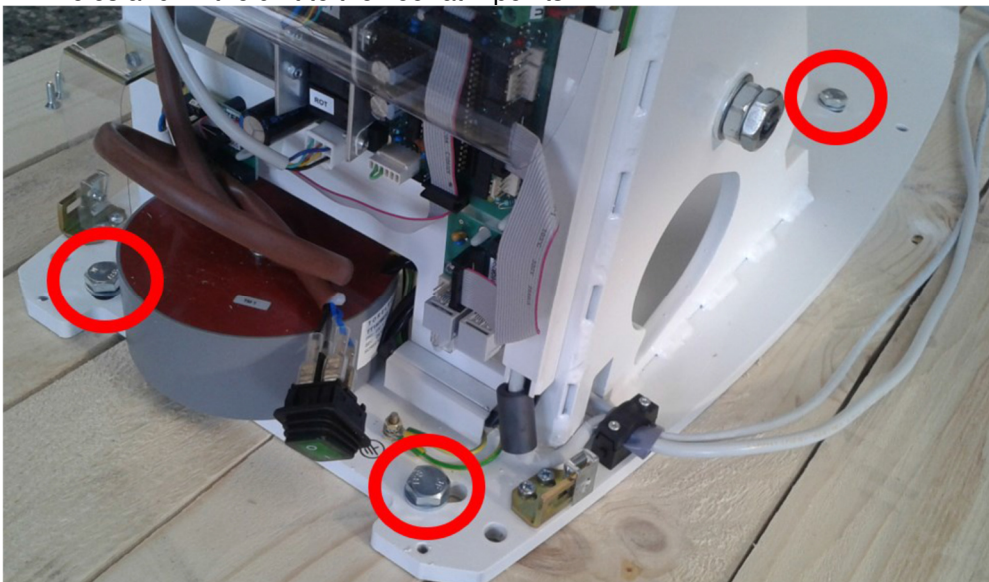


3.2 Fixing DM20 chair to the floor (no Base Plate is used)

If the floor is from solid material and circumstances allow drilling to the floor, then find these screws in the unit accessories and fix the base of the unit directly to the floor.



Drill holes and fix the unit to the floor at 4 points.



Warning





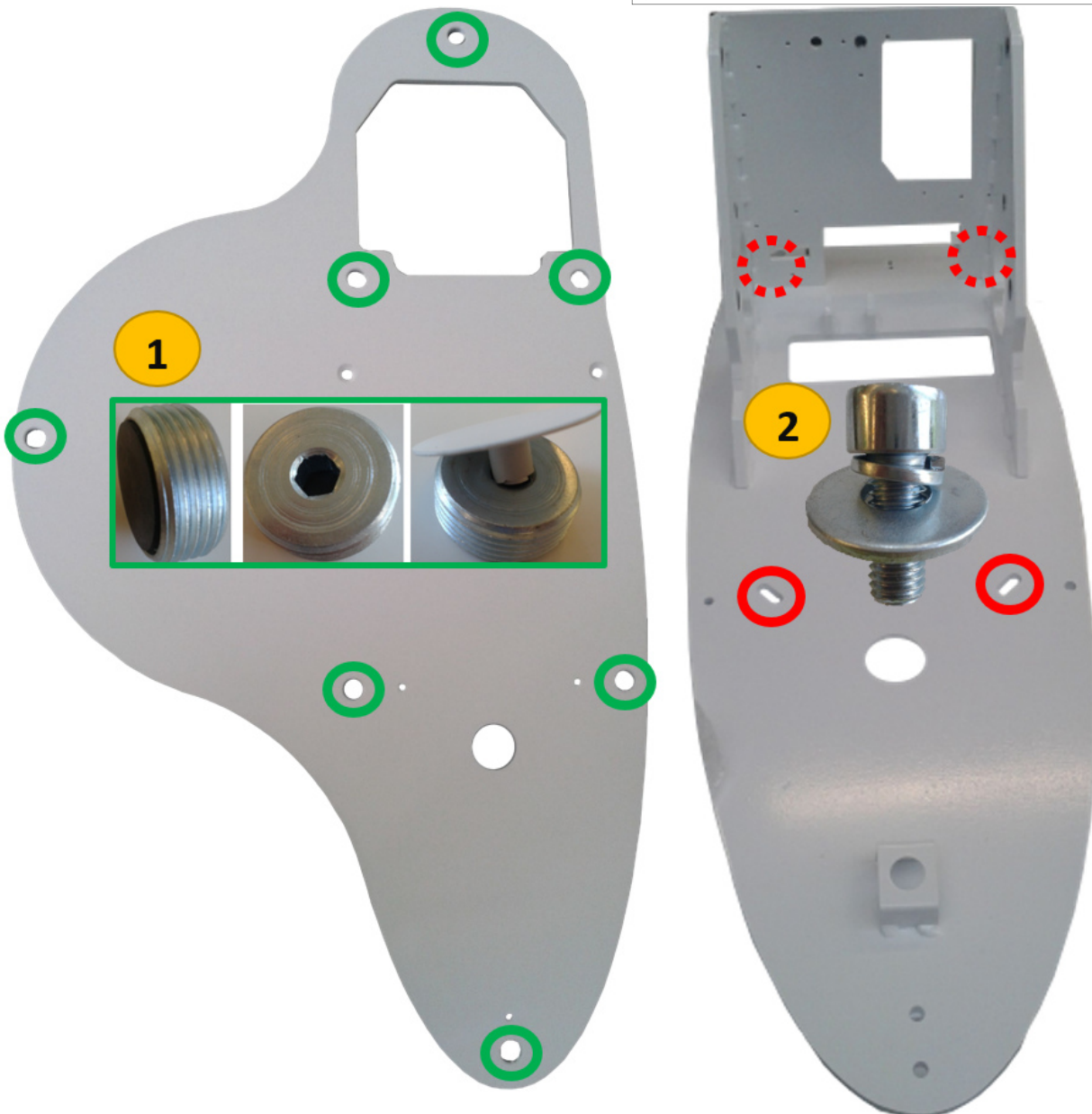
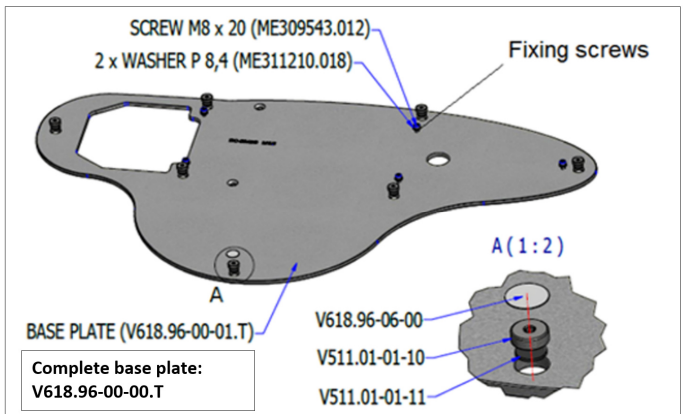
We recommend to isolate the base of the unit around its perimeter by transparent silicone sealant against the floor. When not isolated with a silicone sealant, it may occur damage of the product, caused by the influence of water and cleaning detergents, for which the manufacturer might not recognize any complaint.

3.3 Fixing DM20 to the installation base plate with adjustable balancing (no drilling)

1. Position and balance the base plate on the floor using 7 balancing screws.
2. Move the chair onto the base plate and fix it with the base plate with 4 screws.

Base Plate Holes Explained:

-  7 balancing points (no fixing of Base Plate)
-  4 fixing points to fix unit to the Base Plate



Warning



We recommend to isolate the installation base plate around its perimeter by transparent silicone sealant against the floor. When not isolated with a silicone sealant, it may occur damage of the product, caused by the influence of water and cleaning detergents, for which the manufacturer might not recognize any complaint.

Continue at Chapter 5.

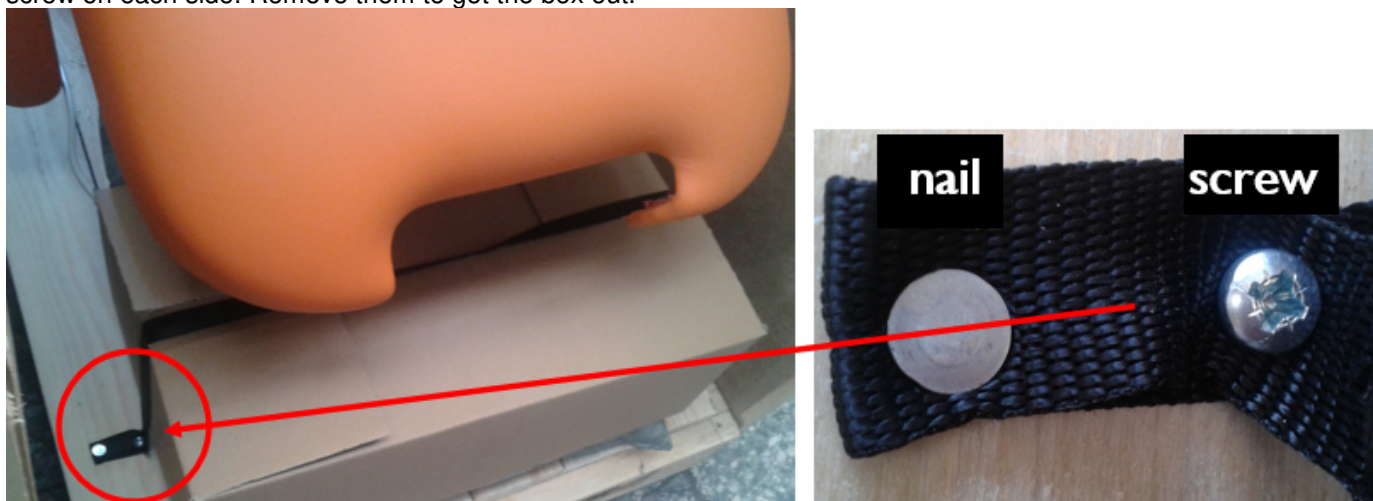
4. DE20 – Unpack, prepare place and move the chair

4.1 DE20 chair unpacking

After the chair is unpacked from wooden box, it looks like this:



Below on the pallet, there is chair accessory box. It is fixed to the pallet by black belt. The belt is fixed by nail and screw on each side. Remove them to get the box out.



Open the box and obtain the power cable from the box and connect it temporarily to 230 V.



Below the chair, there is a switch. By pressing it, you can lift the chair up, to its upper position. This will help you to remove seat, covers, etc.. and get the chair ready to move it to its designed final place.



Press UP



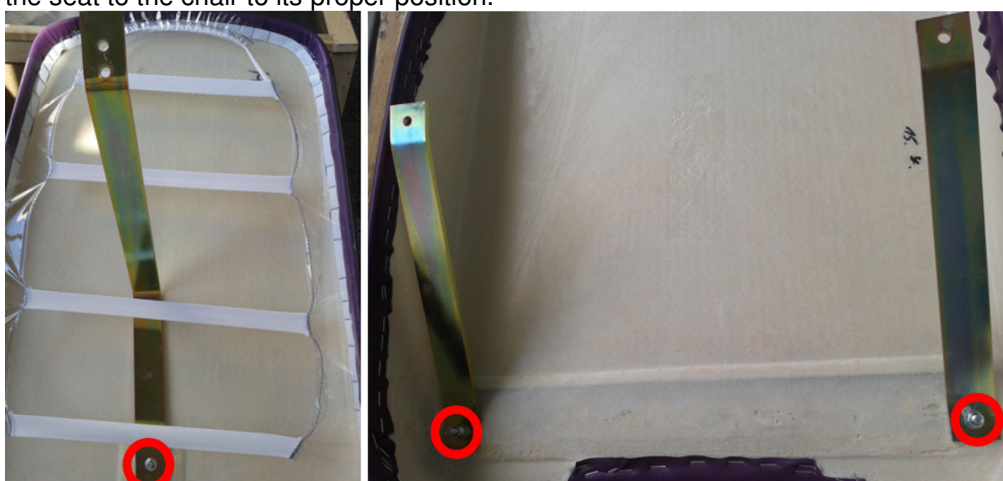
Now when the chair is in up position, remove the seat. It is fixed to the chair by 3 screws using three temporal transport consoles. Handle carefully, so as not to damage the seat cover.



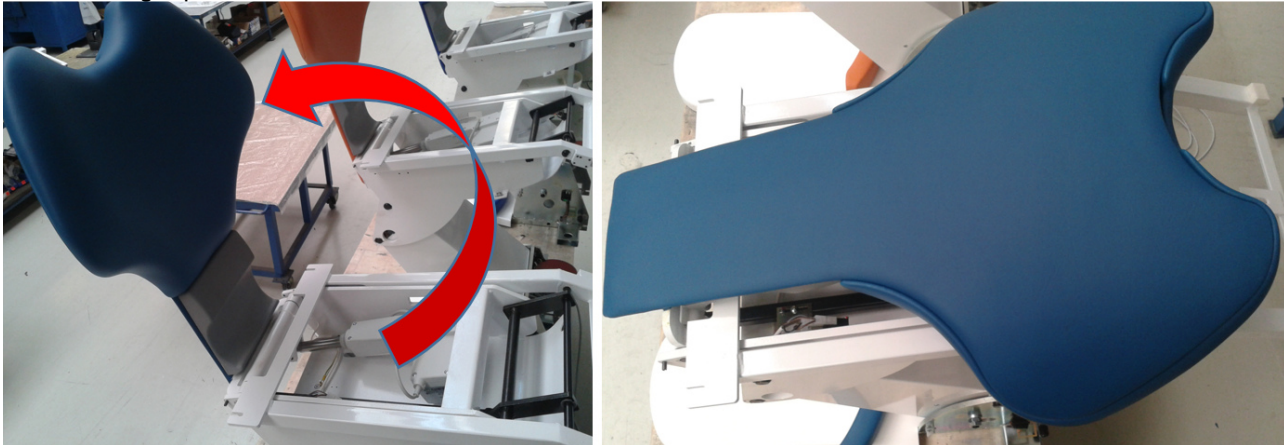
Lift up the seat carefully.



Put the seat bottom up to a safe and clean place and unscrew the three nuts, which are fixing the consoles to the seat. You will not need the temporal consoles anymore, just store the three nuts. At the end you will need them to fix the seat to the chair to its proper position.



Notice, that now you can freely move backrest of the chair like shown below, but at this moment, leave it down, like shown on right picture.



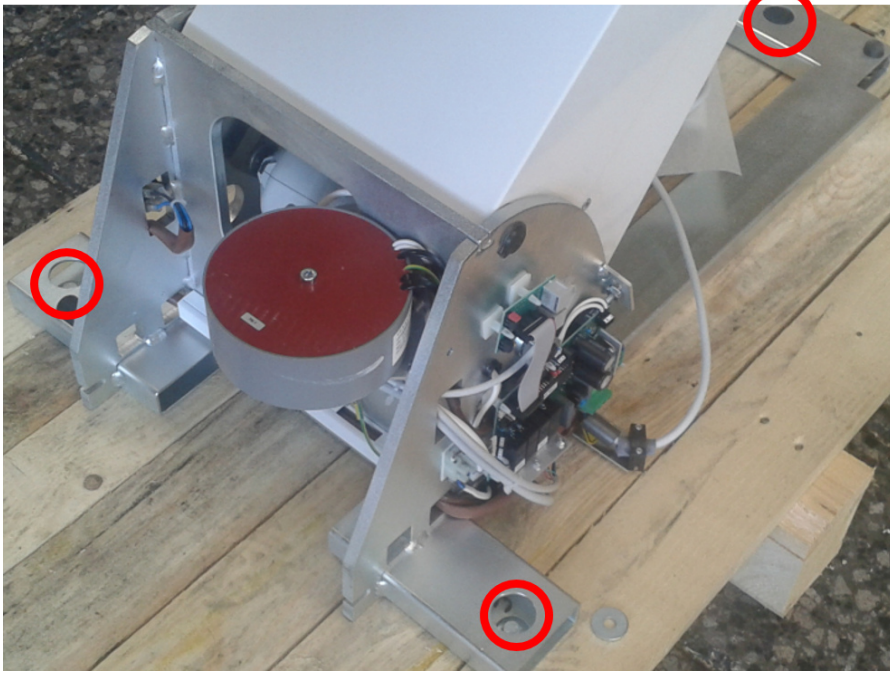
Unscrew and remove powerblock front cover. It is fixed by 2 screws on both: left and right side.



Unscrew and take down this bottom cover. It is fixed by 4 screws.



The chair is still fixed to the pallet. Unscrew three marked fixing screws and nuts at the bottom of the pallet.



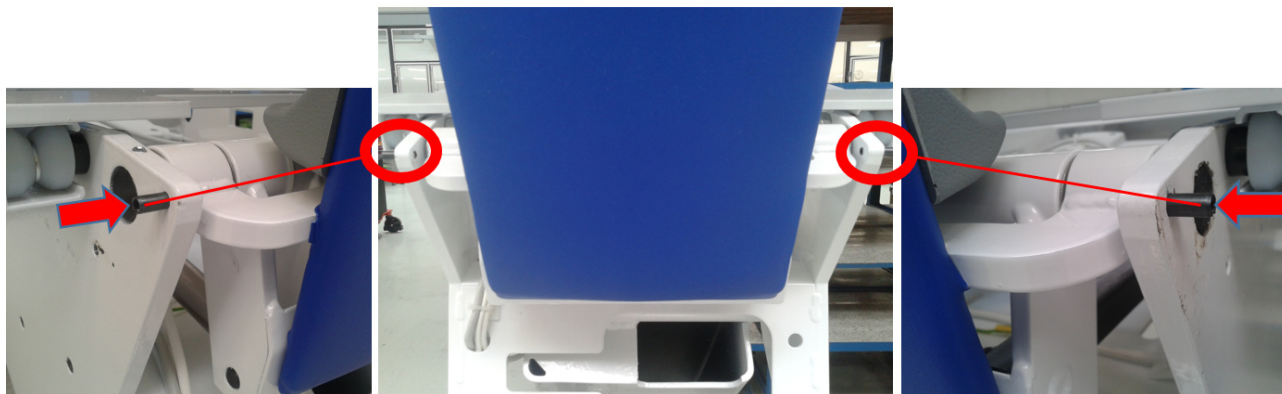
Now the chair can be moved from the pallet to its place. Before moving, get the chair to the most low position for easier handling. Press DOWN.



Take the chair by your hands at outlined holding points and carefully move it to base plate.



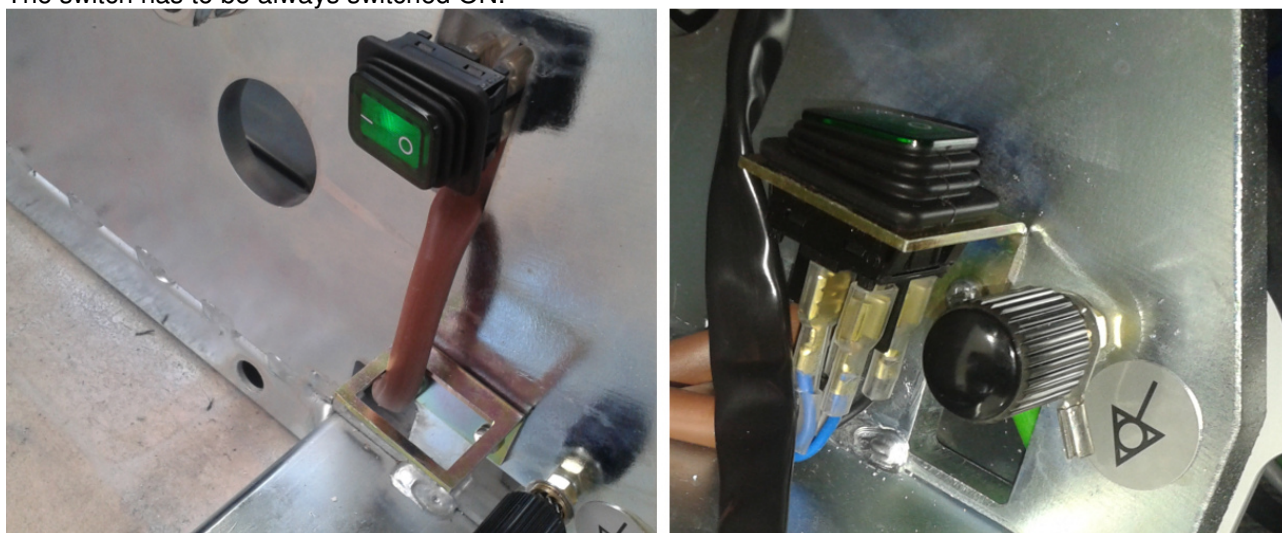
Now fix the backrest endpoint position by moving the 2 rollers inside as illustrated below.



Unscrew 2 screws from temporal transport position of handrest holder and save the handrest with the screws for later final assembling.



The switch shown below is used in cases when the chair is used standalone. When the chair is used with stomatological unit, it has no purpose – it is temporal switch. Put and fix this chair power switch to the console holder. The switch has to be always switched ON.



4.2 Fixing DE20 chair to the floor (no Base Plate is used)

If the floor is from solid material and circumstances allow drilling to the floor, then find these screws in the unit accessories and fix the base of the unit directly to the floor.



Find the screws in the chair accessories box.



Warning





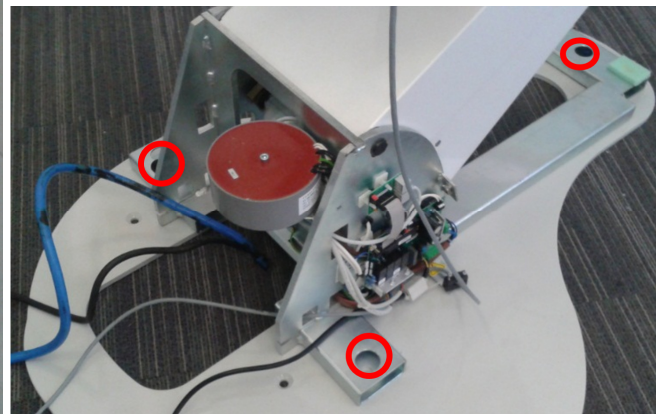
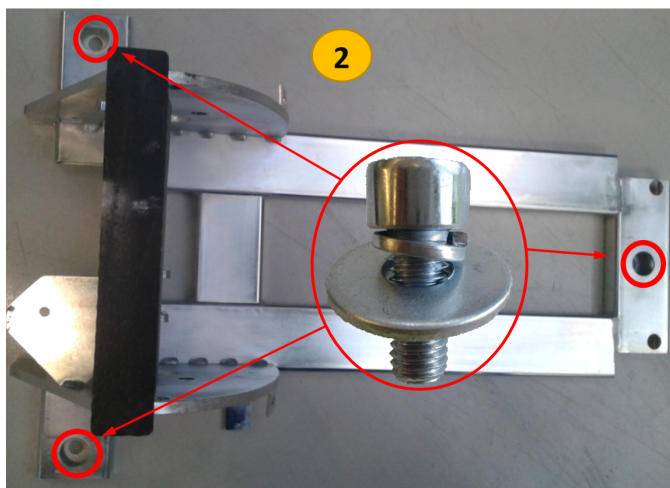
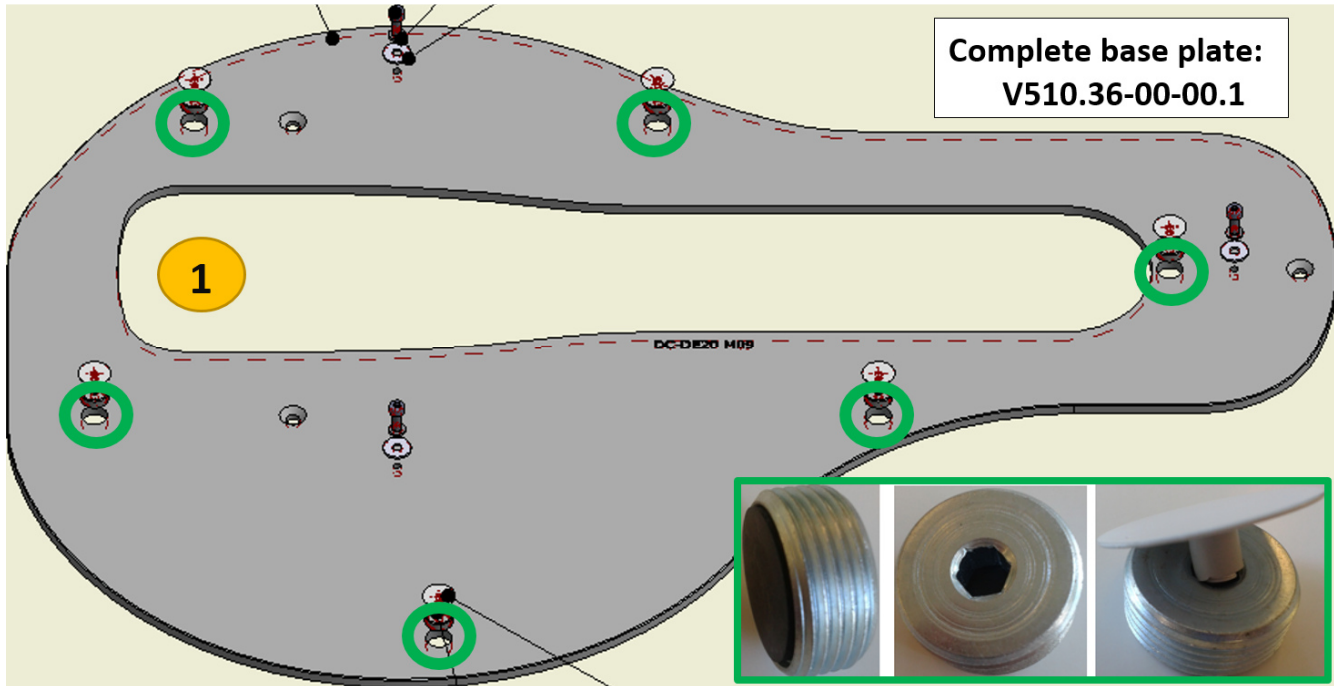
We recommend to isolate the base of the unit around its perimeter by transparent silicone sealant against the floor. When not isolated with a silicone sealant, it may occur damage of the product, caused by the influence of water and cleaning detergents, for which the manufacturer might not recognize any complaint.

4.3 Fixing DE20 chair to the installation base plate with adjustable balancing

1. Position and balance the base plate on the floor using 6 balancing screws.
2. Move the chair onto the base plate and fix it with the base plate with 3 screws.

Base Plate Holes Explained:

	6 balancing points using balancing screws
	3 fixing points to fix the base of the unit to the installation Base Plate



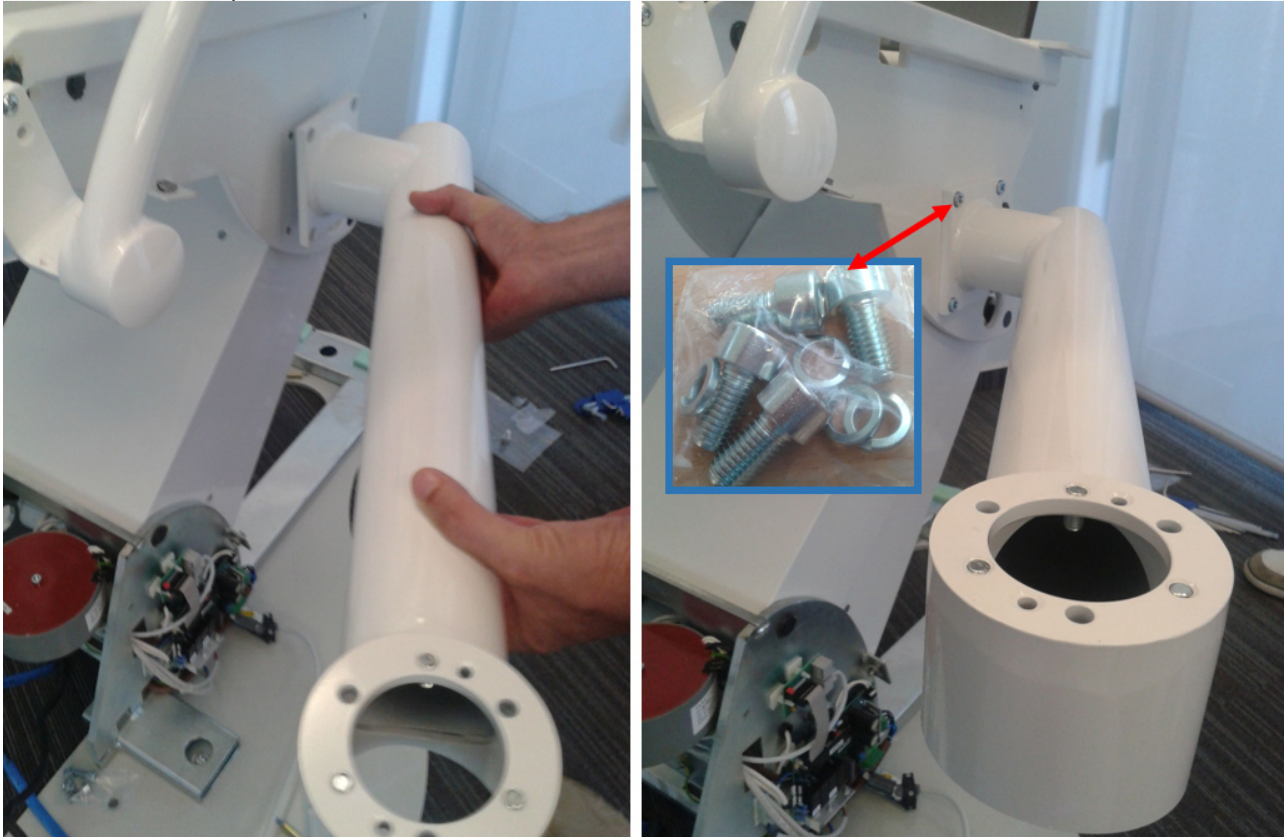
Warning



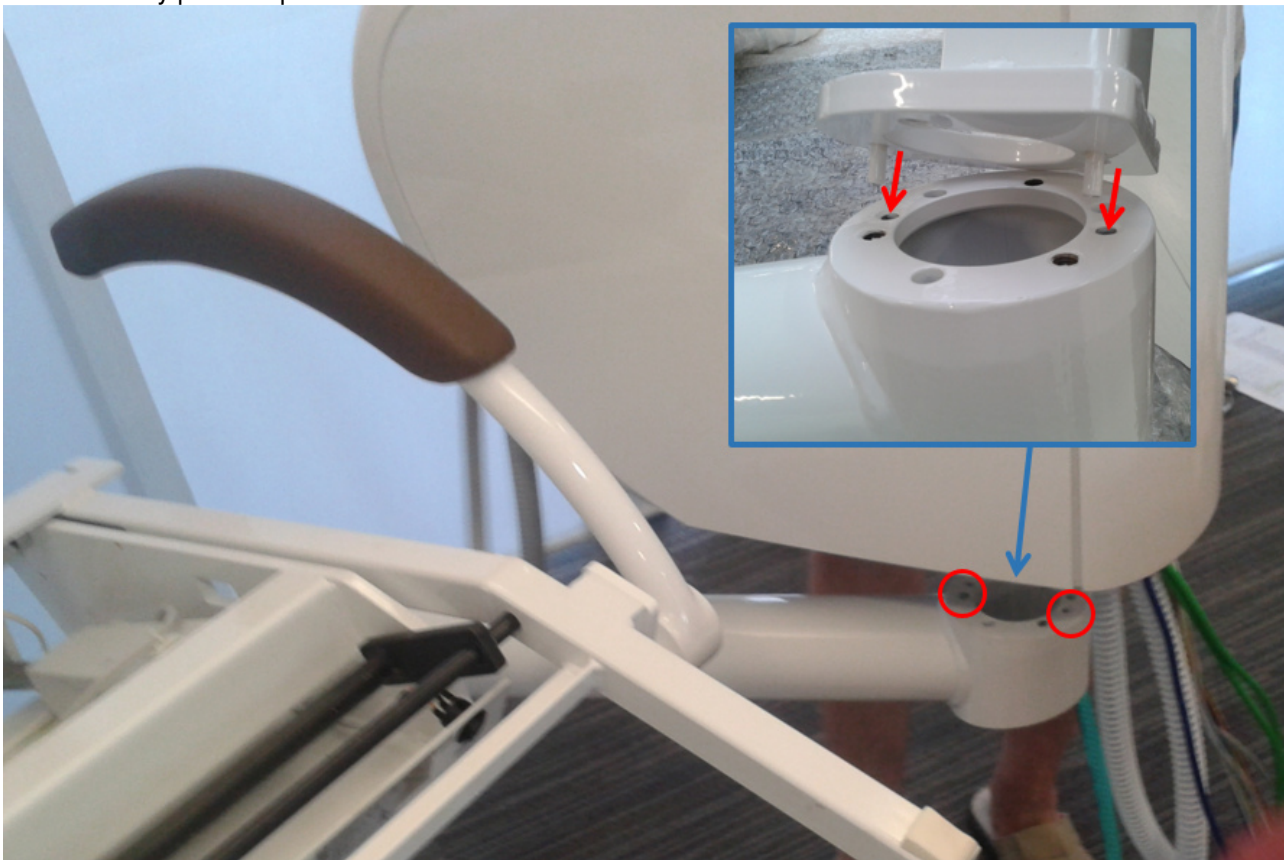
We recommend to isolate the installation base plate around its perimeter by transparent silicone sealant against the floor. When not isolated with a silicone sealant, it may occur damage of the product, caused by the influence of water and cleaning detergents, for which the manufacturer might not recognize any complaint.

5. Spittoon block fixing

Fix the arm of the spittoon block with the chair with 4 screws M8x16.

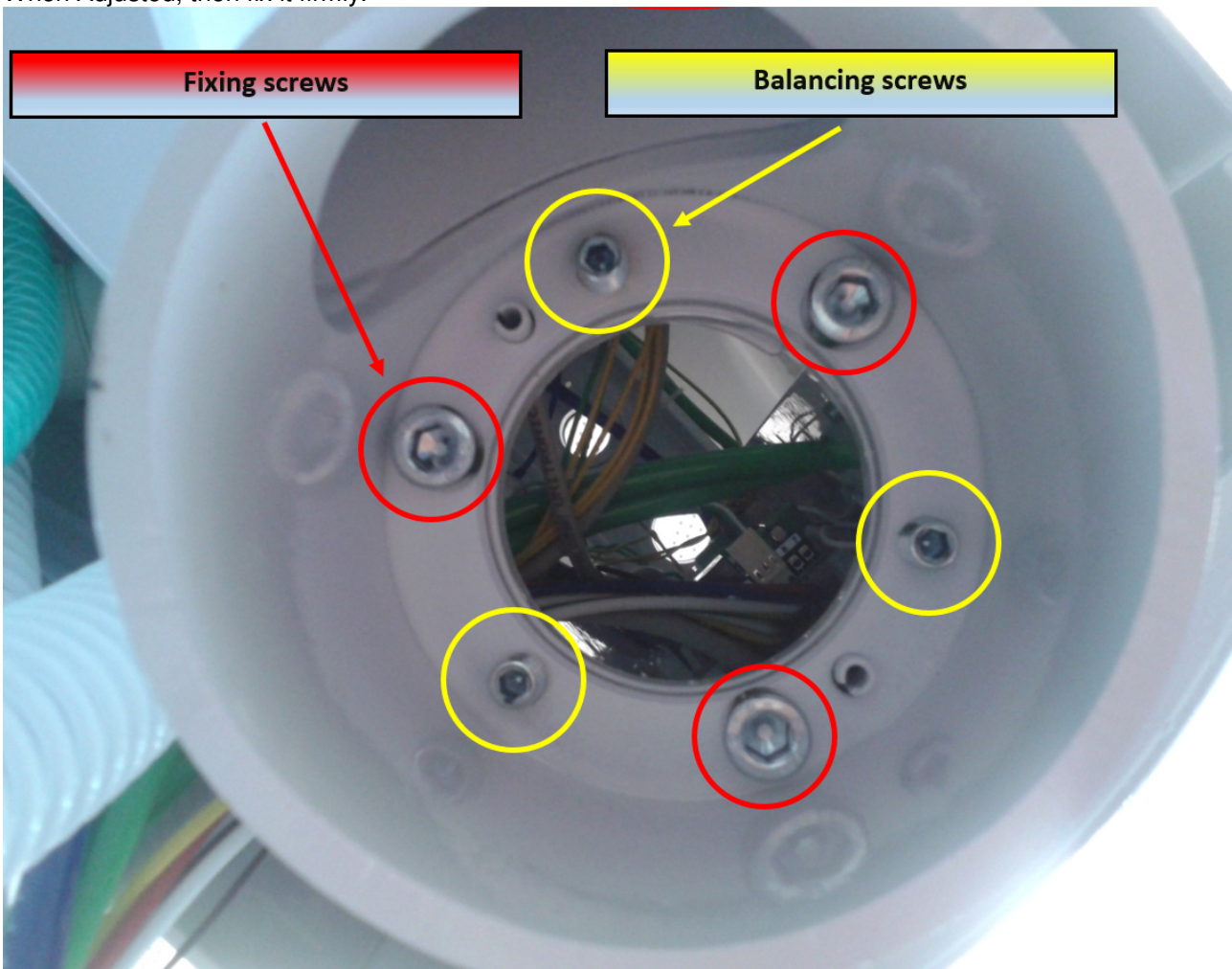


Then carefully put the spittoon block on the arm. Protrusions must fit to the holes as shown below.





When fitted, then use
3 screws to fix the spittoon block with the arm
3 balancing screws to adjust balance (both horizontal and vertical levels)
When Adjusted, then fix it firmly.

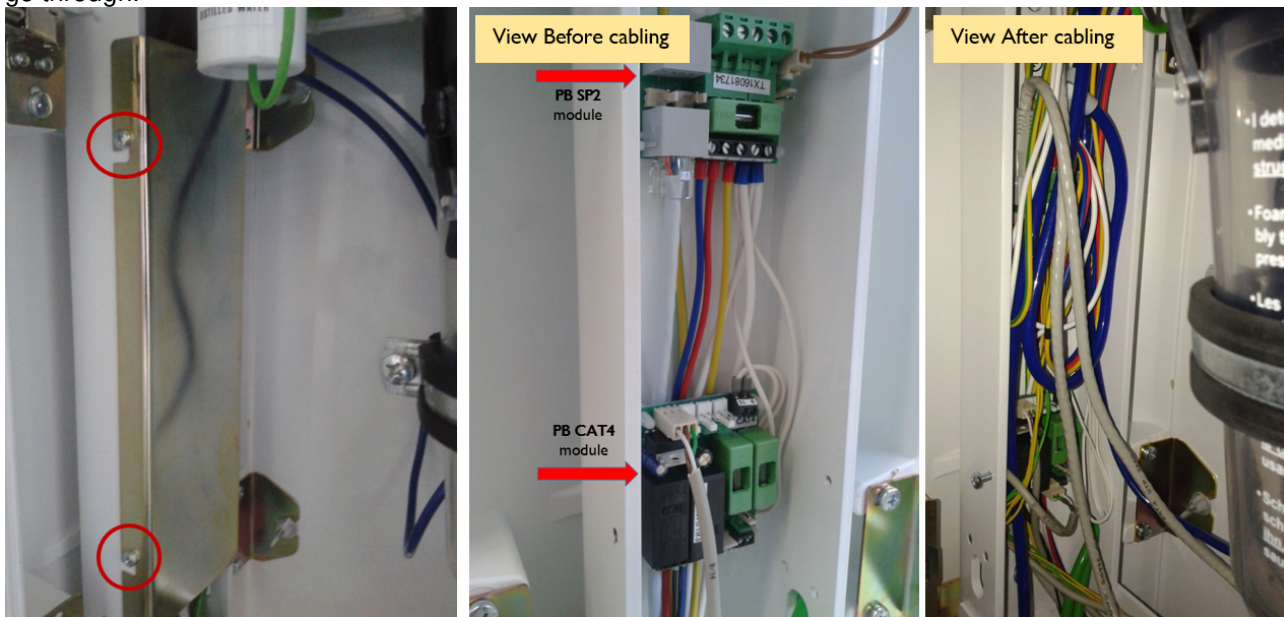


6. Dentist's pantograph installation

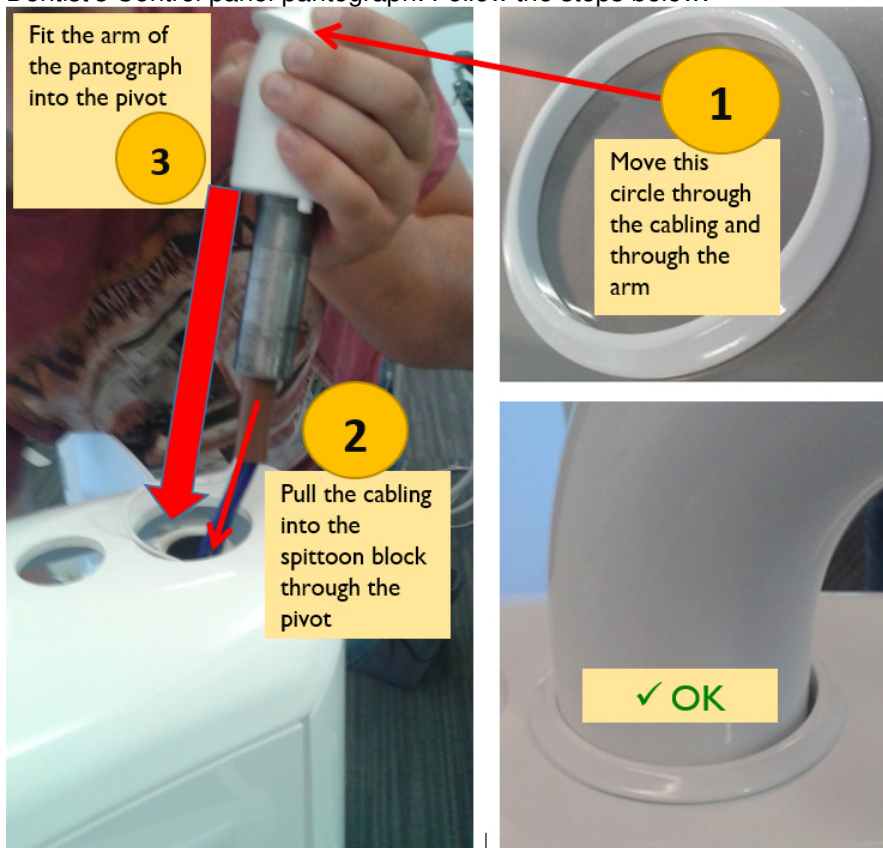
Unpack dentist's control panel with pantograph.



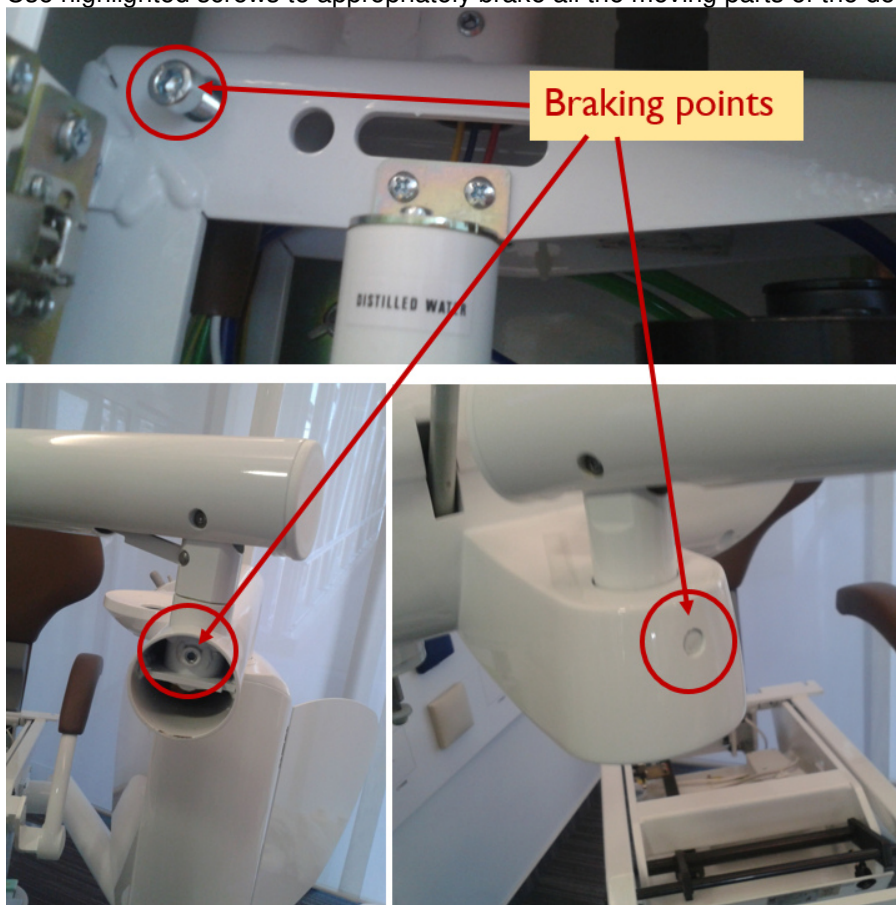
Unscrew these 2 screws to remove cover in the spittoon block. You will get an access to modules and the cabling will go through.



Dentist's Control panel pantograph: Follow the steps below:

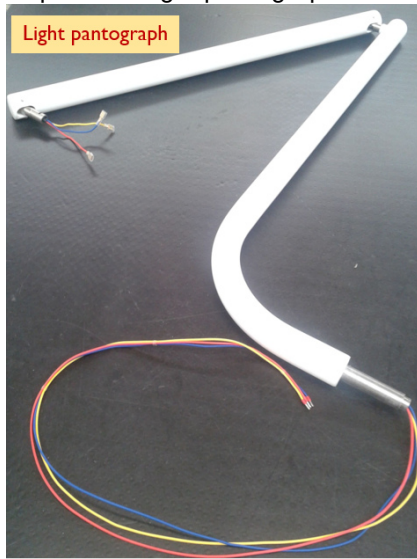


Use highlighted screws to appropriately brake all the moving parts of the dentist's pantograph.



7. Light arm and pantograph installation

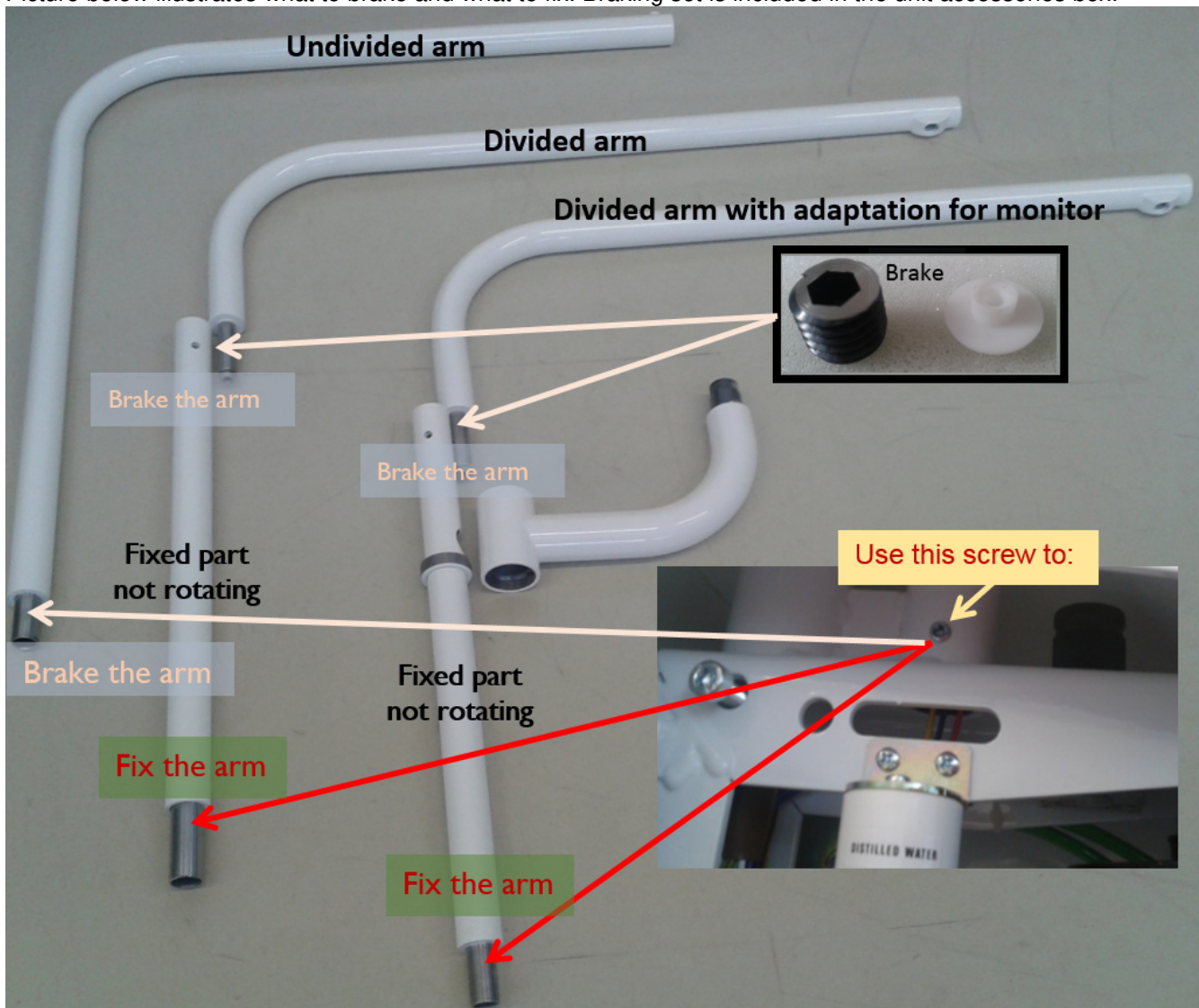
Unpack the light pantograph.



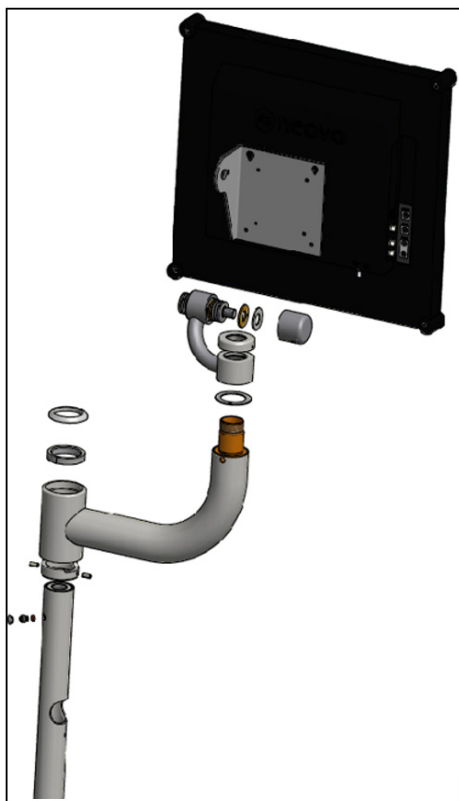
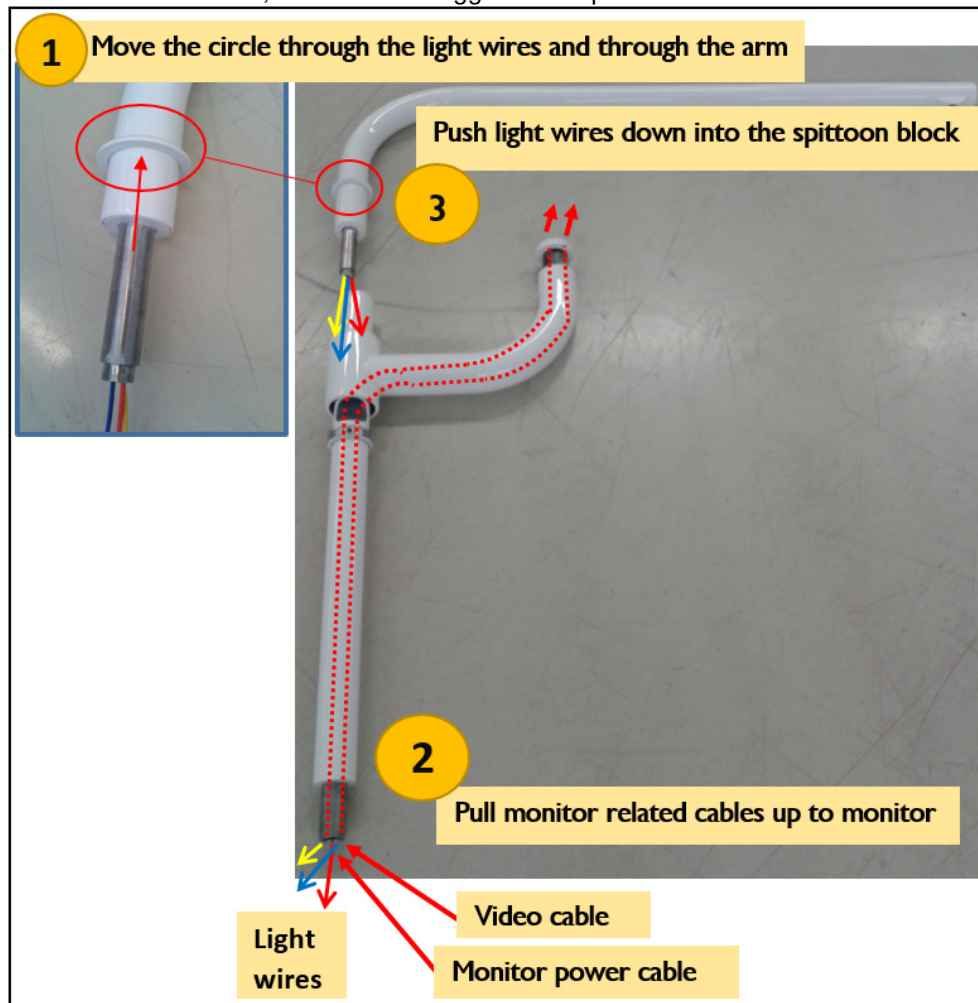
Unit can be equipped with one of these 3 arms:

- Undivided arm
- Divided Arm
- Divided Arm with adaptation for monitor

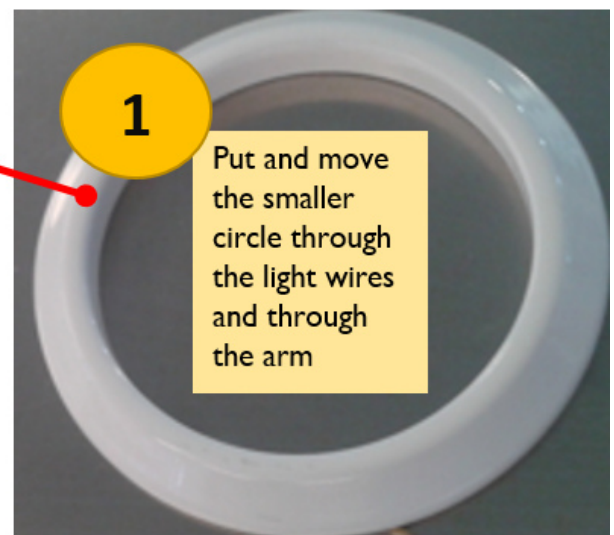
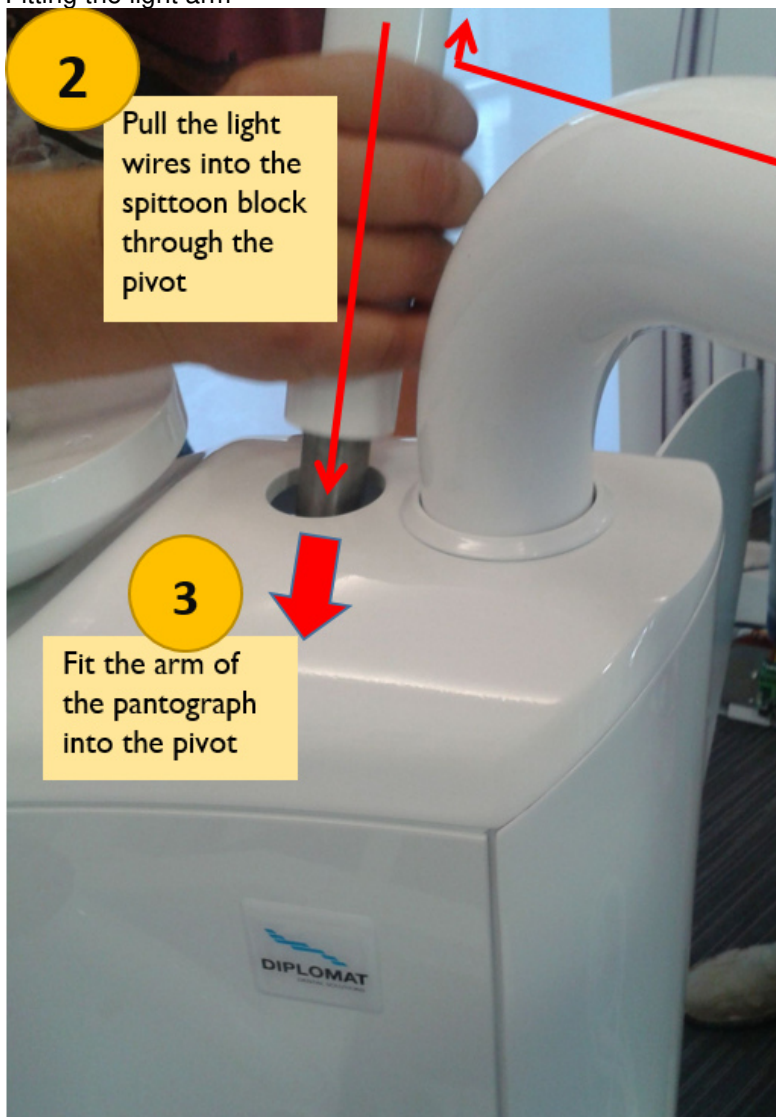
Picture below illustrates what to brake and what to fix. Braking set is included in the unit accessories box.



If Monitor arm is used, follow these suggested steps:

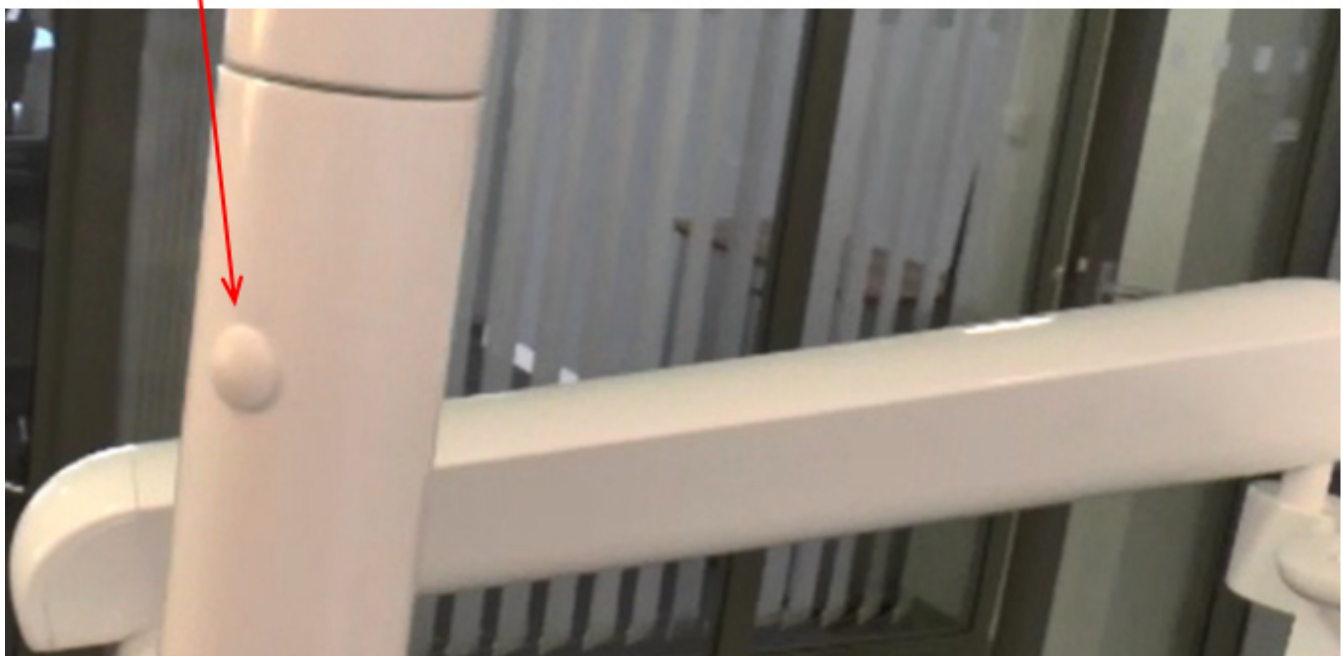
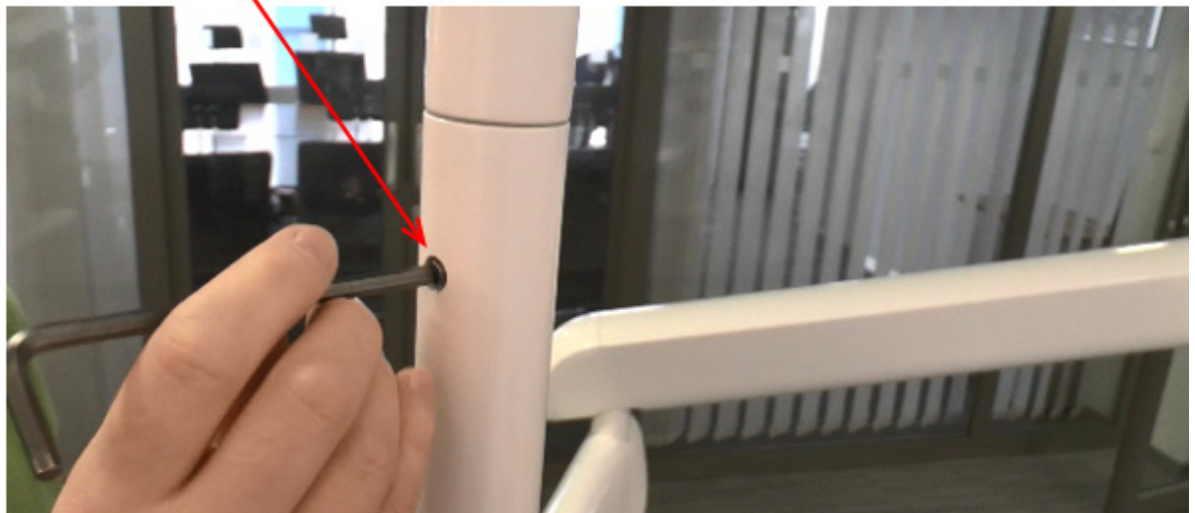
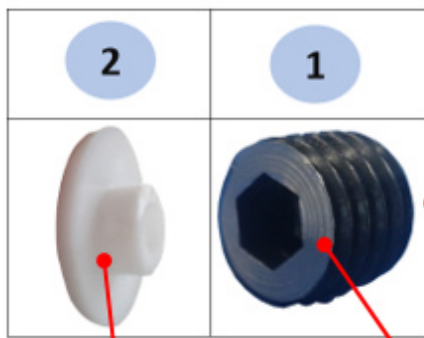


Fitting the light arm



Installing brake of the rotating part of the light arm

- 1: Insert M10 screw into the hole and screw it in with allen key and adjust the braking power
- 2: Fit in the esthetic cover

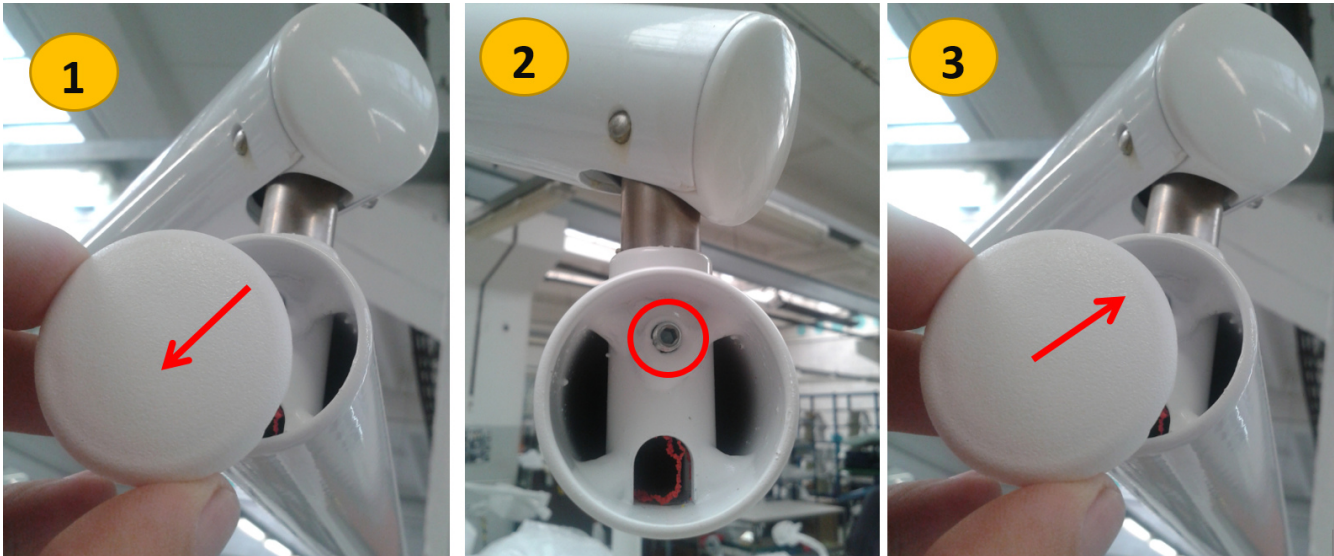


Installing back stop of the light arm or of the light pantograph.

This end-point prevents from hitting of the light arms each other.

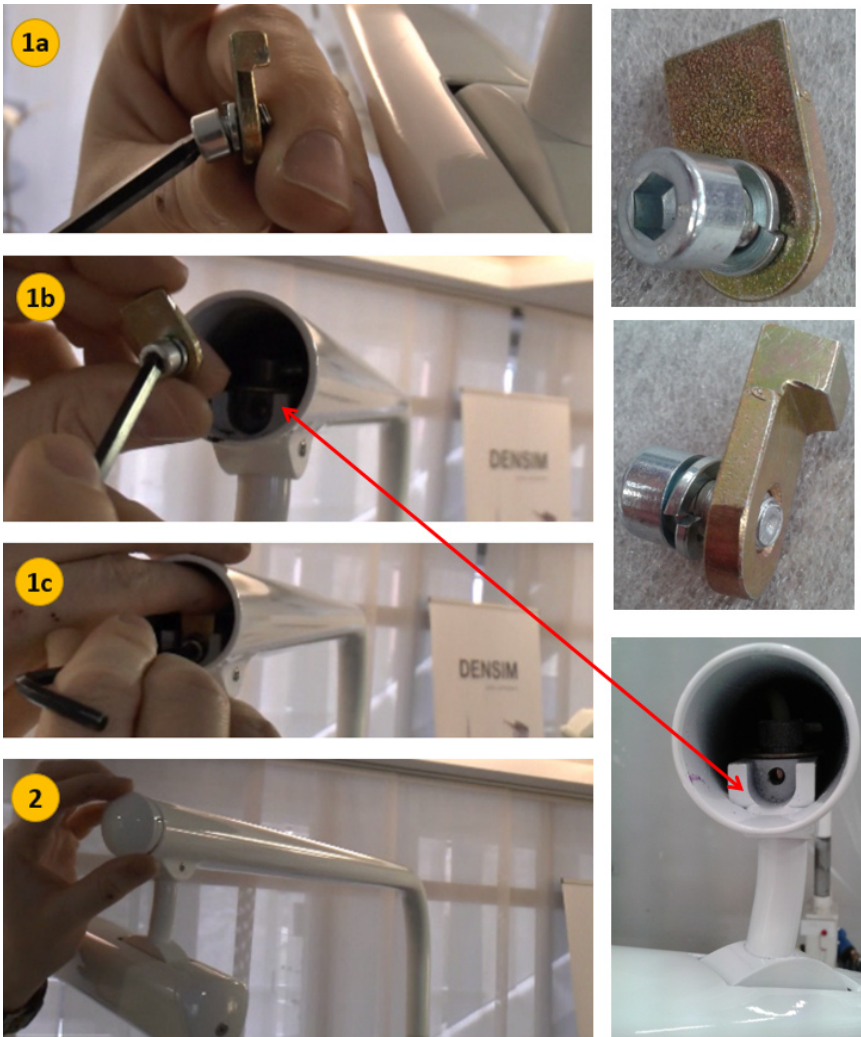
A: When standard arms are used:

- 1: Pull out the esthetic cover of the arm
- 2: Slightly tighten the allen screw and ensure that arm is moving easily and the endpoint stops the arm
- 3: Push in the esthetic cover



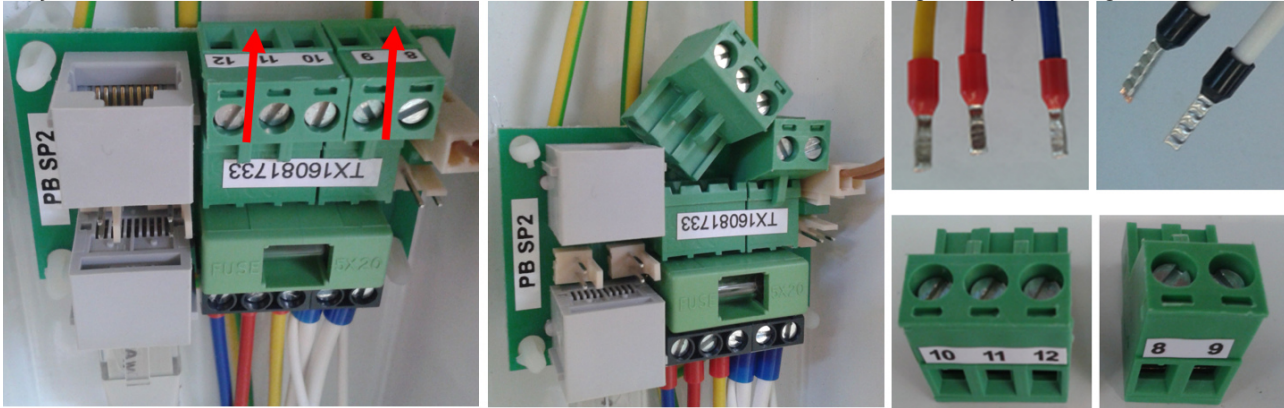
B: When arm with light pantograph is used:

- 1: Fix the end point insuring screw of the light pantograph
- 2: Put in the esthetic cover



8. Spittoon block connections

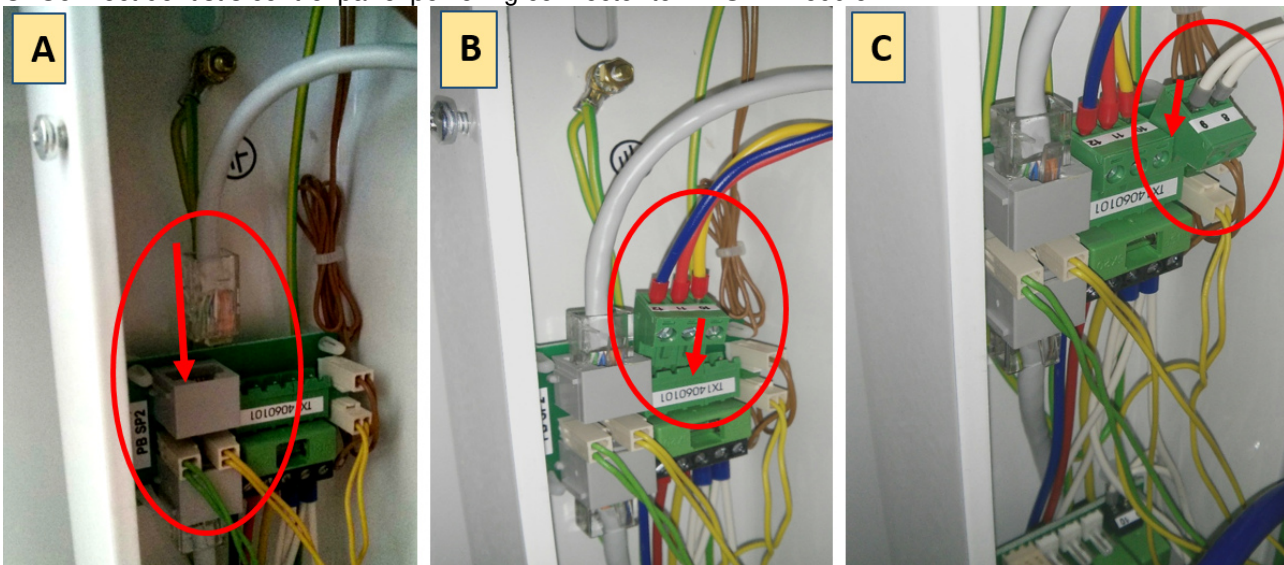
Disjoin 2 connectors at PB SP2 module as shown below and connect it with light and powering wires.



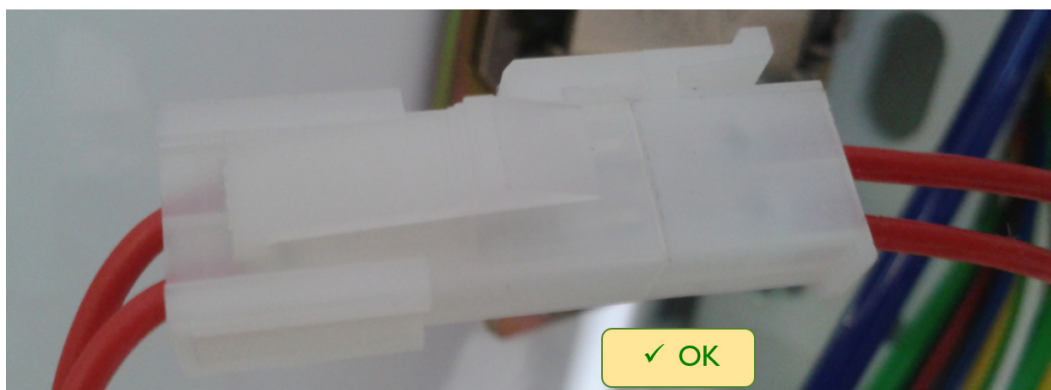
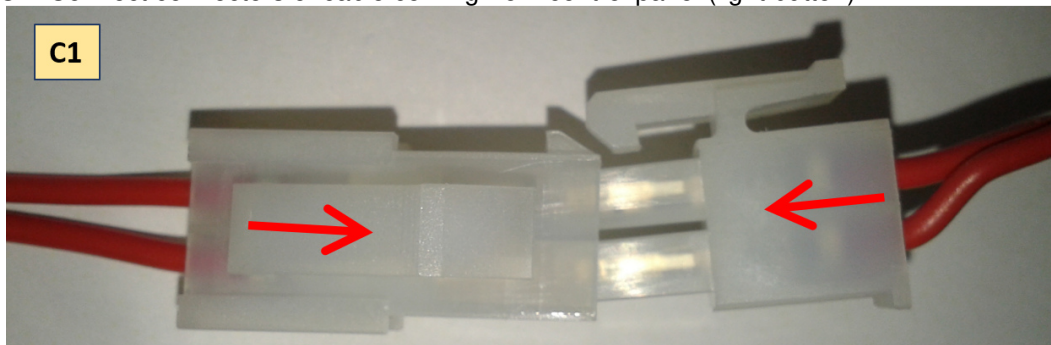
A: Connect RJ45 communication cable coming from dentist panel side to PB SP2 module

B: Connect Light powering connector to PB SP2 module

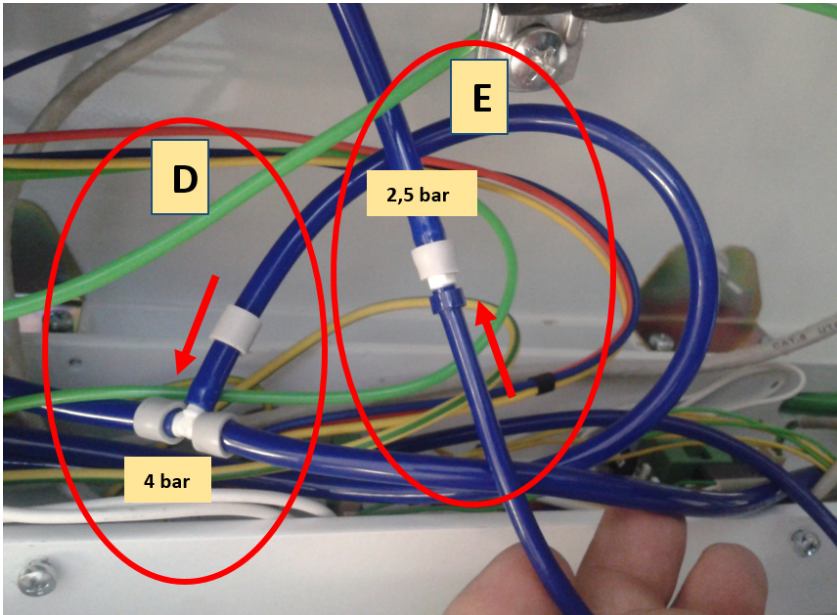
C: Connect dentist's control panel powering connector to PB SP2 module



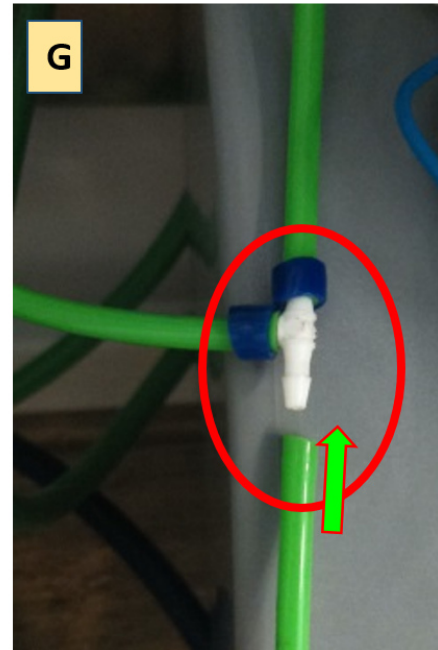
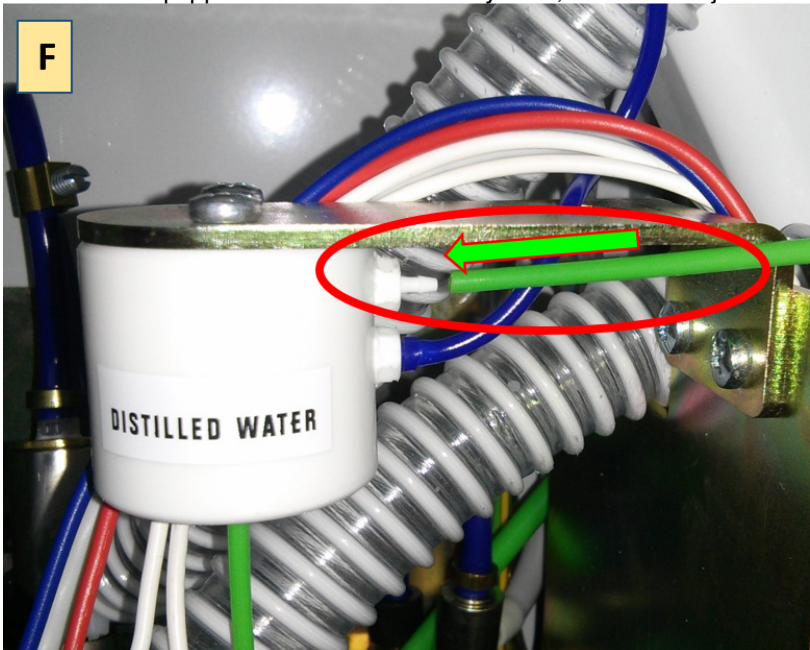
C1: Connect connectors of cable coming from control panel (light button)

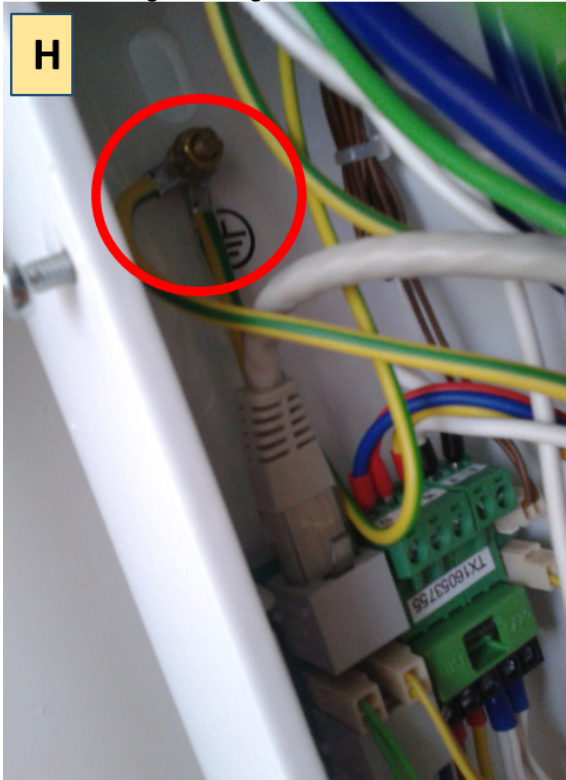


- D:** Plug thick blue tube from dentist's panel side to blue tube from main air filter regulator (4 bar).
- E:** Plug thin blue tube from dentist's panel side to blue tube from air regulator (2,5 bar)



- F:** Plug thin green tube from dentist's panel side to distilled water bottle connection (2,5 bar).
- G:** If unit is equipped with central water system, find this "T" junction connection.



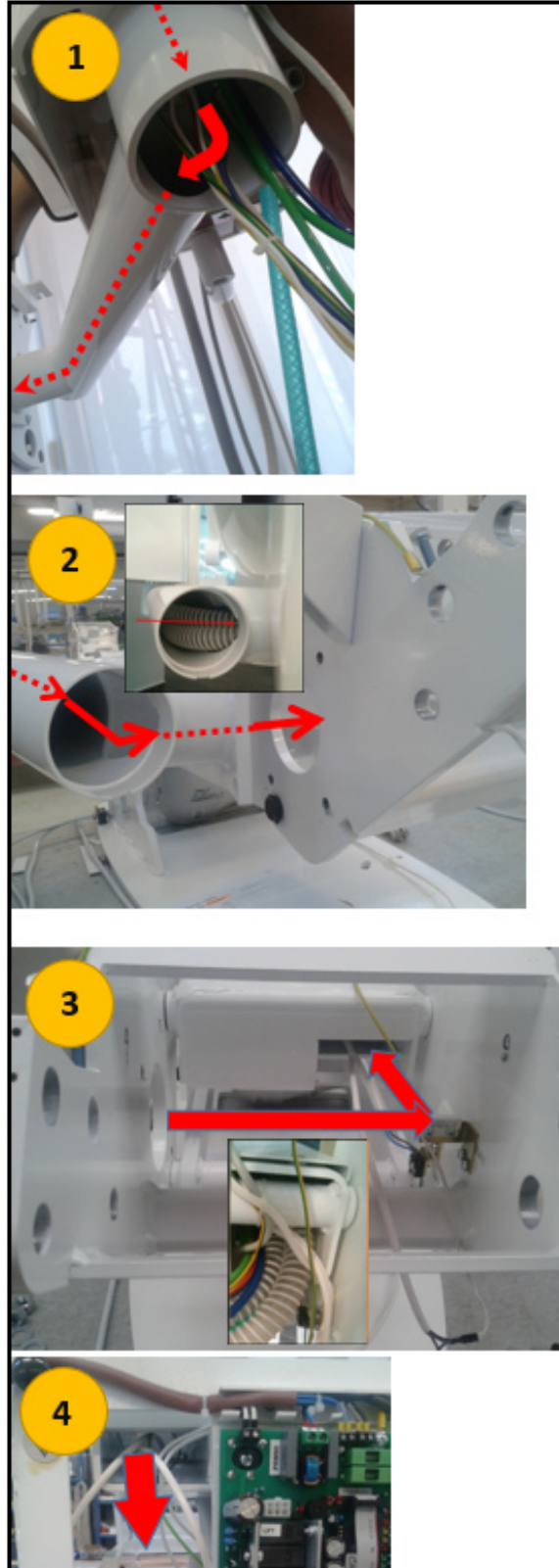
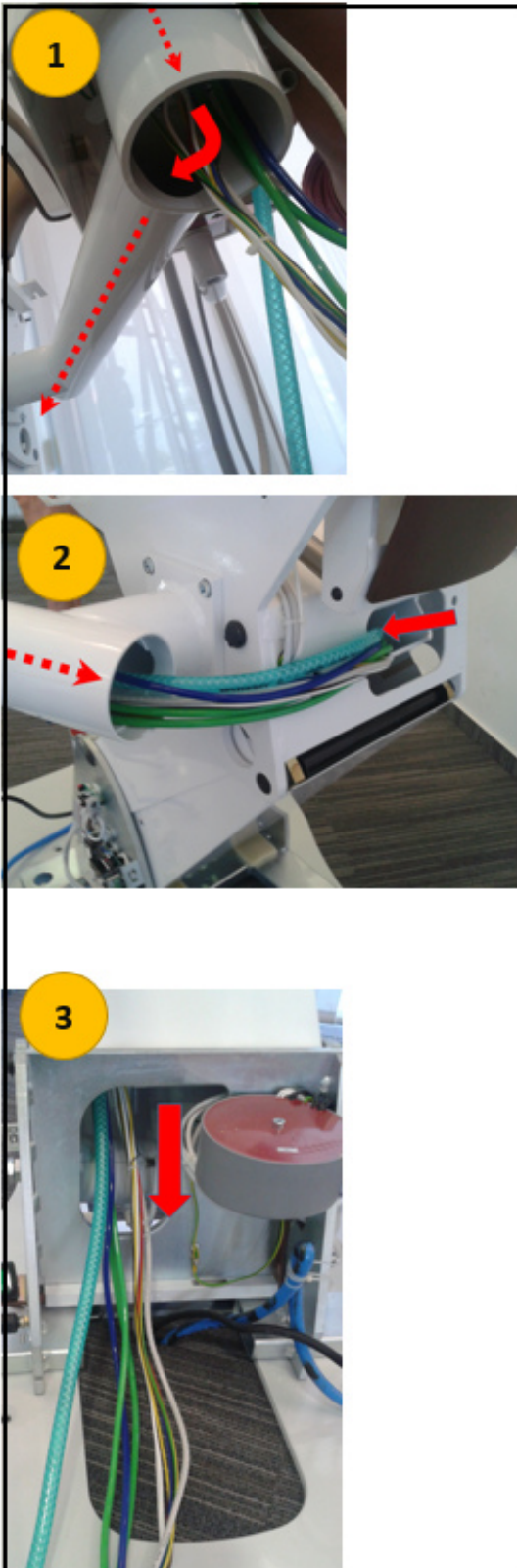
H: Connect grounding cable

9. Pulling the bundle of conductors and tubes to the chair

Pass the bundle of the conductors and tubings coming from the spittoon block, through the arm and through the chair as shown below.

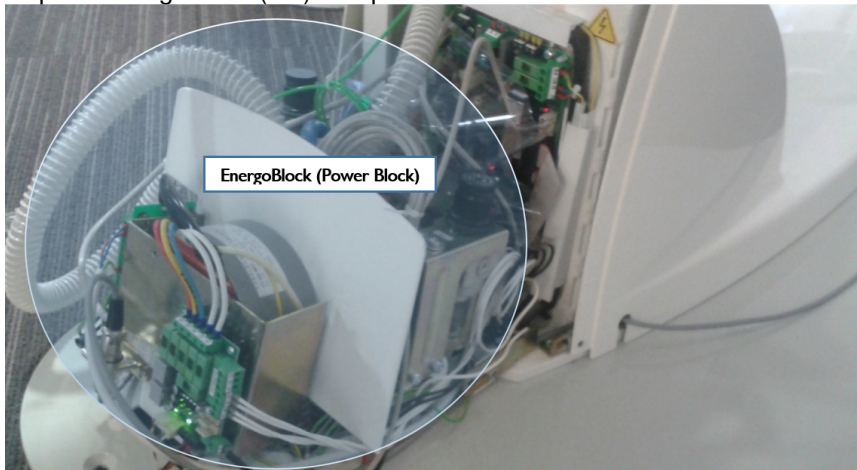
DE 20

DM 20



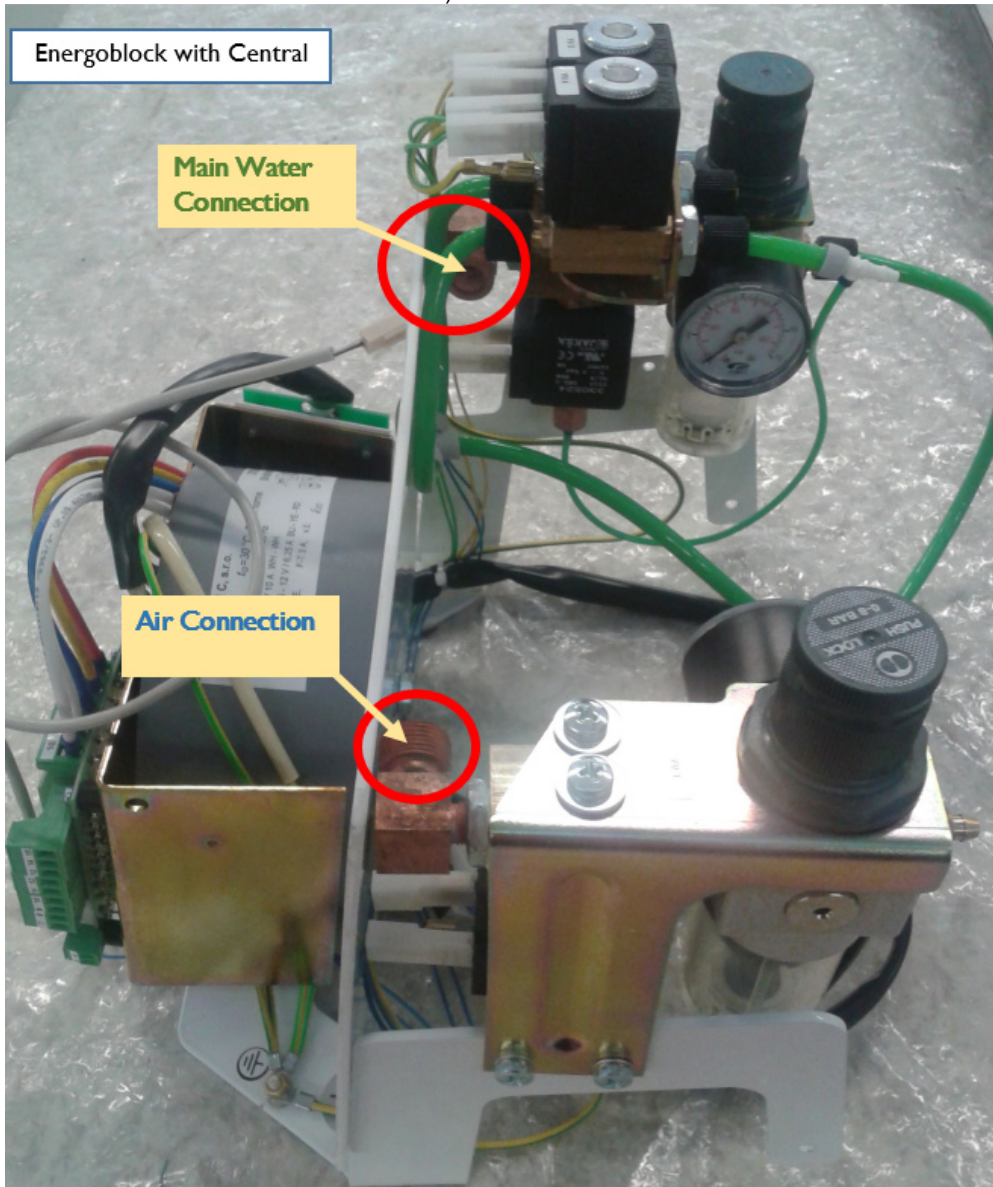
10. Air and water connections in the chair

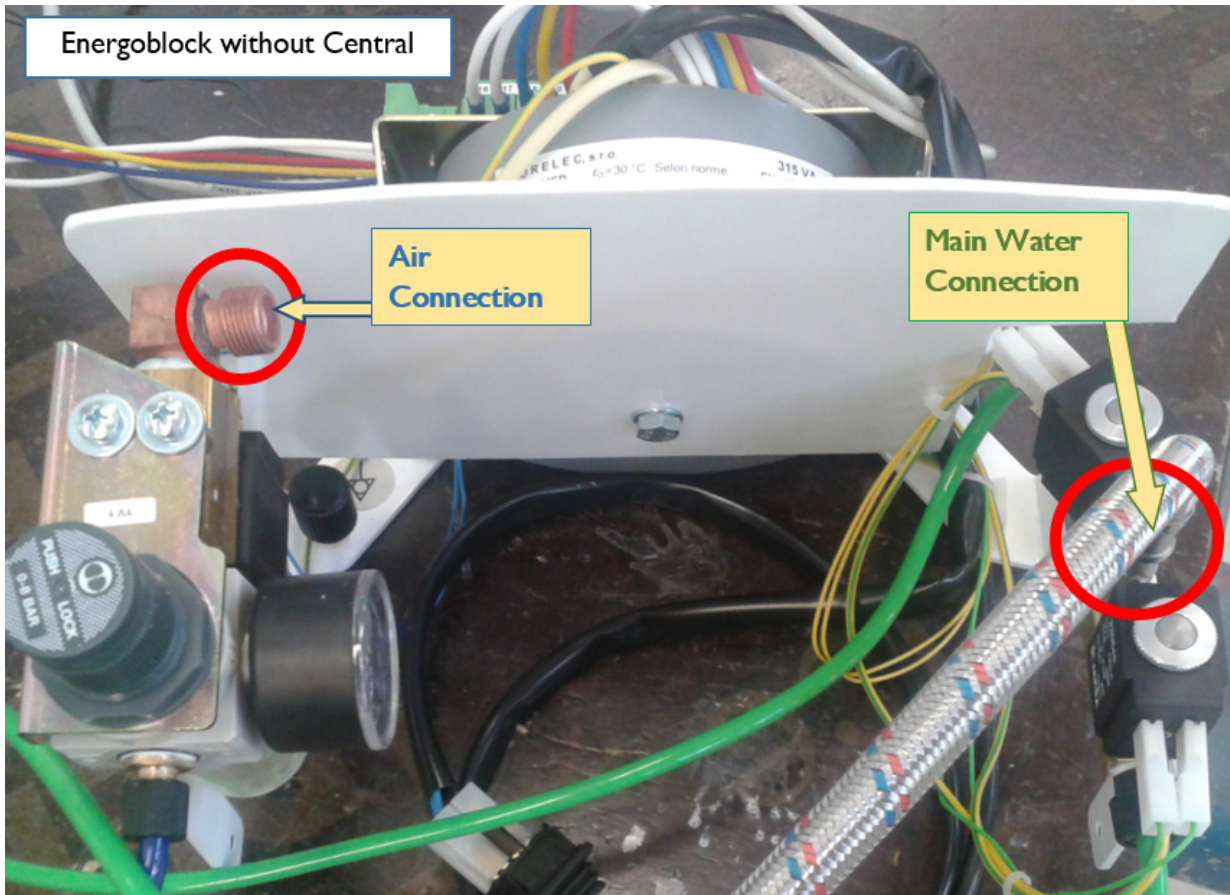
Unpack Energoblock (EB) and place it to the chair.



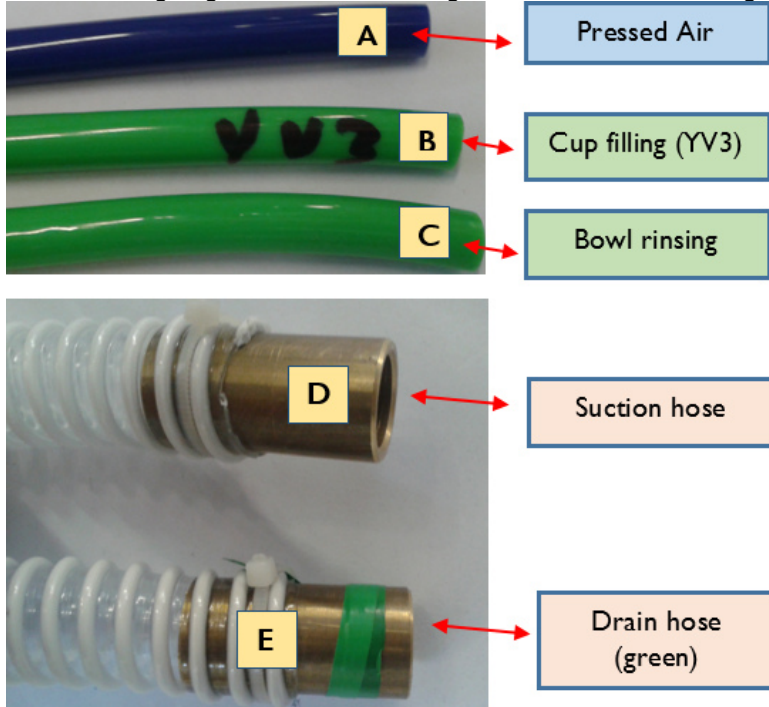
Energoblock (Power Block)

Connect Pressed Air and Main Water to the Energoblock via hoses to appropriate valves as shown below (hose is included in the unit's accessories box)

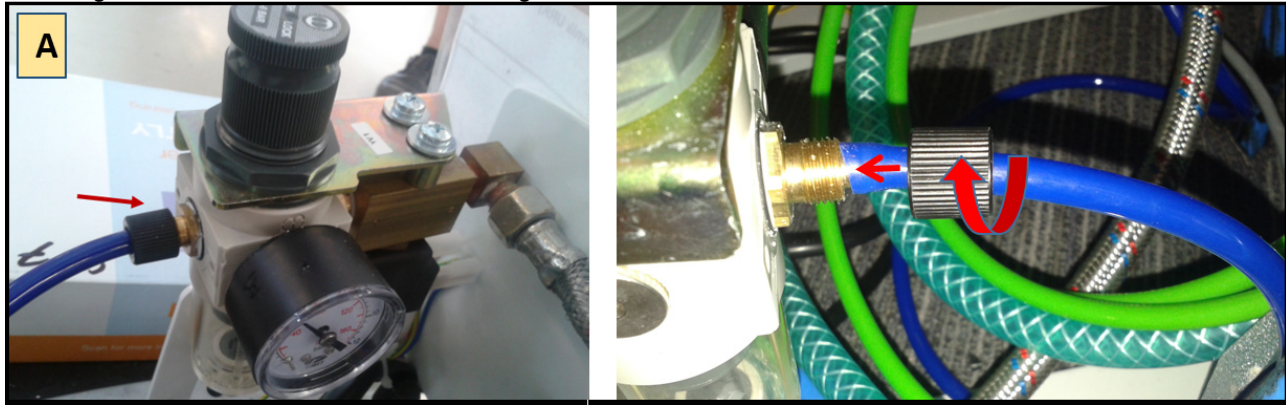




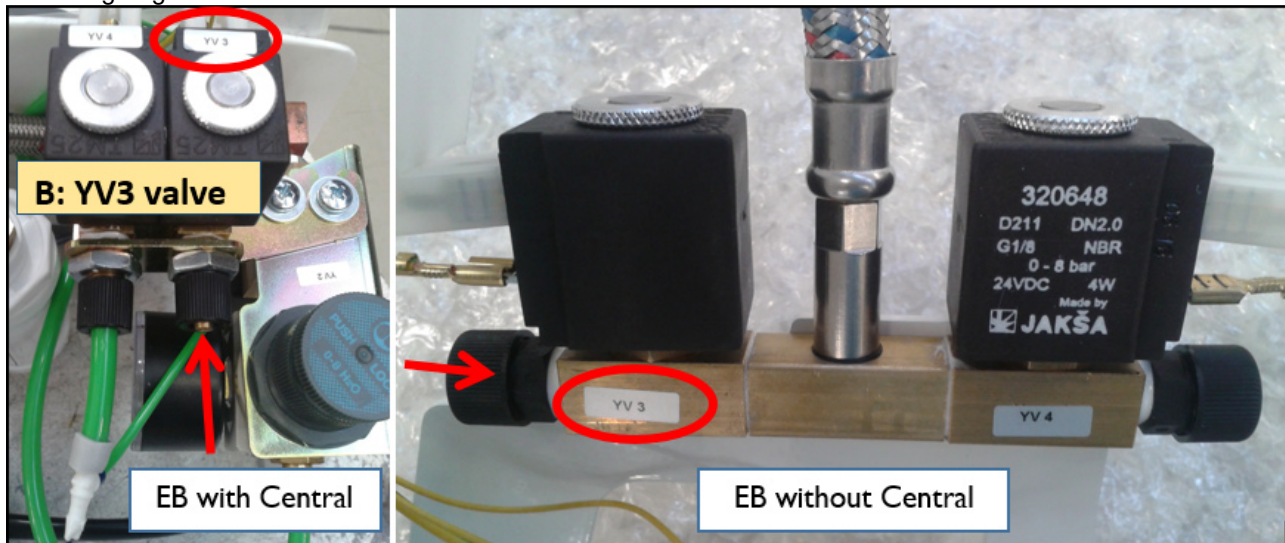
Now we are going to connect following tubes and hoses coming from unit (marked A - E):



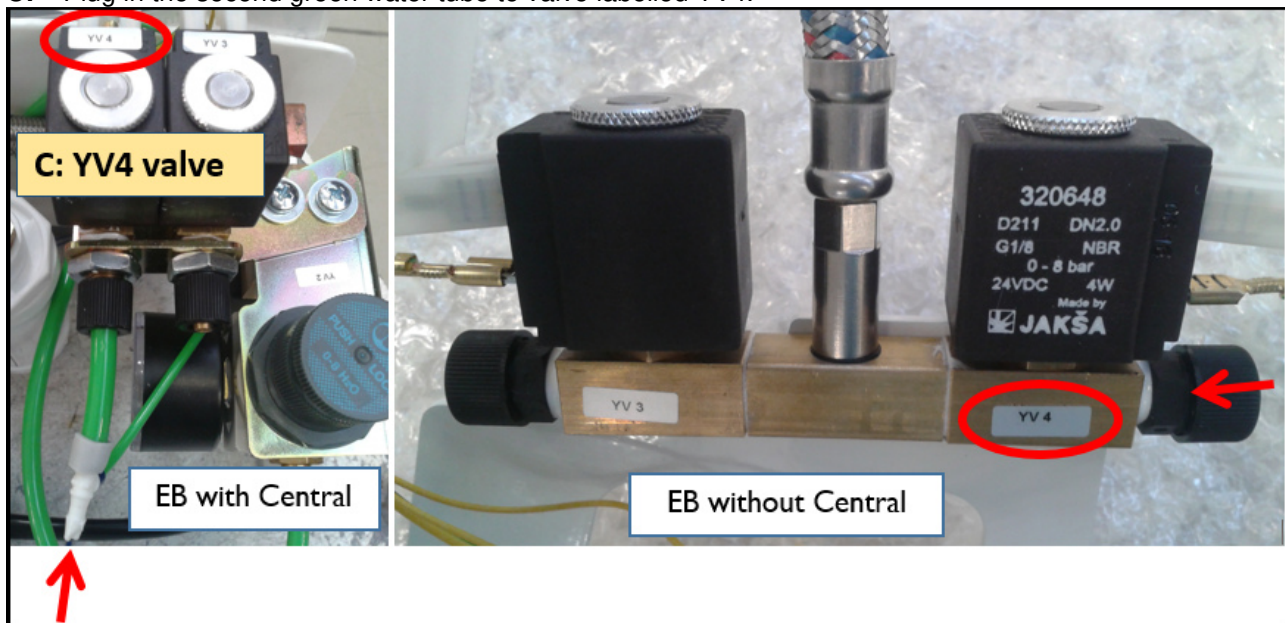
A: Plug in blue air tube to the main filter regulator.



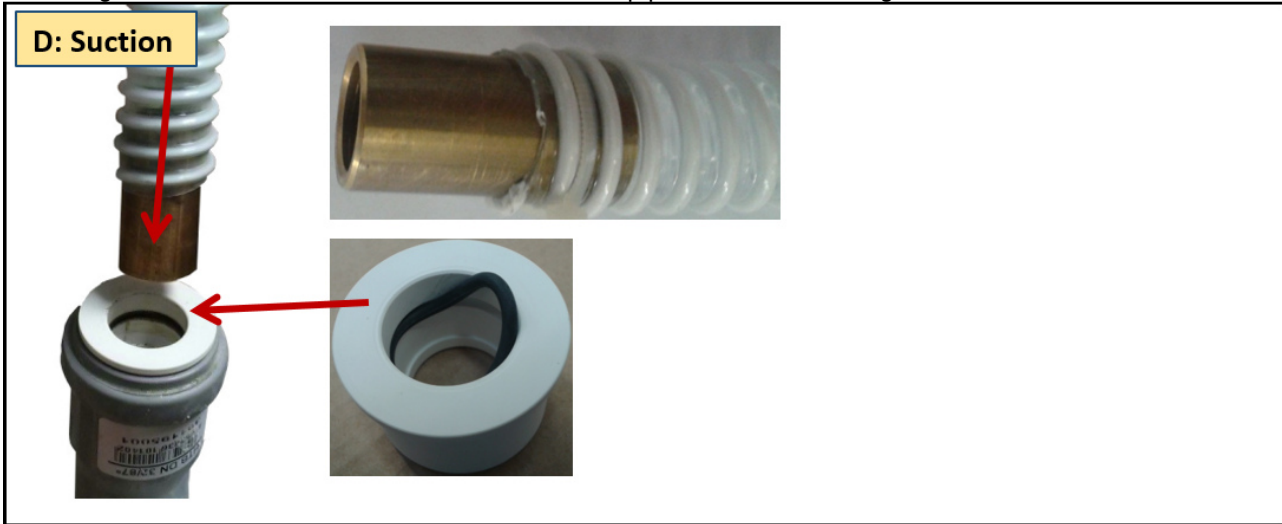
B: Plug in green water tube marked as YV3 to valve labelled YV3.



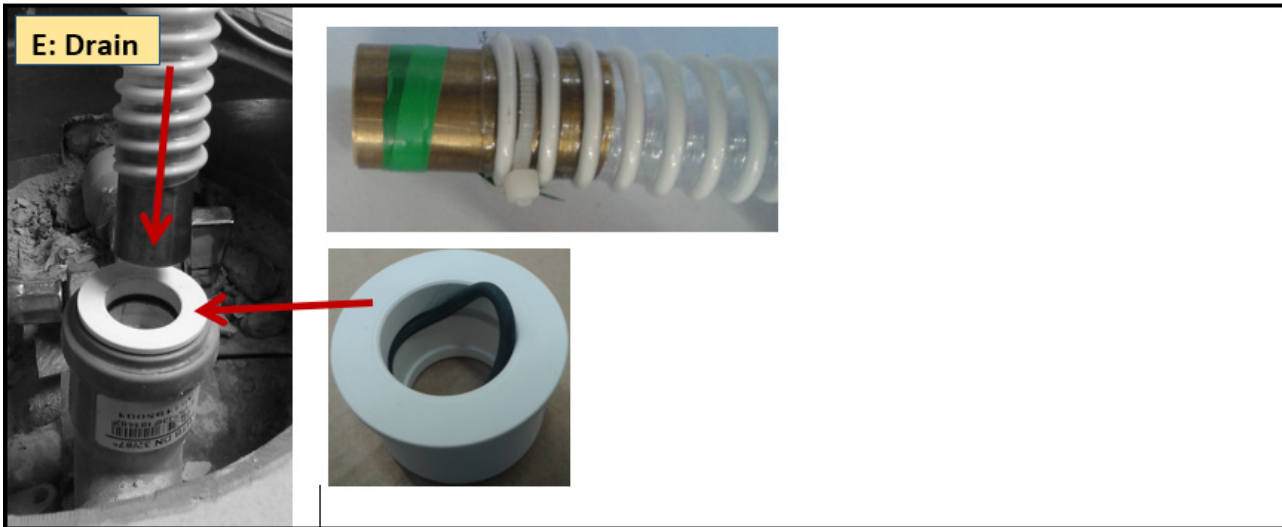
C: Plug in the second green water tube to valve labelled YV4.



D: Plug in suction hose from the unit to the suction pipe in the floor. Use gasket as outlined below.



E: Drain hose is marked with green tape. Plug in drain hose from the unit to the drain pipe in the floor. Use gasket as outlined below.

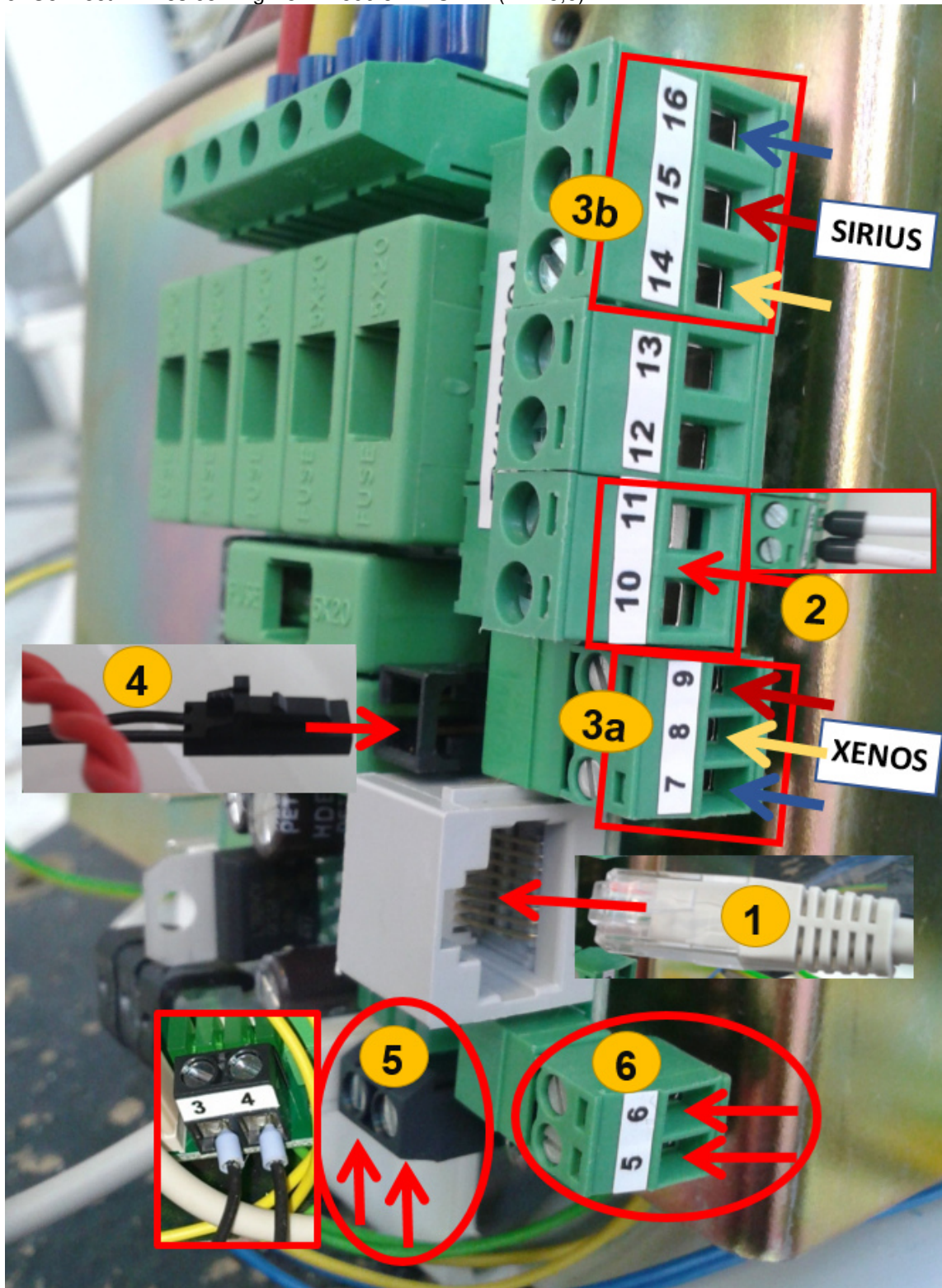


11. Electric connections in the chair

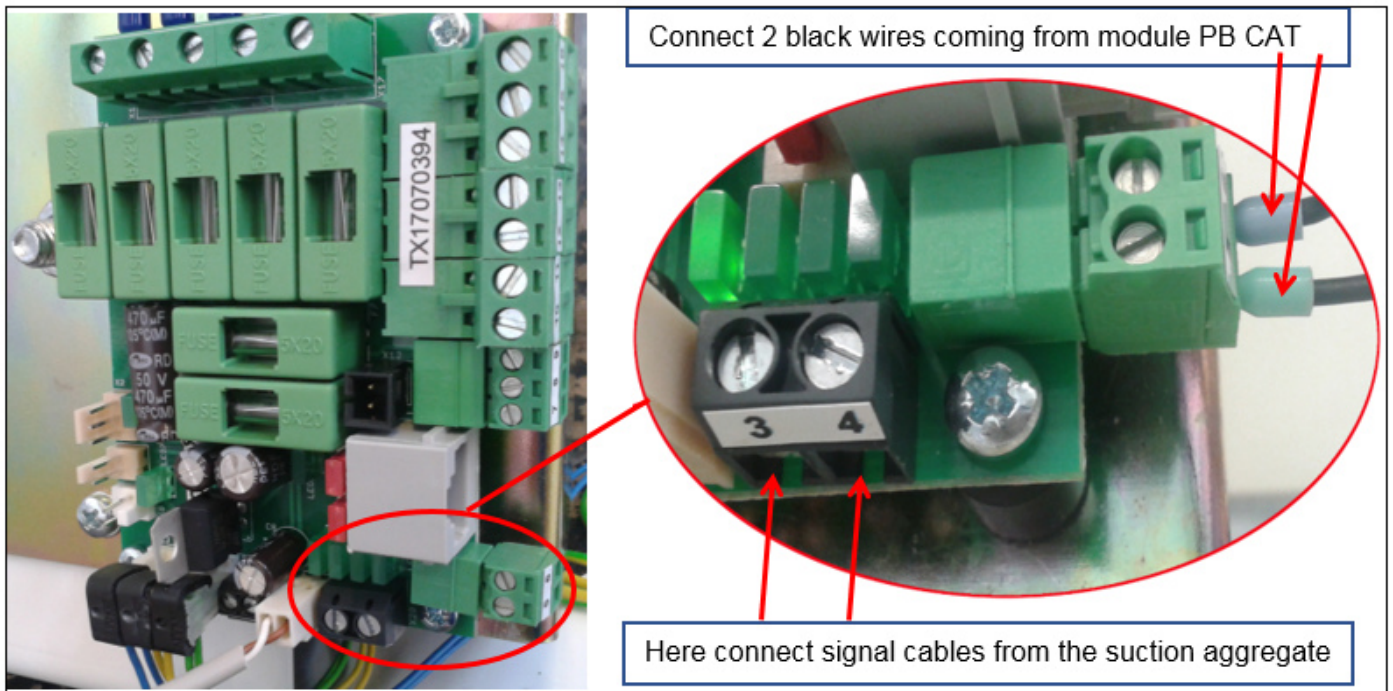
!!! Make sure electrical circuit breaker is turned off.

If necessary, follow wiring diagrams.

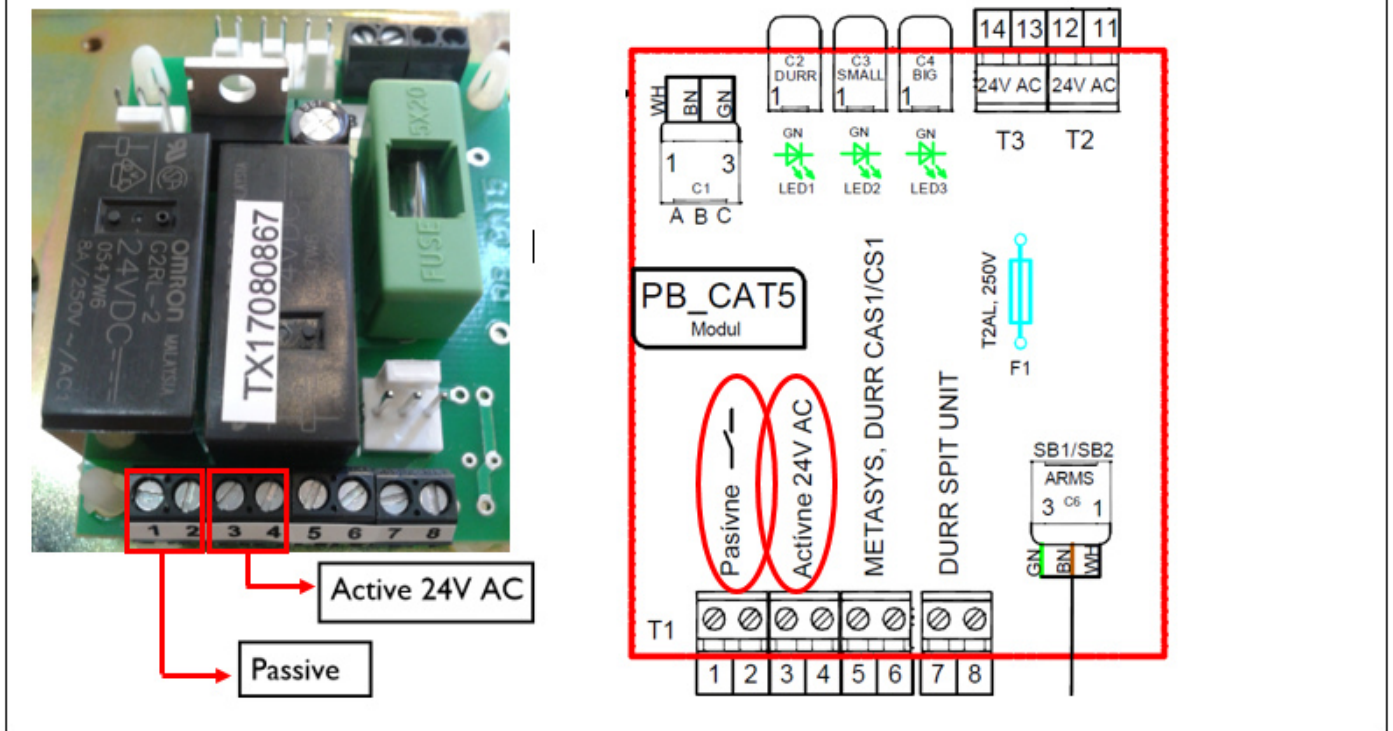
- 1: Connect communication cable coming from dentist panel to board (EB ECO) located in power block
- 2: Connect two white wires (24V AC) coming from dentist panel to module EB_ECO
- 3a: Light XENOS: Connect light powering wires coming from light arm to board EB ECO (PIN 7,8,9)
- 3b: Light SIRIUS: Connect light powering wires coming from light arm to board EB ECO (PIN 14,15,16)
- 4: Connect cable coming from control panel. This cable enables turning XENOS light ON/OFF directly from control panel
- 5: Connect signal cables from the suction aggregate (PIN 3,4) – see detail below
- 6: Connect 2 wires coming from module PB CAT4 (PIN 5,6)



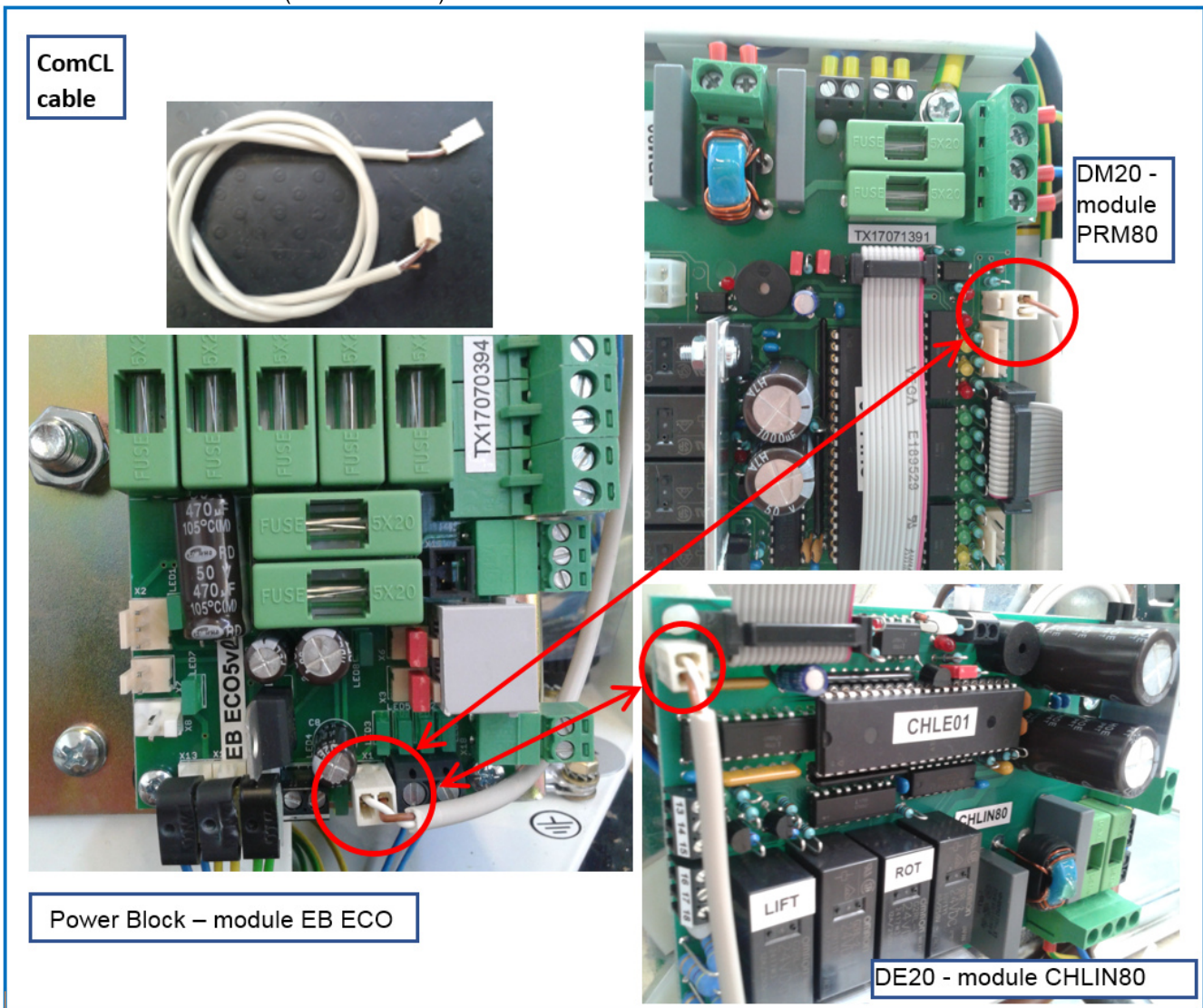
Connecting signals for suction aggregate in EB_ECO module.



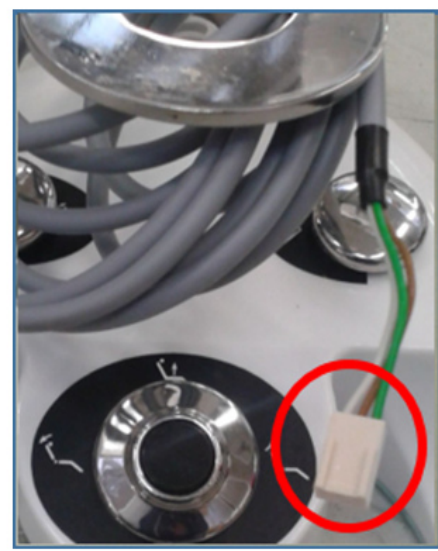
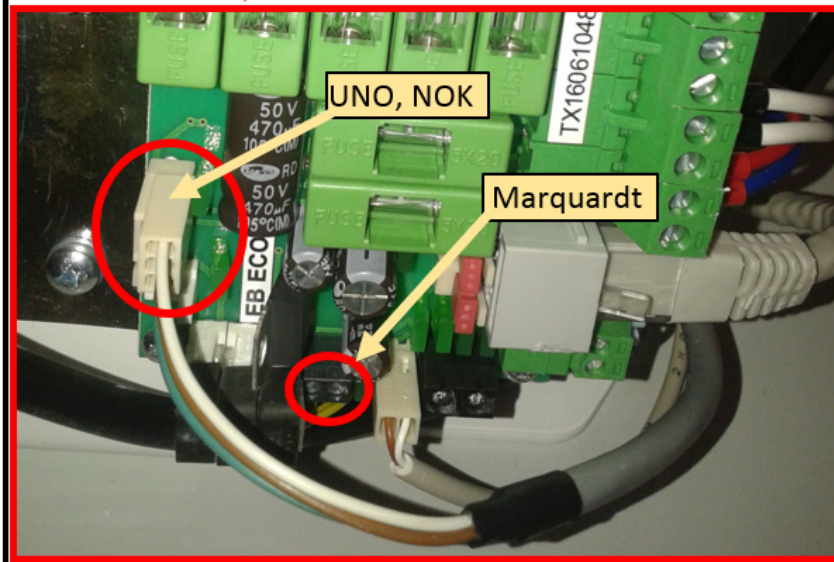
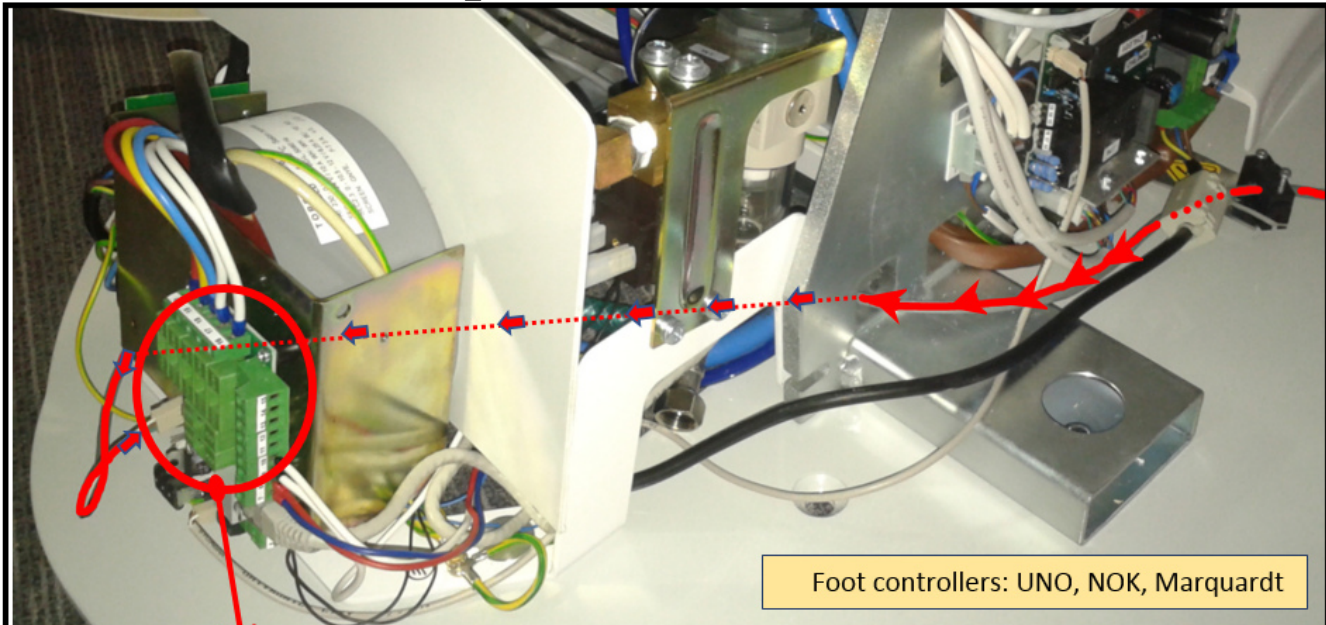
Note: If necessary, in PB_CAT module you can change control signal for operating suction aggregate.



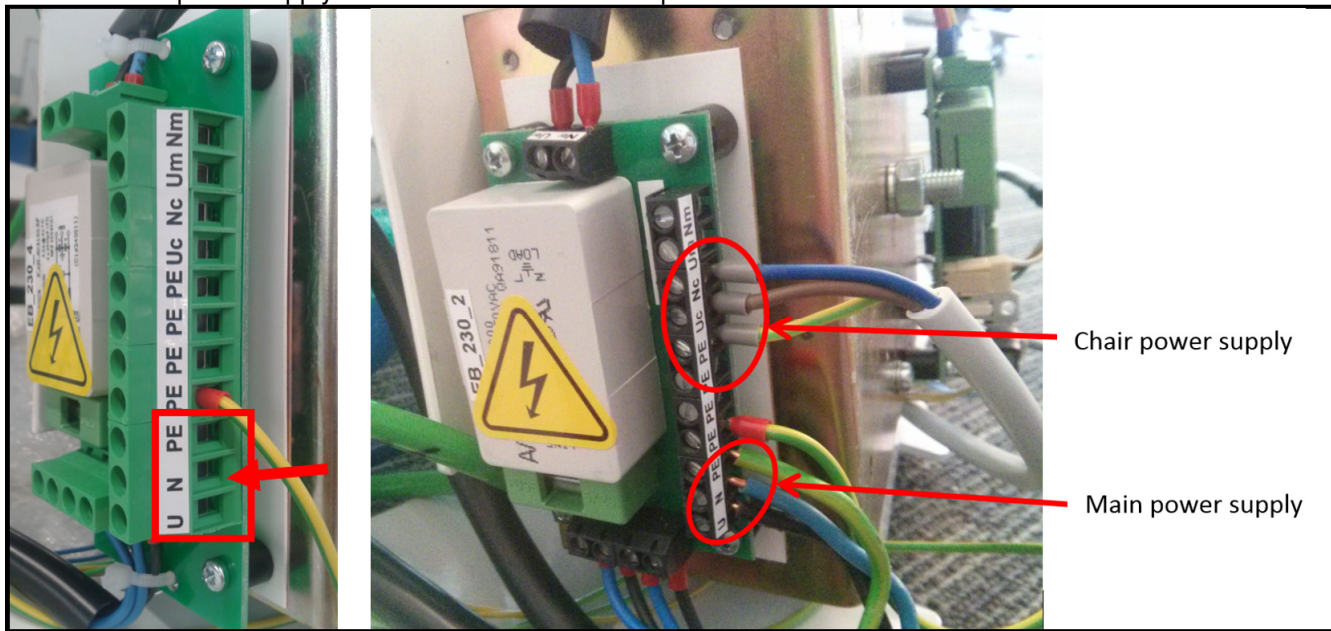
Use communication cable (ComCL cable) from accessories box to interconnect these modules.



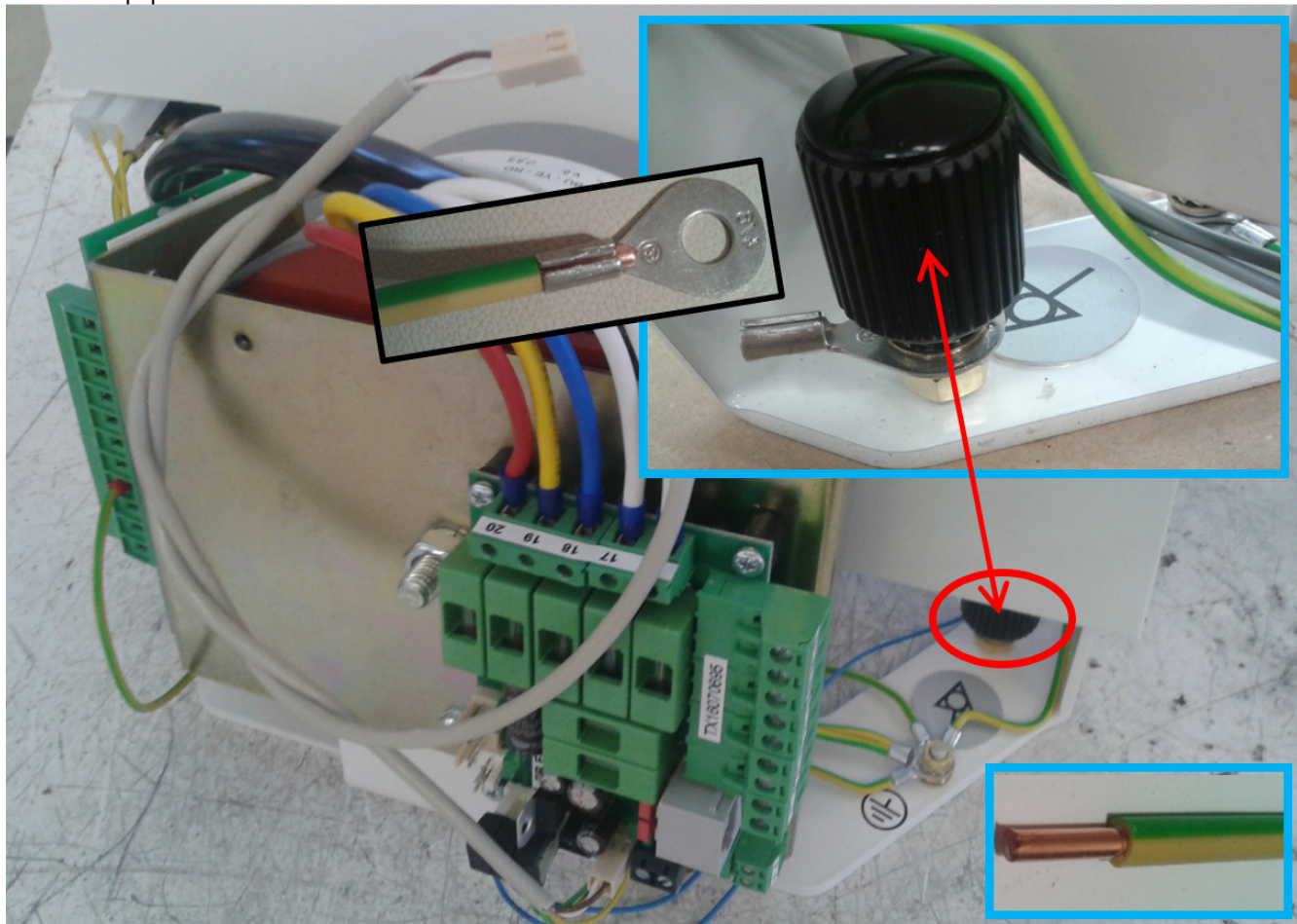
Connect foot controller connector to EB_ECO module.



Connect main power supply 230V to module EB 230 at power block



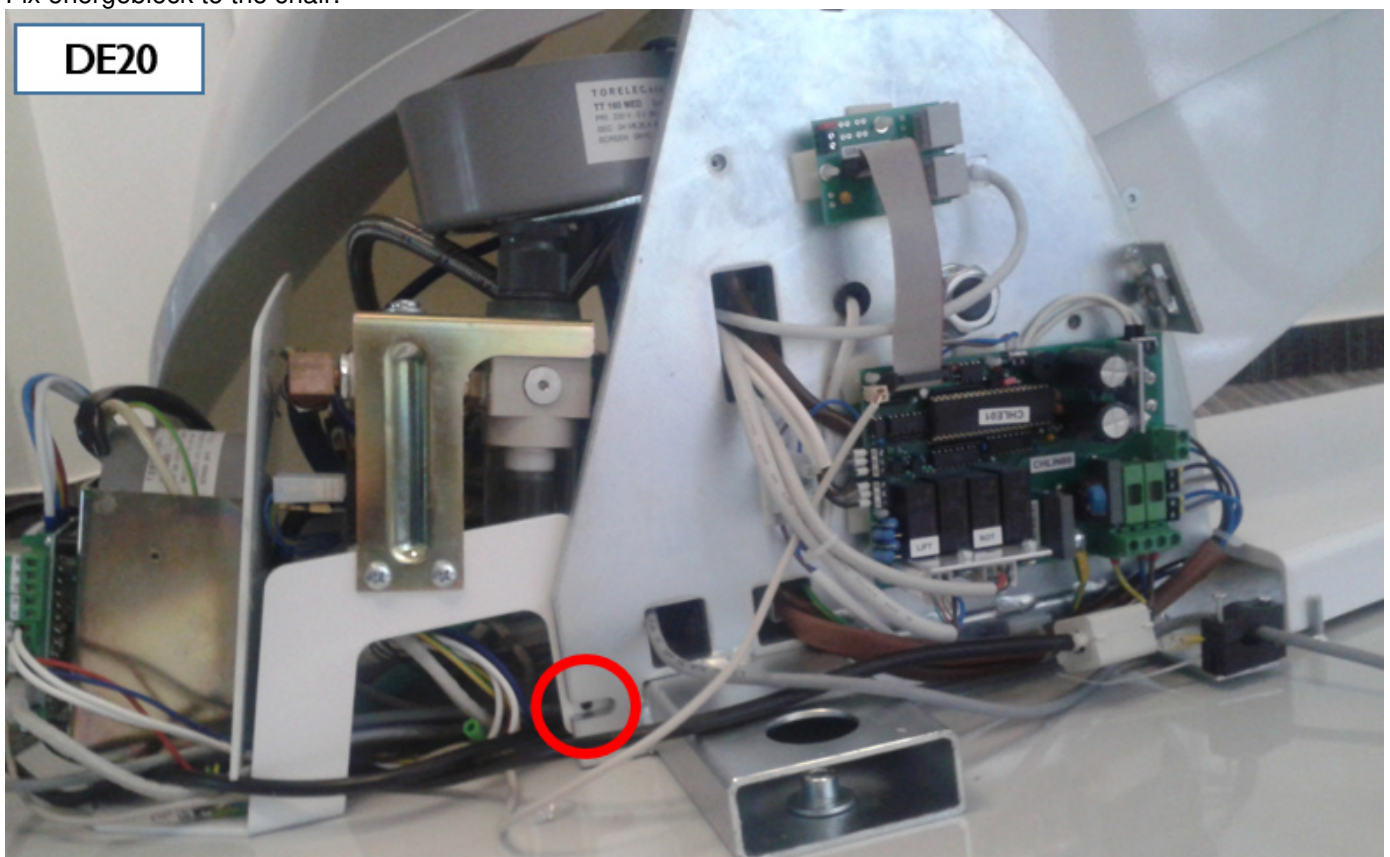
Connect equipotential cable with the Power Block.

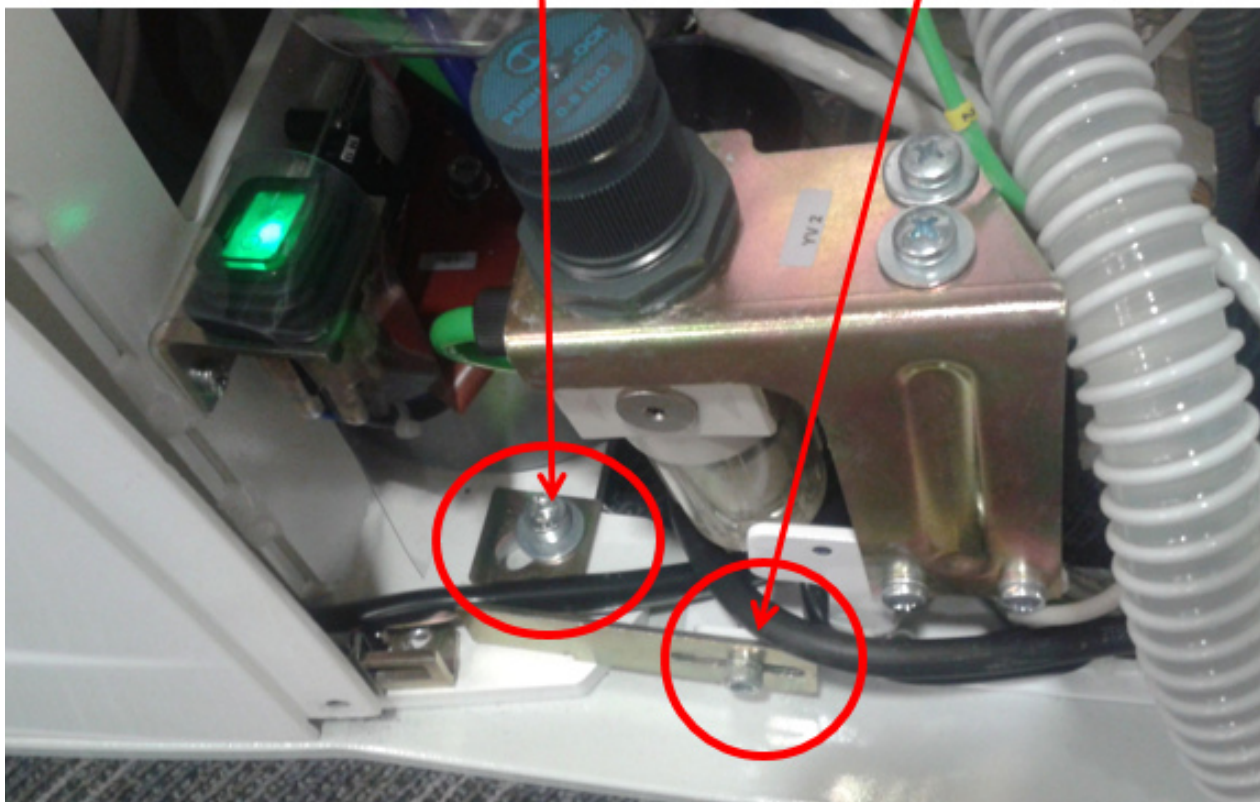
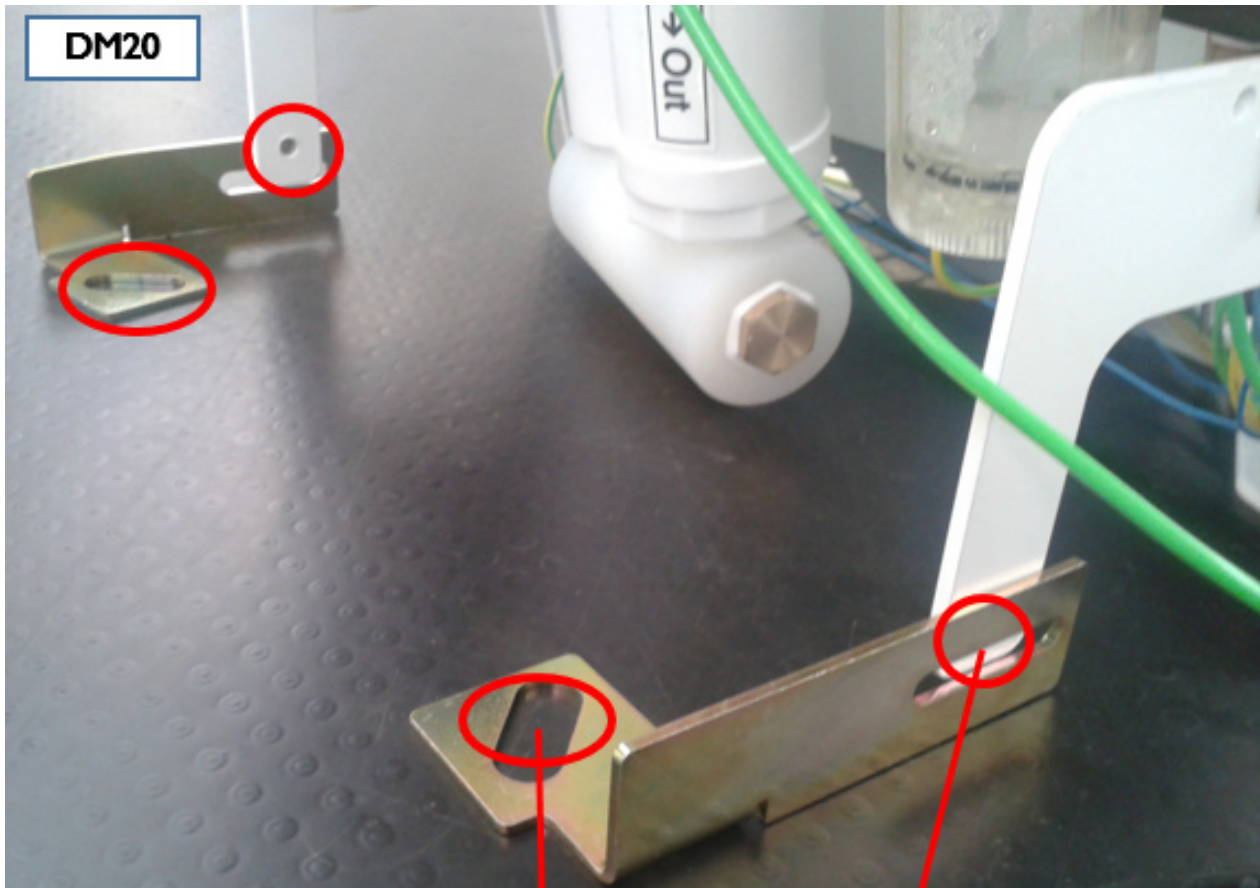


Unplug RJ45 connector from the socket and remove the temporal cable with the switch.



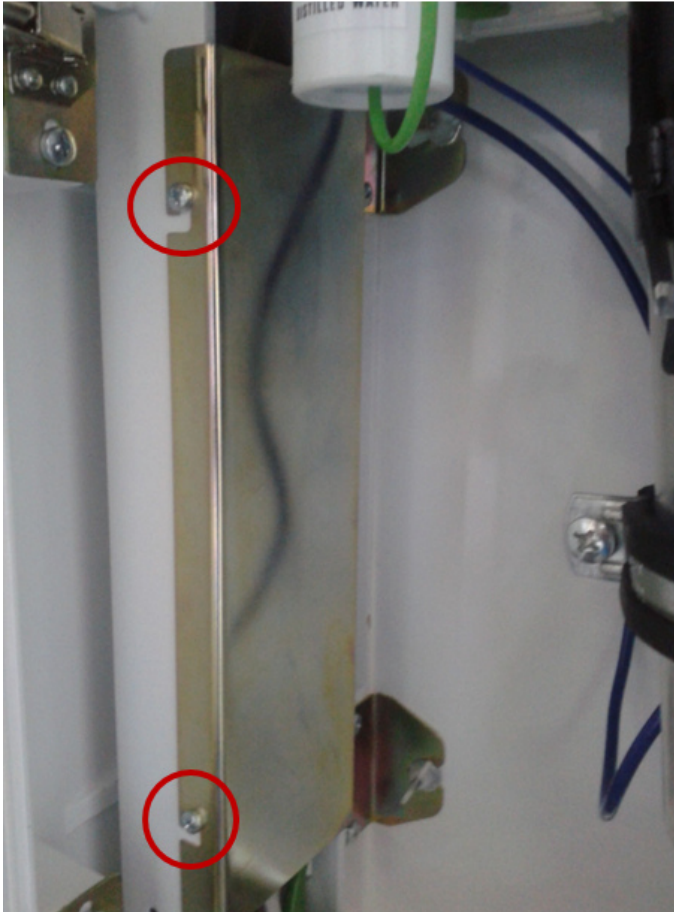
Fix energoblock to the chair.





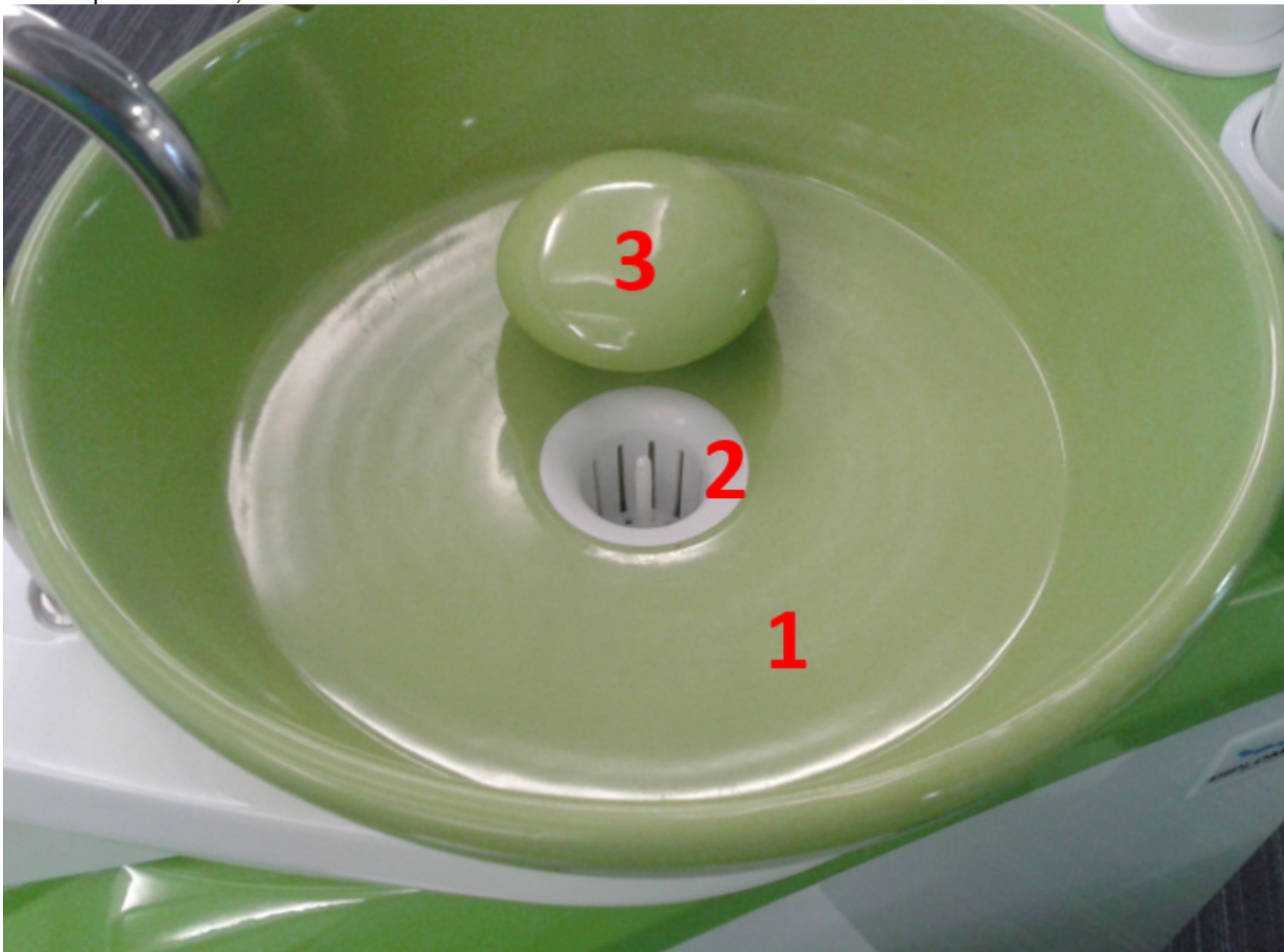
Turn ON the circuit breaker.

Put this cover back and fix it with 2 screws.



12. Assembling accessories

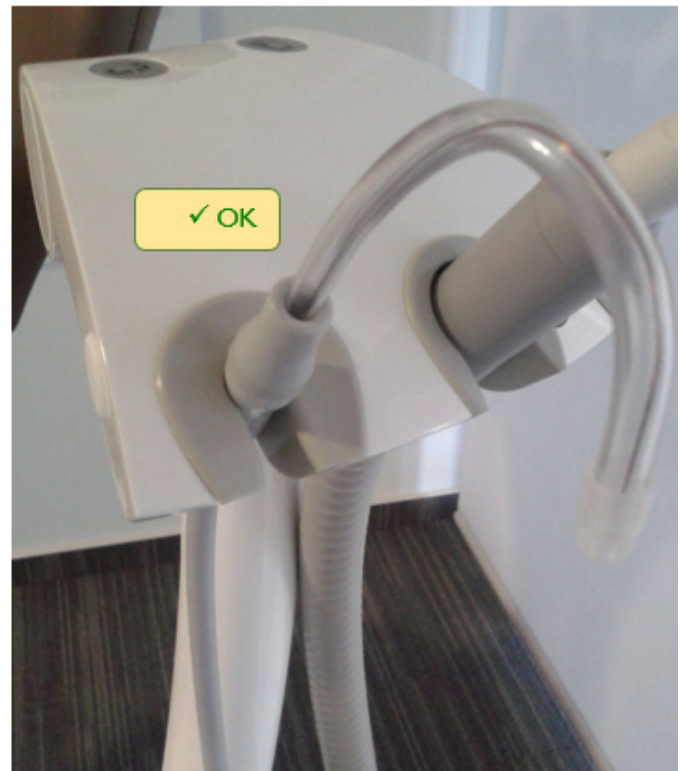
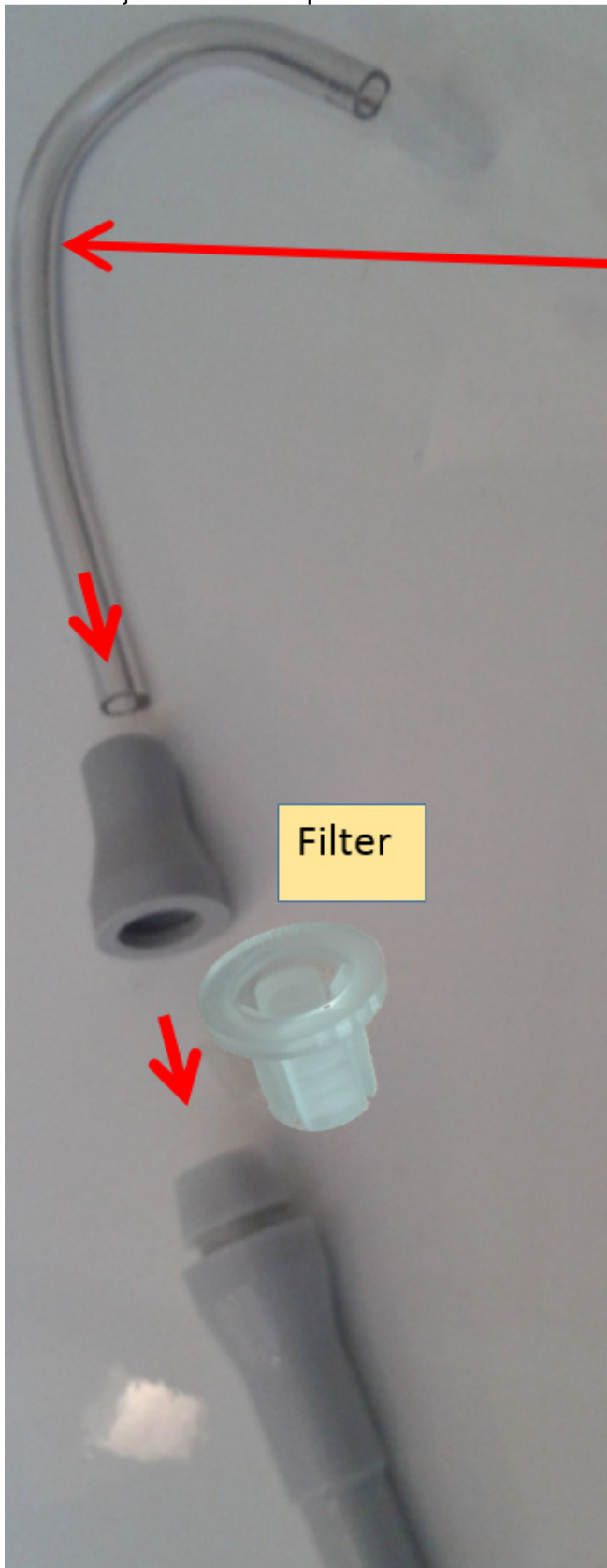
Install spittoon bowl, sieve and ceramic cover.



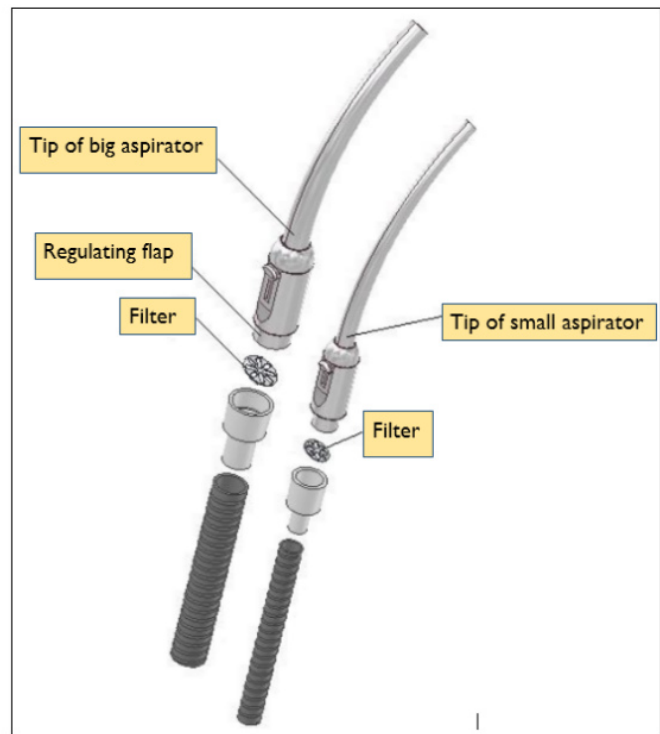
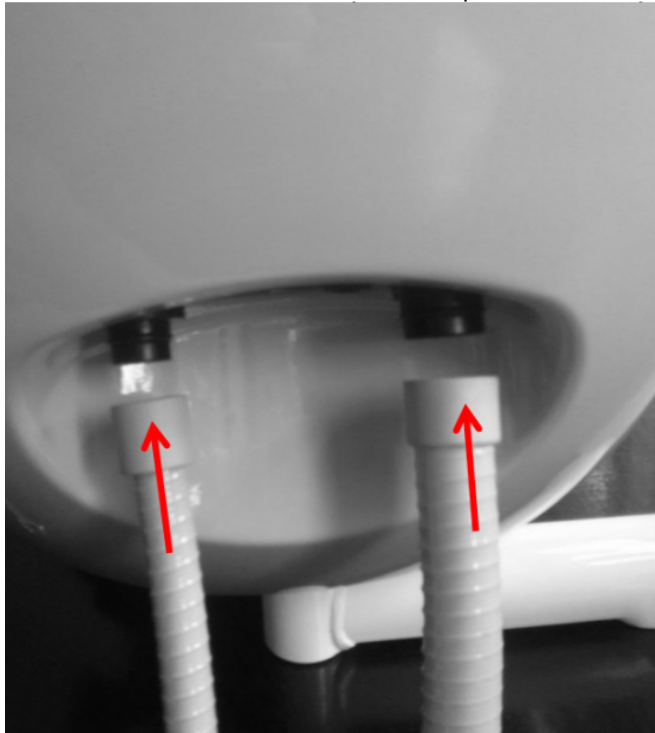
Assembly cup filler on spittoon bowl.



Fit saliva ejector filter and tip to its hose.



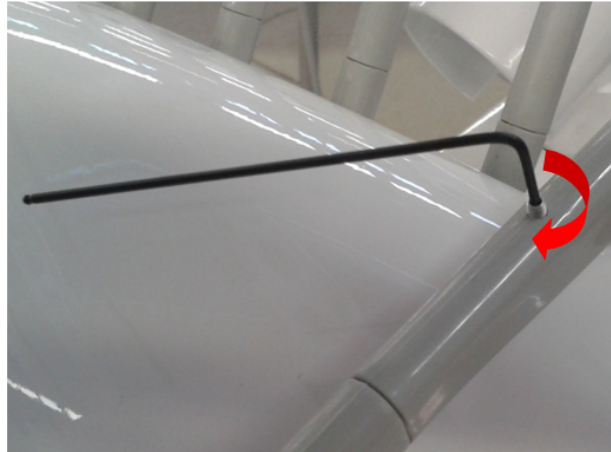
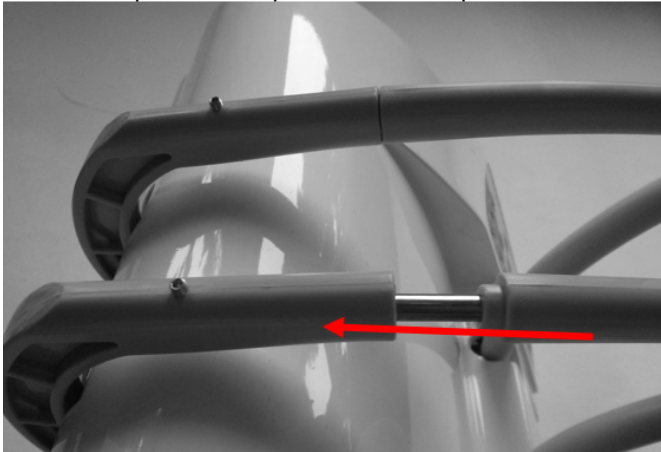
Connect suction hoses. Fit filters and tips to the hoses.



Fix the bottle for distilled water.



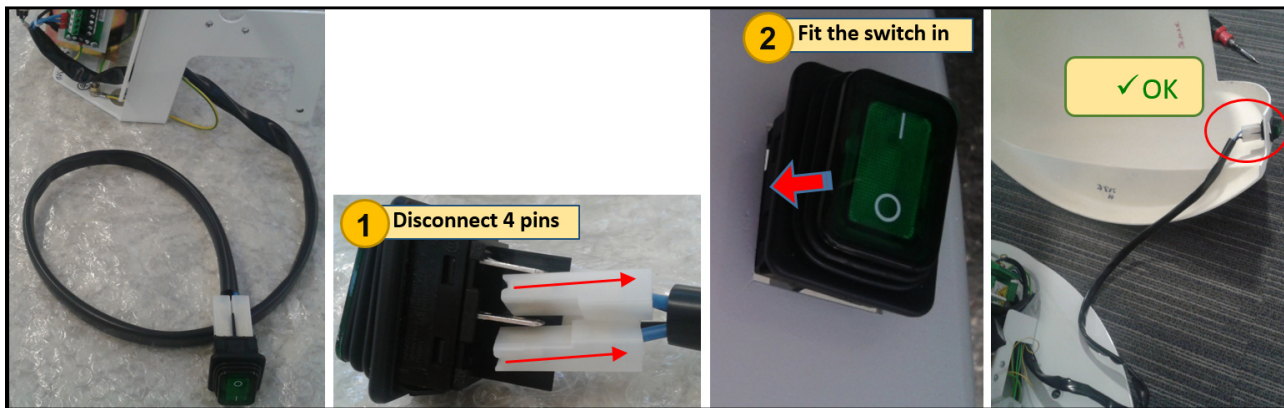
Put the whip into base part. Fix the whip with worm screw.



Fix this cover as outlined below.



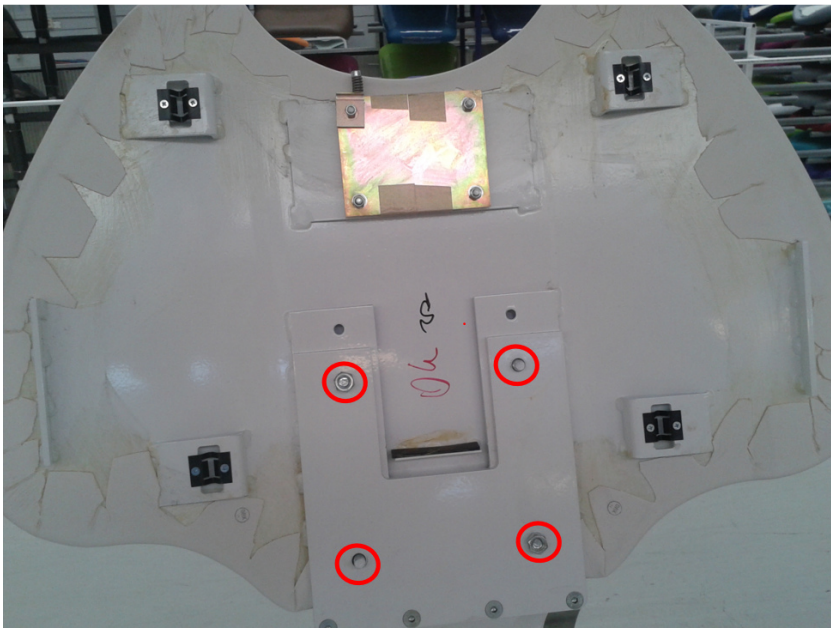
Fit main power switch to appropriate chair cover.



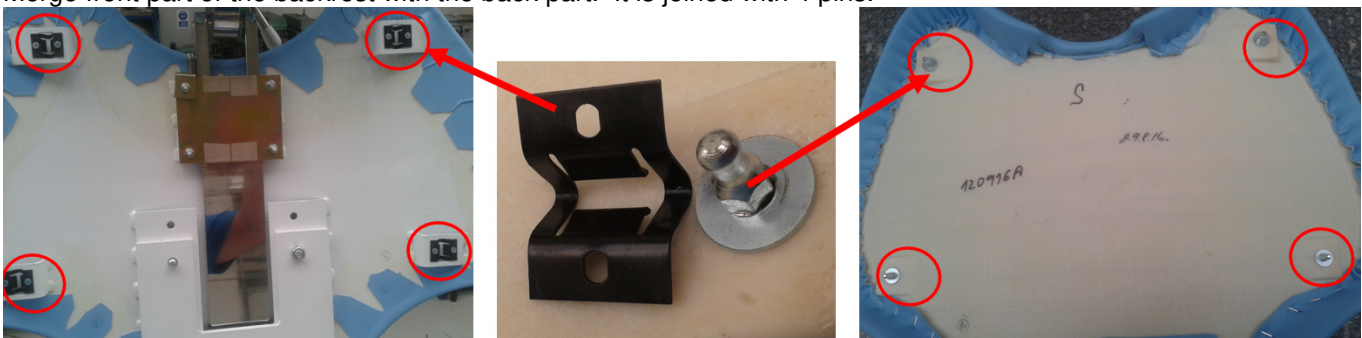
Fix power block cover as outlined below.



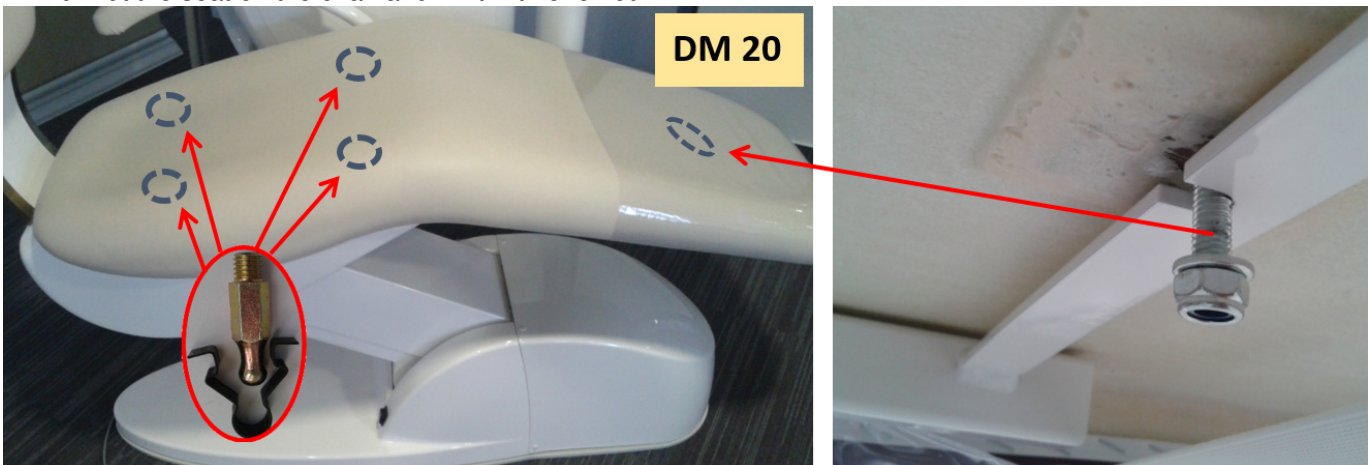
Fix the backrest to the chair.



Merge front part of the backrest with the back part. It is joined with 4 pins.



DM20: Put the seat on the chair and fix it with one nut.



Chair seat installing:

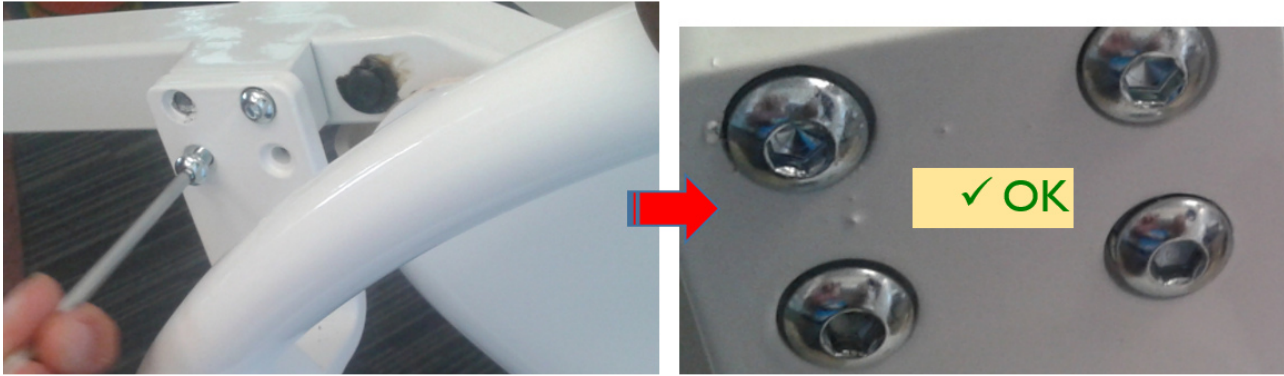
To obtain best access for chair seat installing, first get the backrest to the most lying position.



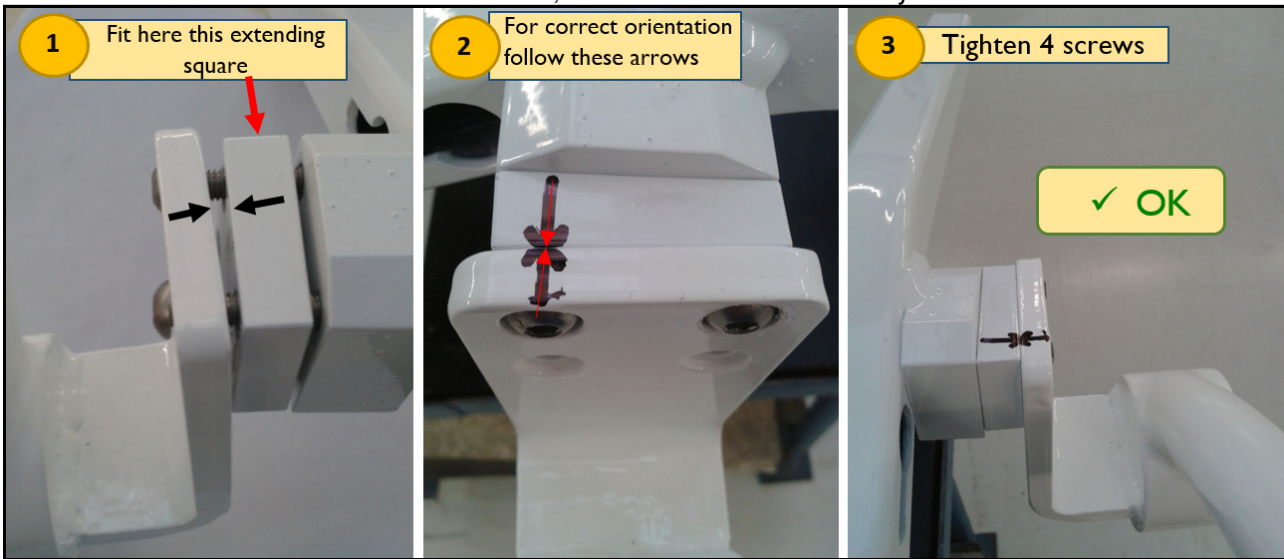
Now put the seat on the chair and fix it with 3 nuts.



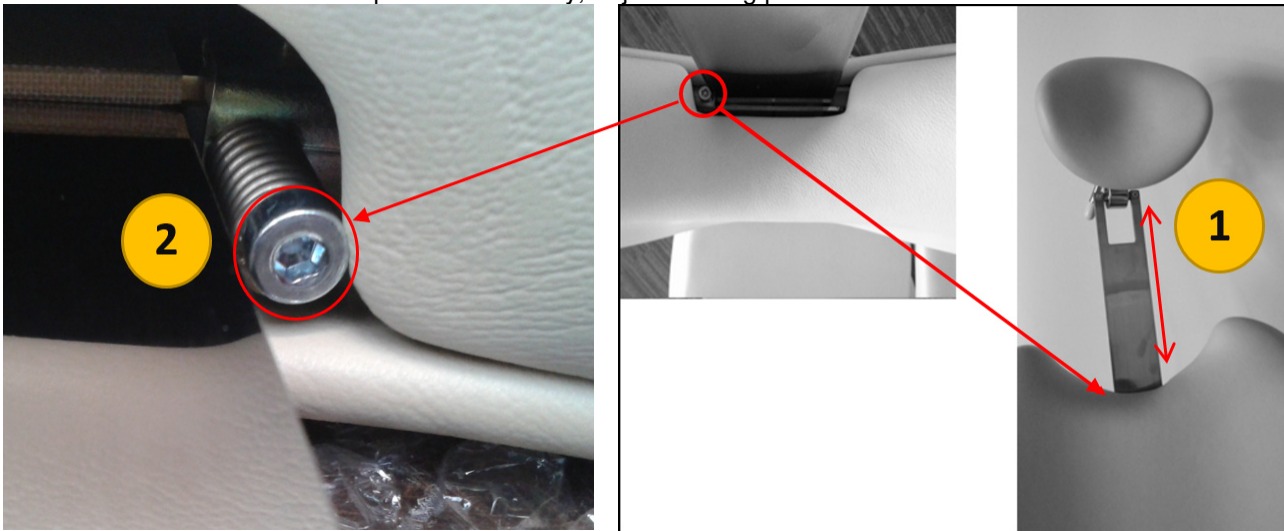
Fix the handrest holder to its proper position with 4 screws. The remaining 2 screws you can find in the chair accessories box.



If DM20 chair with wide seat has been ordered, then install handrest this way:



Install headrest to the backrest part. If necessary, adjust moving power with screw.



Fix this cover on the chair arm.



Put esthetic covers on its places.



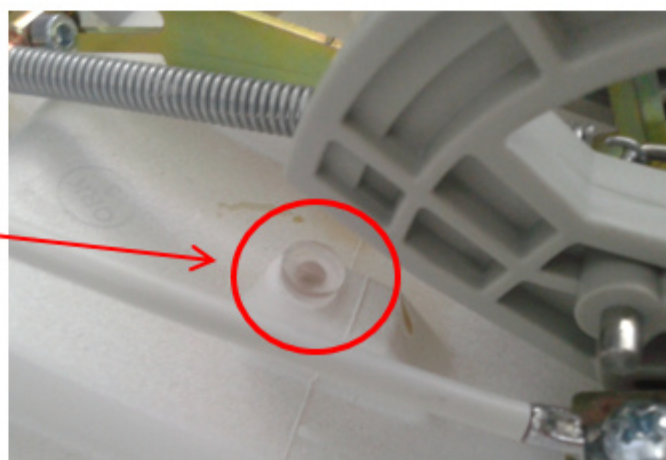
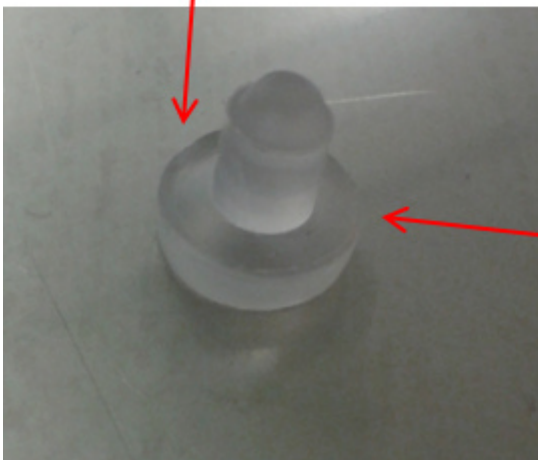
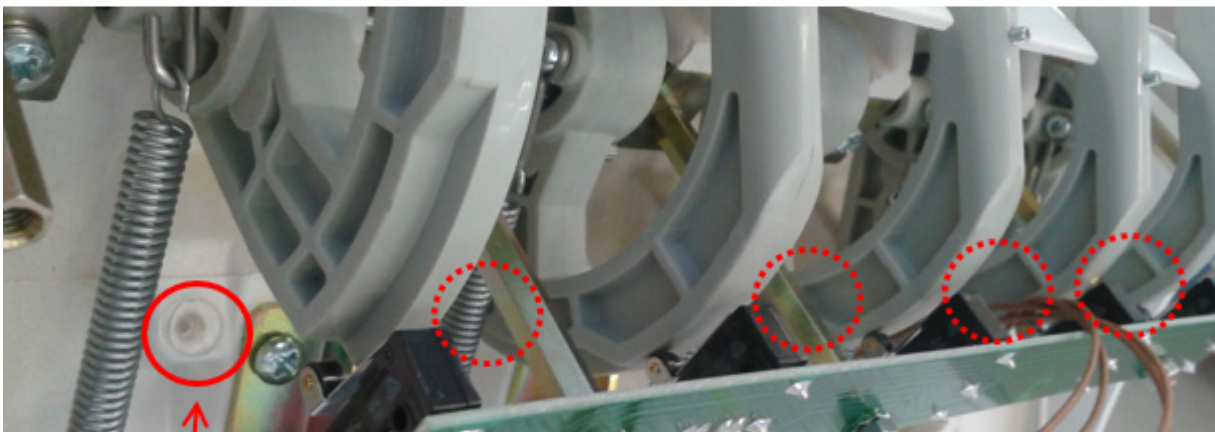
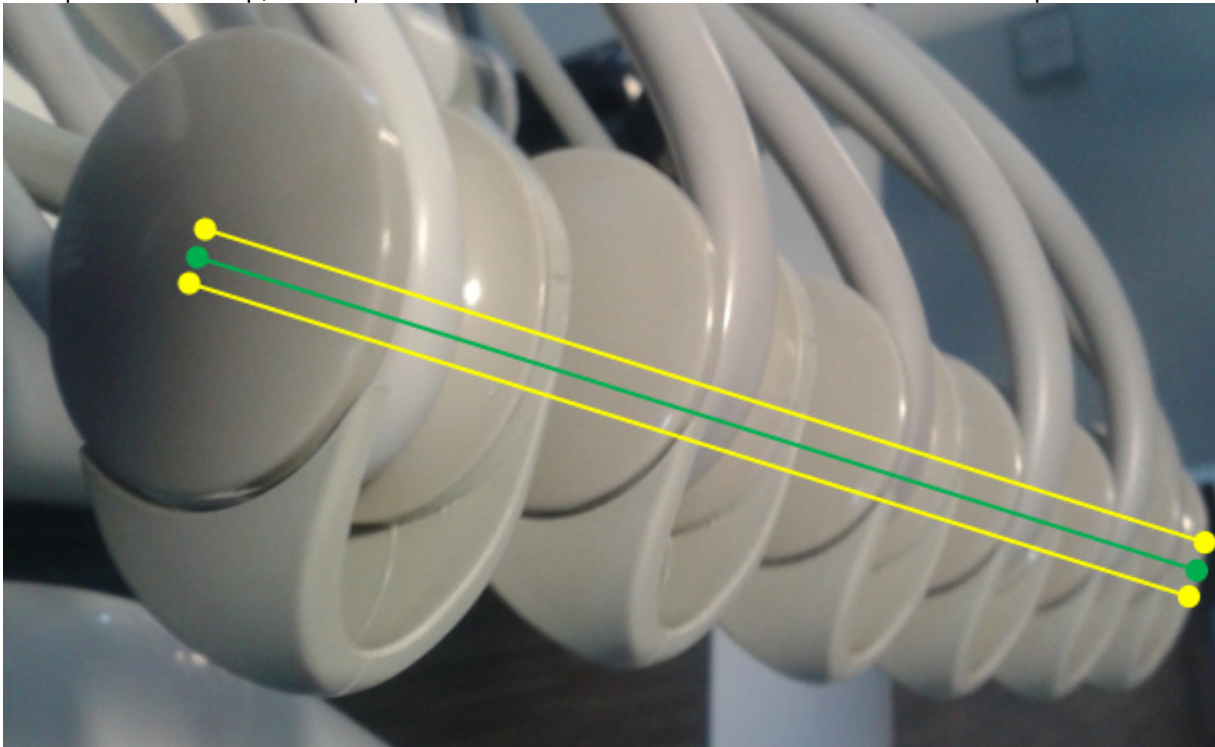
13. Finalizing of installation

Turn the main switch on and check functionality of the unit according to user manual.




13.1 Adjusting installed elements

If whips do not line up, check presence of silicone washers located inside of the control panel below each whip.

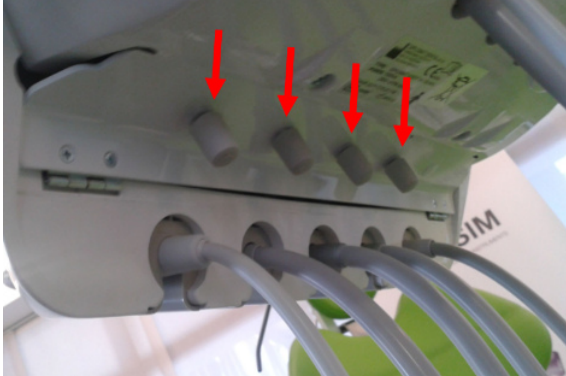


13.2 Disinfection of new dental unit before its first use

 Before first use of the dental unit, it is necessary to disinfect all instruments and waterlines of all instruments. Please perform the following steps:

1.)

Fully open valve(s) of instrument's spraying water.



2.)

Fill in the bottle for distilled water with disinfection solution **SANOSIL SUPER 25 Ag (S003 Ag)**. This product is 1,5 % Hydrogen peroxide solution.



3.)

Rinse each instrument with the solution (minimum 1 minute each) and let the solution react in the hoses for 60 minutes.

4.)

After the 60 minutes is gone, replace the contents in the bottle with distilled water and rinse all the instruments with the distilled water (each instrument 30 seconds).

 After accomplishing of the steps above, the stomatological unit can be used for regular dental practice.

Manufacturer:
DIPLOMAT DENTAL s.r.o.
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SLOVAK REPUBLIC