

## INSTALLATION INSTRUCTIONS



### PENDANT SERVICE PILLAR

**HU5/6-S1/S2, HU5-FT1/FT2/T11/T12/T22, HU6-T11/T12/T22 & HU8 F/R**



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## SECTION 1: SAFETY

Before unpacking and installing the equipment, please carefully read these instructions.

The installation crew should comply with the safety, health and environmental regulations of the site in question.

Installation, commissioning, operating and servicing and maintenance of this equipment shall be carried out by suitably competent personnel only.

Do not use oil or grease on any gas terminal units or pipe-work for any reason as this may lead to a fire or explosion. Use only approved oxygen compatible lubricants. If in any doubt, contact Hutz Medical Service Department. Refer cover page for contact details.

The following symbols used in these instructions and on the product in question. The meaning of these symbols is defined below:-



CAUTION!

***Failure to comply with this warning could result in serious or fatal injury***



CONSULT INSTRUCTIONS FOR USE!

***Failure to comply with this notification could result in injury or damage to product***



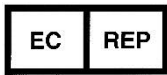
Type B Applied Part



LOT Number



Manufacturer



Authorised Representative in the European Community



European Conformity



Maximum Payload

## SECTION 2: DESCRIPTION

The Service Pillar is a fabricated aluminium frame with aluminium fascia panels, and which is the terminal portion of the Pendant System assembly. The Service Pillar provides the specified electrical, medical gas, vacuum and / or scavenging services to the user (surgeon, anaesthetist etc.) and also has provision for stainless steel equipment mounting poles to support attachments if required.

For HU5 and HU6 variants, one or two aluminium drop tubes are provided, depending on the variant, for connecting the Service Pillar to the Swing Arm.

In the case of the HU5-FT1 and HU5-FT2 variants, the fixed Service Pillar is provided with a steel Drop Tube for mounting to the Slab to Ceiling Carrier, and the movable Service Pillar is provided with an aluminium Drop Tube for mounting to the Swing Arm.

In the case of the HU8 Pendant the Service Pillar and Drop Tube assembly (one only) is mounted directly to the Slab to Ceiling Carrier.

Refer to the applicable Product Data Sheet for the model being installed, obtainable from Hutz Medical Service Department. Refer cover page for contact details.

Access panels are provided for installation, maintenance and servicing purposes.

Note, the Slab to Ceiling Carrier, and Swing Arm(s) where applicable, would have already been installed as per the Slab to Ceiling Carrier and Swing Arm Installation Manuals respectively.

## SECTION 3: CLEANING AND MAINTENANCE

The equipment should always be kept clean. An alkaline cleaning agent with a pH range of 12 to 13 is recommended.



***As the unit is not fully protected from ingress of liquid, only a slightly damp cleaning cloth should be used to avoid an electrical shock.***

A separate Service / Maintenance Manual will be issued on hand-over of the project.

Contact HUTZ Medical Service Department if there are any queries relating to maintenance of the equipment. Refer to cover page for contact details.

## SECTION 4: PROTECTION AGAINST FLAMMABLE MIXTURES



Not protected – not suitable for use with flammable gases.

## SECTION 5: MODE OF OPERATION

Continuous, i.e. equipment may be left on indefinitely.

## SECTION 6: POWER SOURCE

Mains operated 110V / 130V, 220V / 240 V, 50 / 60 Hz alternating current.



***Electrical connections to mains power source are to be carried out by a qualified electrician only.***

### Protection against Shock



Class 1, Type B equipment (mains supplied equipment using a protected earth)

### Wiring

The Wiring Legend is located on the inside of a fascia panel identified by means of a label on the outside of the fascia panel.

### Electromagnetic Interferences

In the event that data cables are required in the equipment, ensure that the data cables are fed through a flexible convoluted pipe to shield the data cables from the possible effects of electromagnetic interferences. Where specified by the customer, these convoluted pipes are supplied with the equipment – refer #13.5

## SECTION 7: DISPOSAL



Disposal of redundant products and materials to be done in accordance with the relevant local, regional and / or national environmental regulations.

Wherever possible, the materials including packaging materials should be recycled.

As used *vacuum* hoses and terminals *may* contain body fluids, they should be treated as hazardous medical waste and disposed of accordingly.

## SECTION 8: TRANSPORT, STORAGE AND OPERATING CONDITIONS



Ambient temperature: 0 – 40°C  
Relative humidity (non-condensing): 10 – 95%  
Atmospheric pressure: 70 – 110 kPa

Operating conditions only apply once transportation and storage is complete. Do not subject the product to severe vibration. Store only in a closed room or undercover.

## SECTION 9: TOOLS REQUIRED

The following tools are required for the Pendant Service Pillar installation:

### **HU5/6-S1/S2/FT1/FT2/T11/T12/T22**

- 4mm Hex Allen Key
- 6mm Hex Allen Key
- Flat thin screwdriver
- Torque Wrench 40Nm with 6mm Hex Allen Key Socket
- Open end flat wrench 27mm (for the NIST connector)
- Crimping tool (for Medical Gas Flexible Hose 'O' Clips)
- One ton capacity trolley jack and spacers for lifting the Drop Tube and Service Pillar assembly to the 2<sup>nd</sup> fix Ceiling Carrier Plate
- 5mm Allen Key (for the Cowling Assembly)
- 10mm Wrench (for the Cowling Assembly)

### **HU5-FT1/FT2 & HU8**

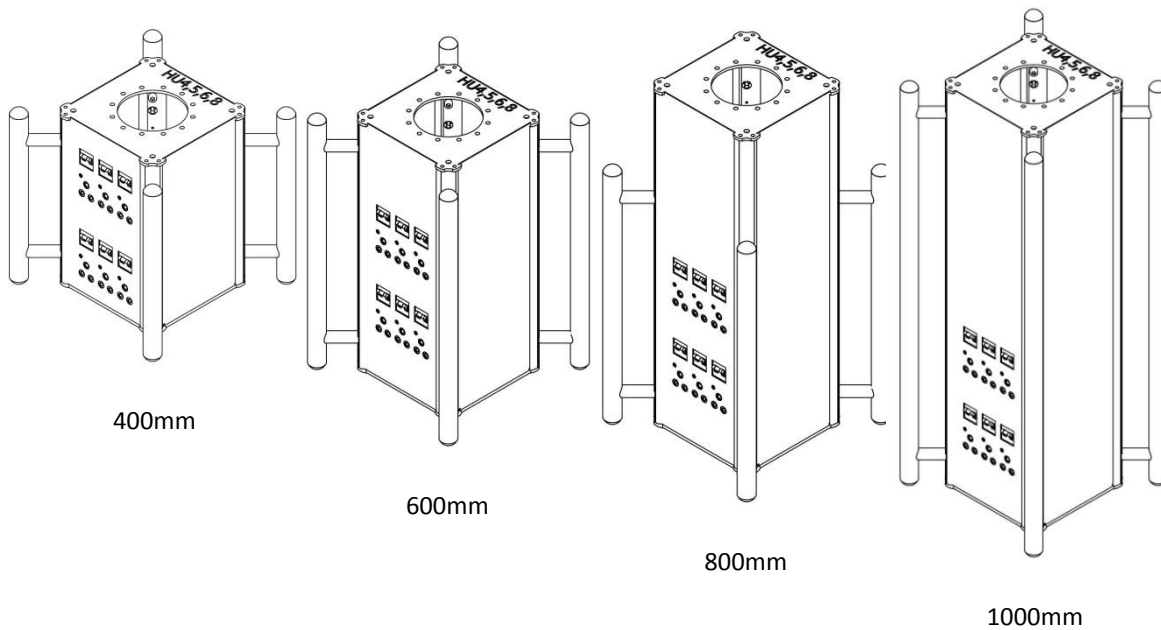
- 6mm Hex Allen key
- Torque Wrench 40Nm with 6mm Hex Allen Key Socket
- Spirit Level
- One ton capacity trolley jack and spacers for lifting the Drop Tube and Service Pillar assembly to the Ceiling Plate

## SECTION 10: PRE-INSTALLATION & DESCRIPTION

- 10.1 Remove the Service Pillar and Drop Tube from the packaging and place them on the floor or flat surface or table. Take care not to scratch or damage the unit. The packaging is to be discarded for recycling purposes according to respective National Environmental Regulations.

### Service Pillar

Length and services according to client specification. (Not shown below are the medical gas, vacuum and scavenging hoses which are supplied with the Service Pillar).

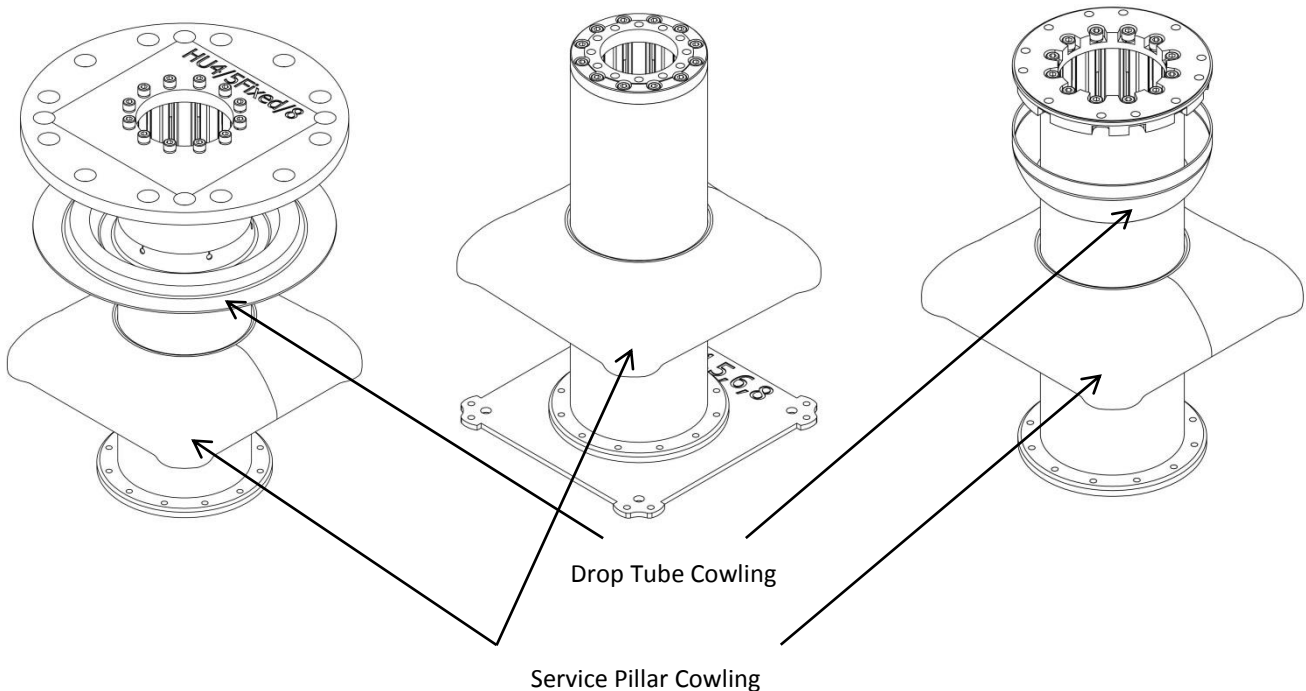


### Aluminium Drop Tubes

HU5 FT1/FT2 / HU8F/R

HU5 S1/S2/T11/T12/T22

HU6 S1/S2/T11/T12/T22





## SECTION 10: PRE-INSTALLATION & DESCRIPTION

- 10.2 The following hardware is included in the Drop Tube assembly (quantities shown below are per Drop Tube assembly)

Insulation Bush Kit: HU5 FT1/FT2

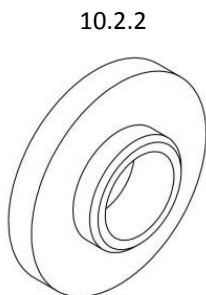
- 10.2.1 M16 x 250mm Threaded Rod: 6x
- 10.2.2 Insulation Bush: 12x
- 10.2.3 Fender Washer: OØ37mm x IØ17mm: 24x
- 10.2.4 M16 Hexagon Nut: 24x

Insulation Bush Kit: HU8 F/R Slab to Ceiling Carrier <600mm

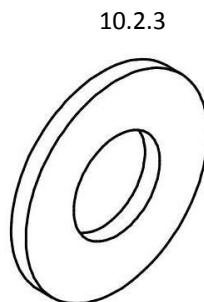
- 10.2.2 Insulation Bush: 8x
- 10.2.3 Oversize Washer: OØ37mm x IØ17mm: 8x
- 10.2.4 M16 Hexagon Nut: 8x



10.2.1



10.2.2



10.2.3



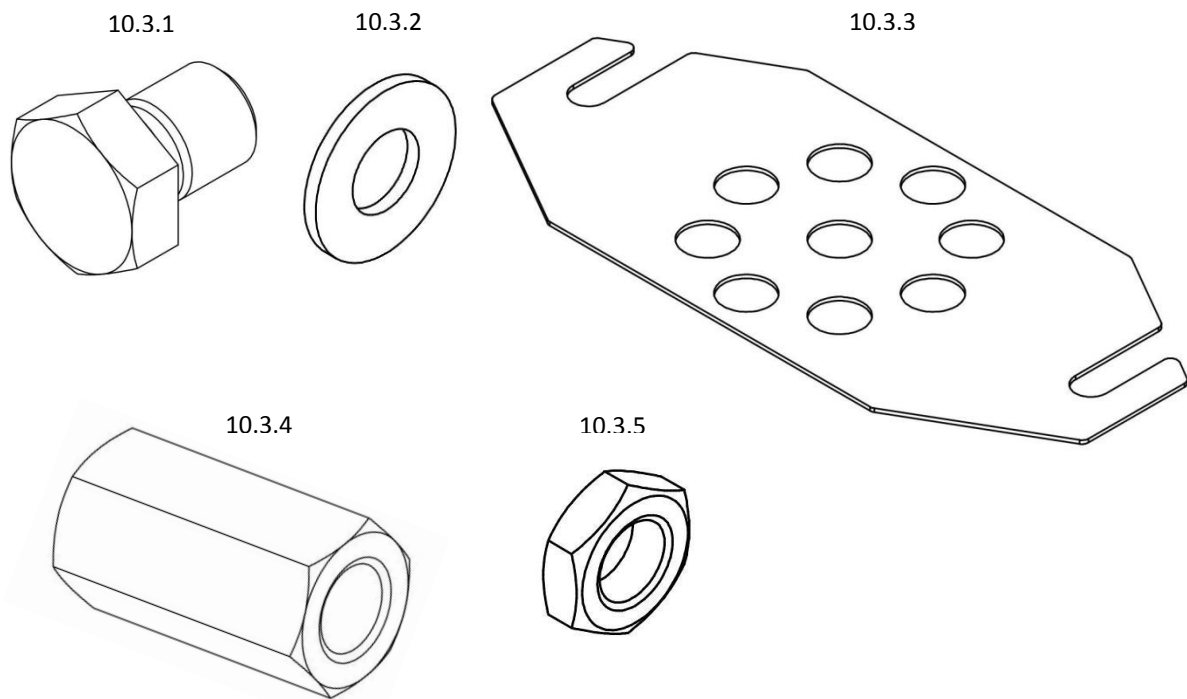
10.2.4

## SECTION 10: PRE-INSTALLATION & DESCRIPTION

- 10.3 The following hardware is included in the Service Pillar assembly (quantities shown below are per Service Pillar assembly)

**NIST connector plate assembly / per Swing Arm Assembly**

- 10.3.1 M16 x 20mm Hexagon Head Bolt: 2x
- 10.3.2 M16 Washer: 2x
- 10.3.3 Gas Termination Plate: 1x
- 10.3.4 M16 Coupling Nut: 2x
- 10.3.5 M16 ½ Nut: 2x



Refer to the Hutz Medical drawings supplied with the unit for the type and quantity of these items required. Contact HUTZ Medical Service Department if any queries. Supply photographs if any damage etc. Refer to cover page for contact details.

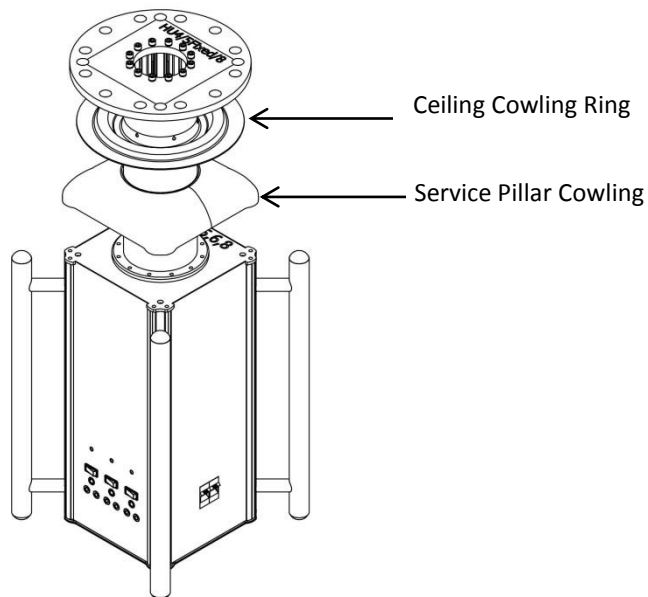
## SECTION 11: INSTALLATION of the SERVICE PILLAR

### 11.1 Installation of the HU5 FT1/FT2 / HU8F/R Service Pillar and Drop Tube assembly onto the Ceiling Plate

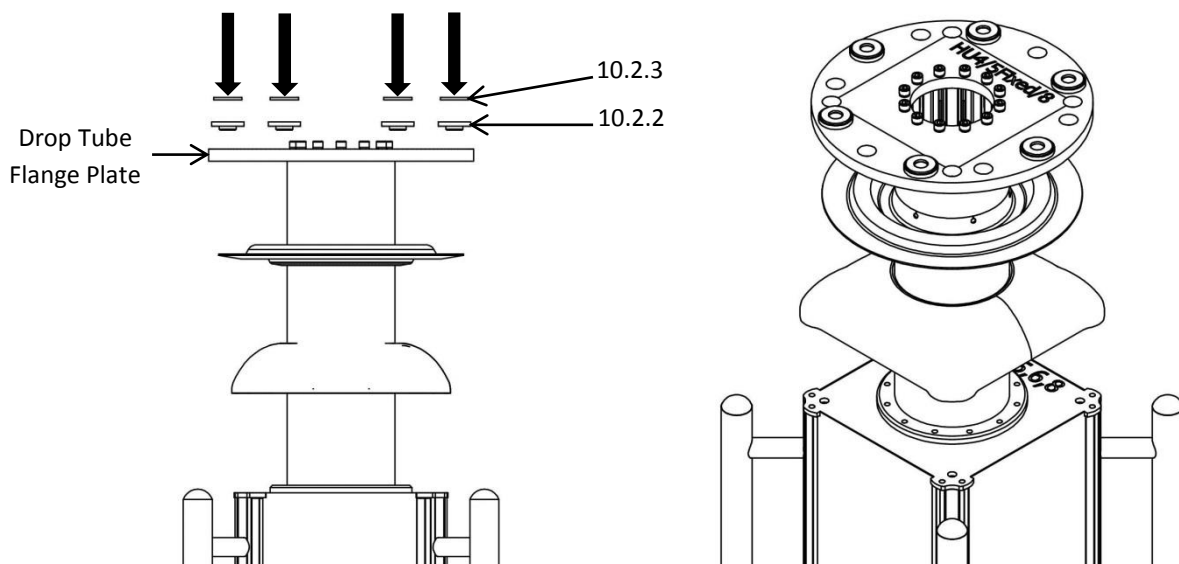


*HU5 FT1/FT2 / HU8F/R Service Pillar assembly variant is supplied with the Drop Tube already fitted.  
It is recommended that the installer has an assistant to assist with this task.*

- 11.1.1 Ensure that the Ceiling Cowling Ring and Service Pillar Cowling are on the Drop Tube assembly before continuing.



- 11.1.2 Fit (6x) Insulation Bushes (10.2.2) into the holes on the top of the Drop Tube Flange Plate accompanied by (6x) oversize washers (10.2.3), as illustrated below:

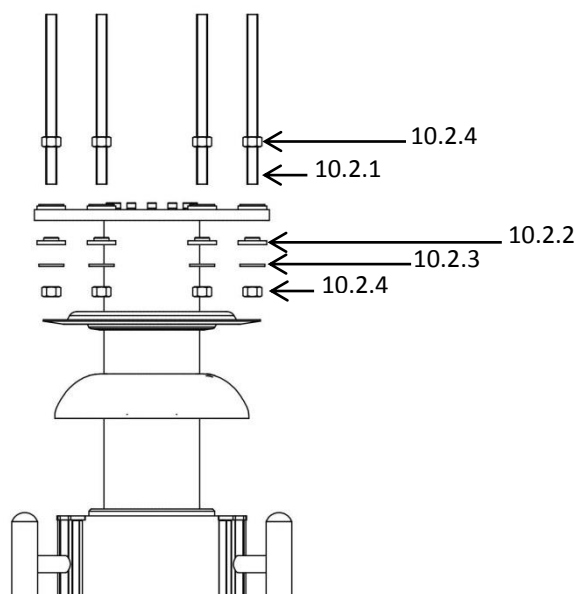


## SECTION 11: INSTALLATION of the SERVICE PILLAR

Turn M16 nuts (10.2.4) onto the threaded rods (10.2.1) to a distance of 55mm from the end.

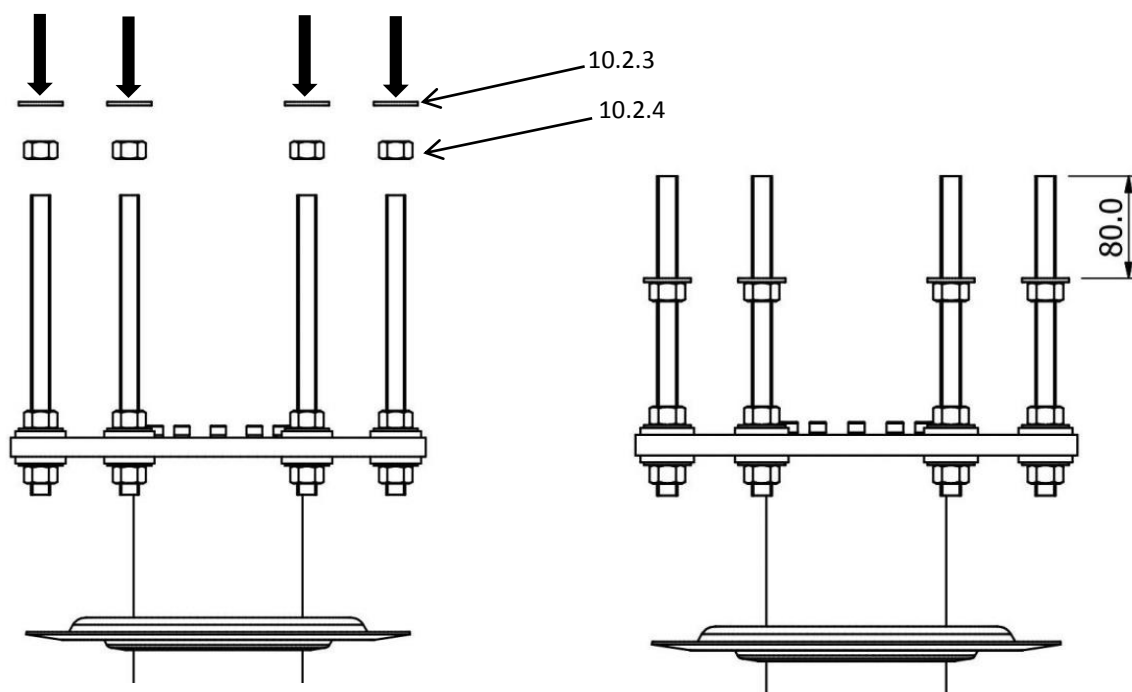


11.1.3 Insert the threaded rods through the oversize washer and insulation bushes on the Drop Tube Flange Plate from the top. Fit insulation bushes, oversize washers and M16 nuts from the bottom as shown below:



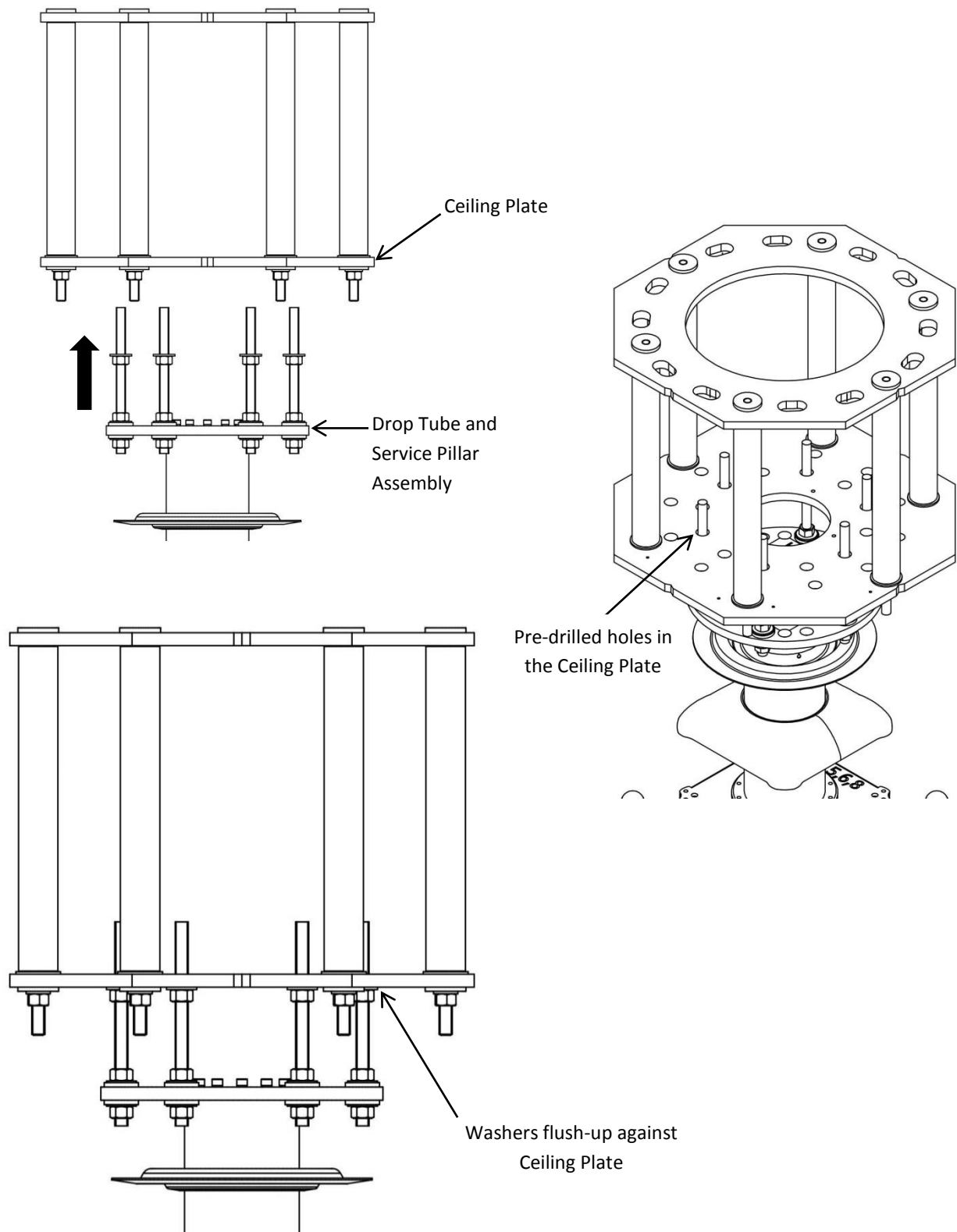
11.1.4 Tighten the M16 nuts to a torque of 80Nm.

11.1.5 Fit a M16 nut and oversize washer on each threaded rod to a distance of 80mm from the top.



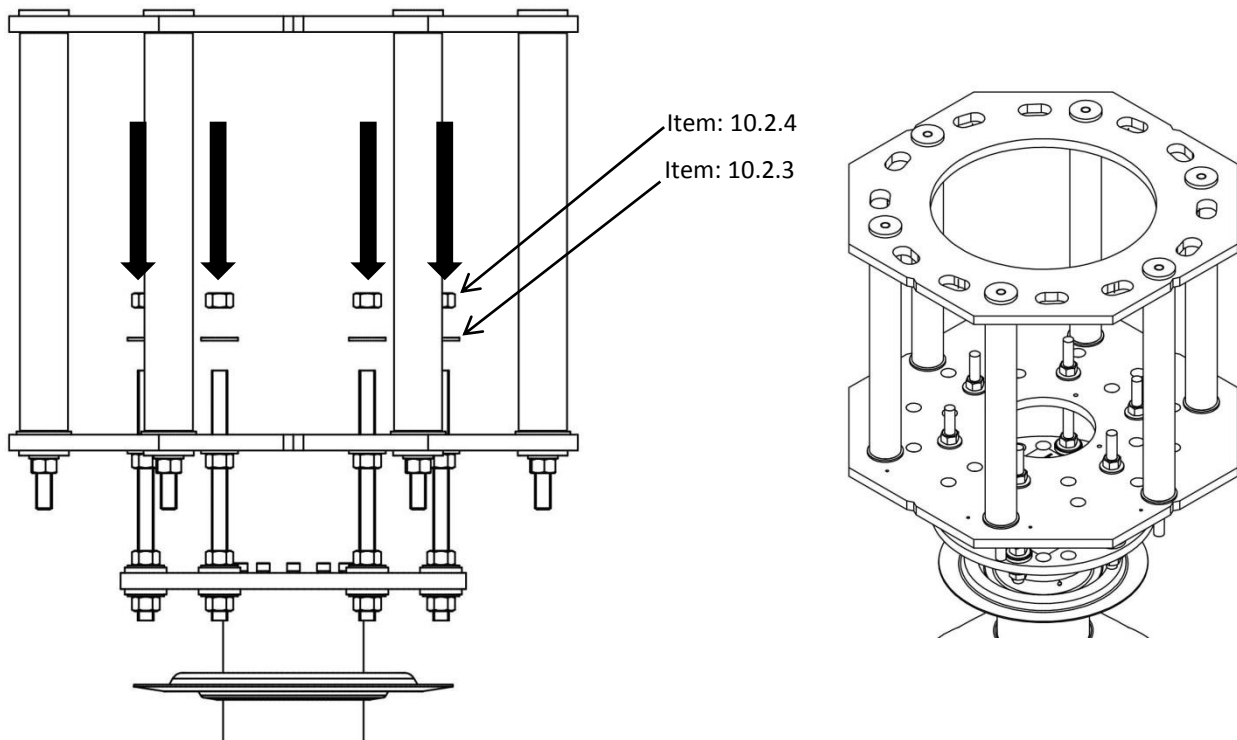
## SECTION 11: INSTALLATION of the SERVICE PILLAR

- 11.1.6 Lift the Drop Tube and Service Pillar assembly up to the Slab / Ceiling Carrier assembly and align the threaded rods to pass through the pre-drilled holes in the Ceiling Plate. Ensure the M16 washers are flush up against the Ceiling Plate.

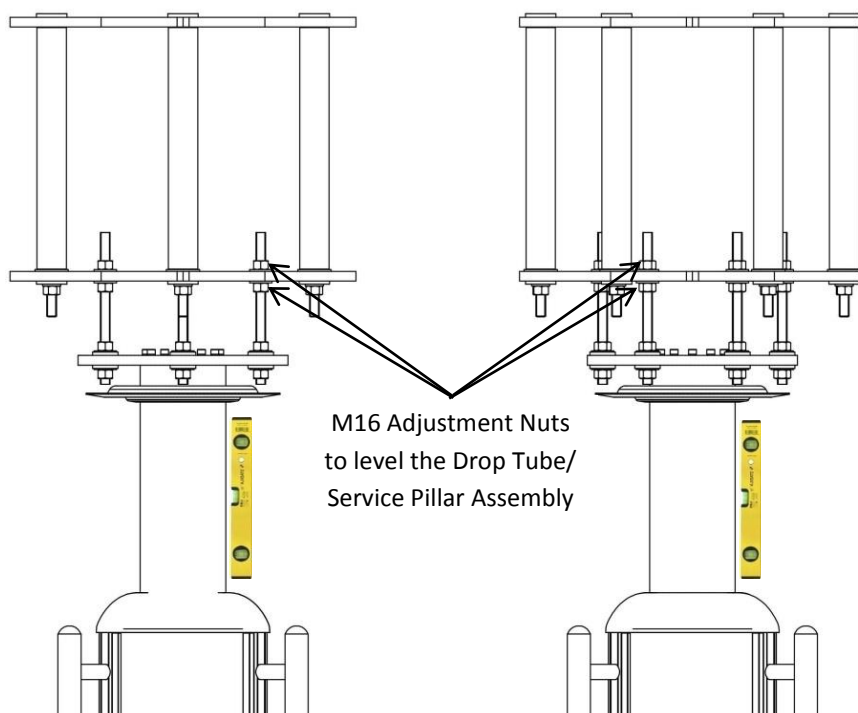


## SECTION 11: INSTALLATION of the SERVICE PILLAR


- 11.1.7 Secure the Drop Tube and Service Pillar assembly to the Carrier Ceiling Plate with oversize washers (6x) and M16 nuts (6x) on each threaded rod. Lightly 'nip' the nuts.

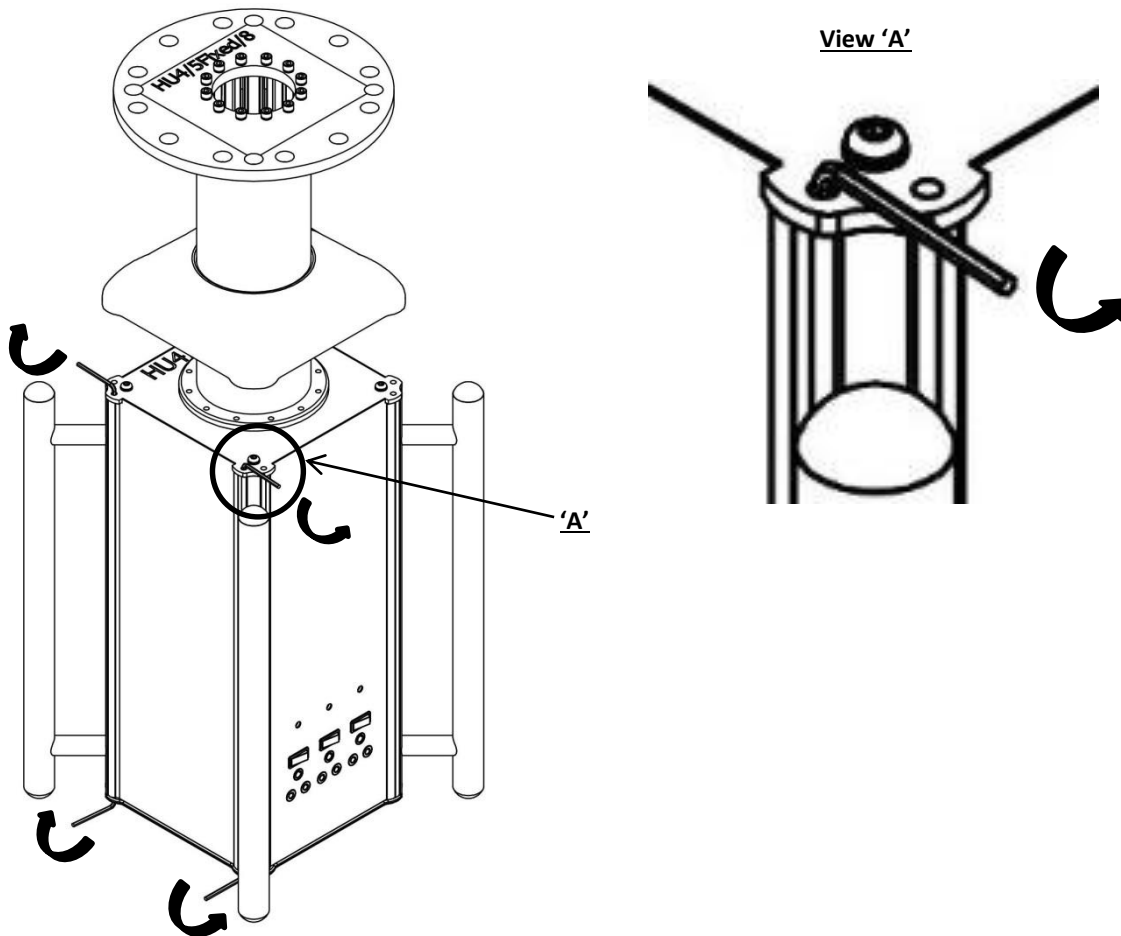


- 11.1.8 Use a spirit level in two positions, 90° to each other, to check that the Drop Tube is vertical.
- 11.1.9 To level the Drop Tube, adjust the M16 nuts that are fastening the Drop Tube and Service Pillar assembly to the Ceiling Plate.



## SECTION 11: INSTALLATION of the SERVICE PILLAR

- 11.1.10 When the Drop Tube is perpendicular, torque the top M16 nuts to 120Nm.
- 11.1.11 Ensure the Service Pillar Cowling is not seated on the Top Service Pillar Plate.
- 11.1.12 Remove the fascia panel identified with the electrical sticker  from the Service Pillar assembly by using a 4mm Allen Key. The top and bottom pillar plates have (2x) Ø8mm clearance holes on each corner through which the 4mm Allen key is inserted to open the corner hinge extrusion. Turn the corner extrusion hinge on the left, clockwise to open and turn the corner extrusion on the right, anti-clockwise to open and release the fascia panel.



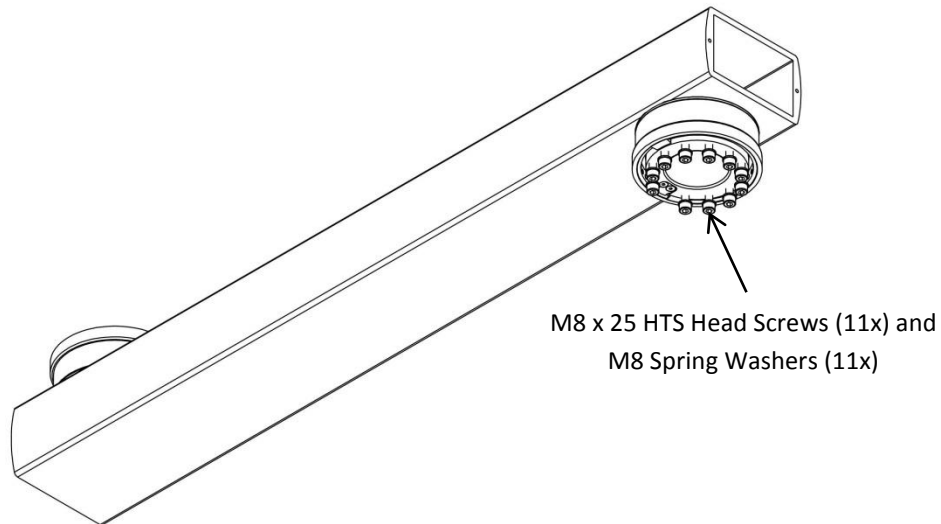
- 11.1.13 Remove the electrical cables and convoluted tubing attached to the WDU connectors and other services out of the Service Pillar assembly.
- 11.1.14 Feed the electrical cables and convoluted carefully through the opening in the Service Pillar on top, through the Drop Tube assembly for connection to the services later on.

## SECTION 11: INSTALLATION of the SERVICE PILLAR

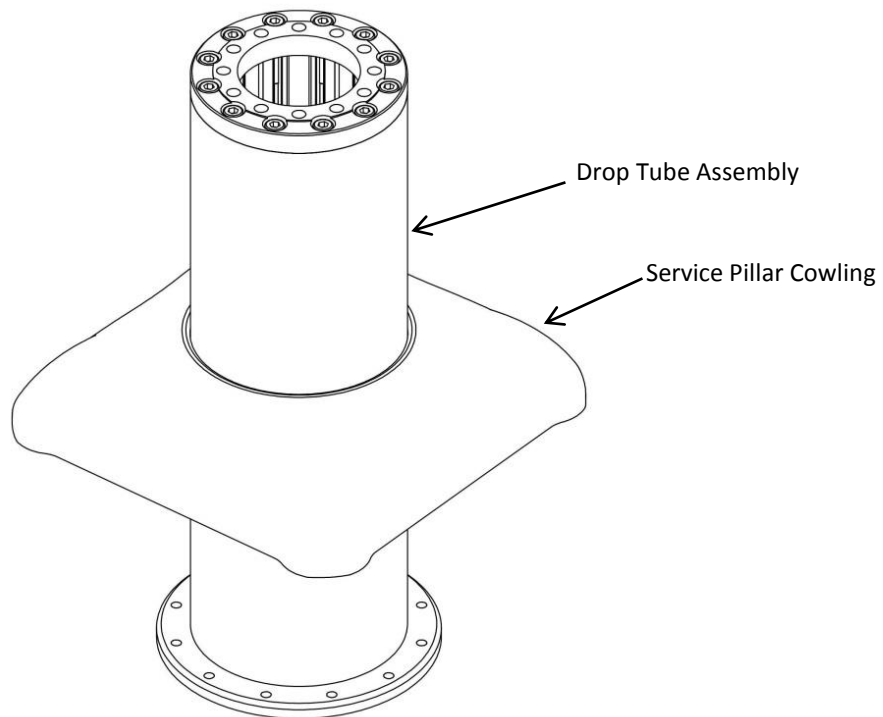
### 11.2 Installation of the HU5 Service Pillar / Drop Tube assembly onto the Swing Arm Assembly: (It is recommended that the installer has an assistant to assist with this task)

- 11.2.1 Remove the (11x) M8 x 30 HTS Socket Head Screws and M8 Spring Washers pre-inserted in the Swing Arm assembly.

#### Single Swing Arm shown for illustration purposes



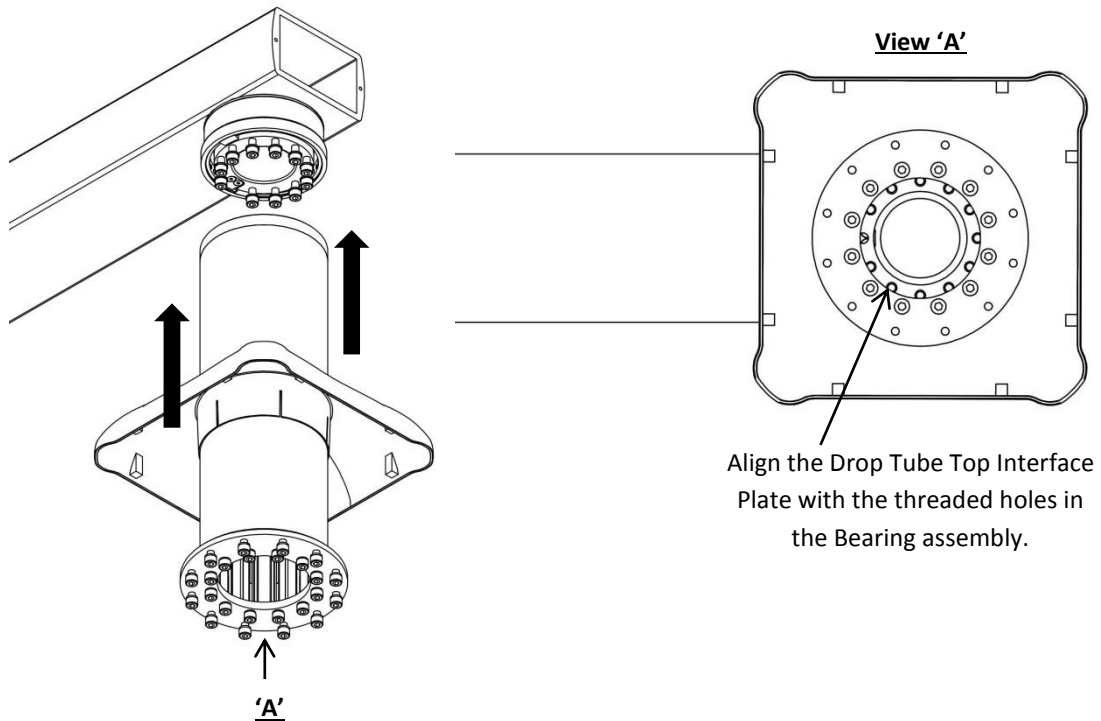
- 11.2.2 Ensure that the Service Pillar Cowling is on the Drop Tube assembly before any assembling continues.



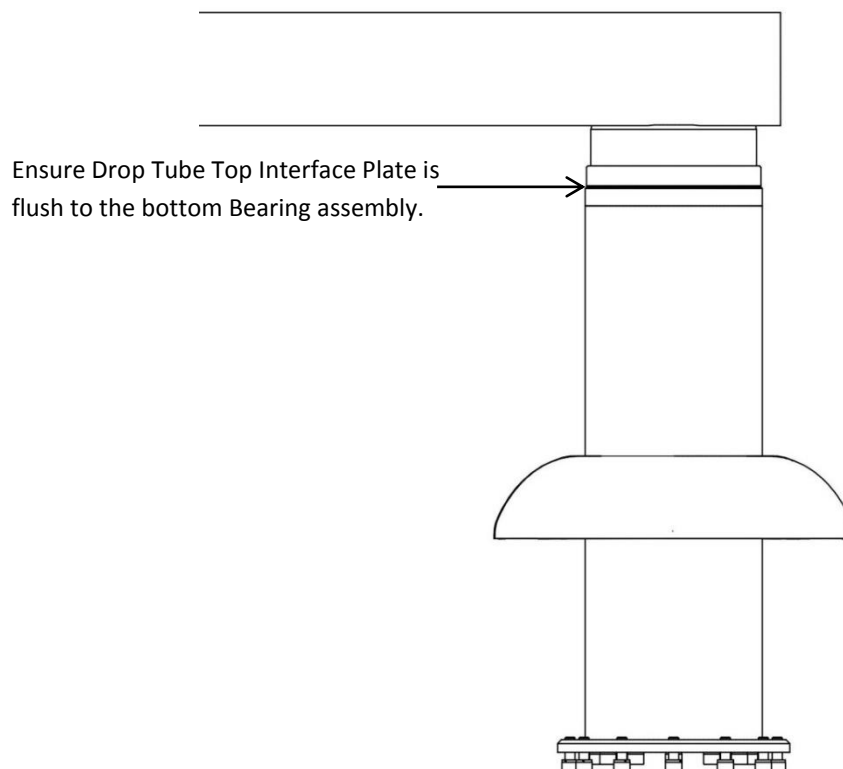


## SECTION 11: INSTALLATION of the SERVICE PILLAR

- 11.2.3 Lift the Drop Tube assembly up to the Swing Arm Bottom Bearing assembly and align the Drop Tube Top Interface Plate with the threaded holes in the Bearing assembly.

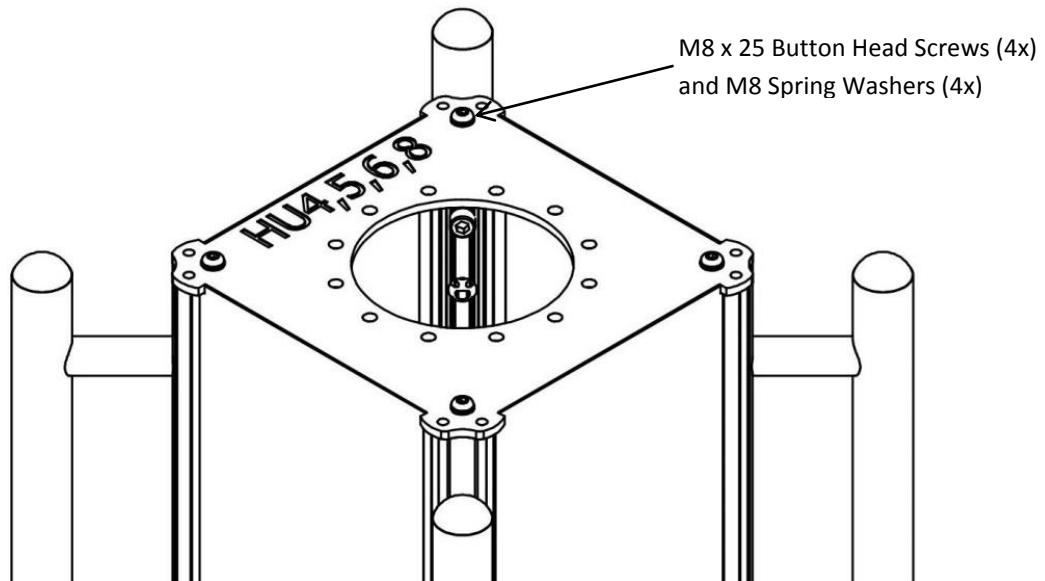


- 11.2.4 Tighten the Drop Tube to the Bearing assembly, ensuring the Drop Tube Top Interface Plate is flush to the Bottom bearing assembly with the (11x) M8 x 25 HTS Socket Head Screws, that were pre-inserted in the Swing Arm assembly by using the following tool as illustrated below:

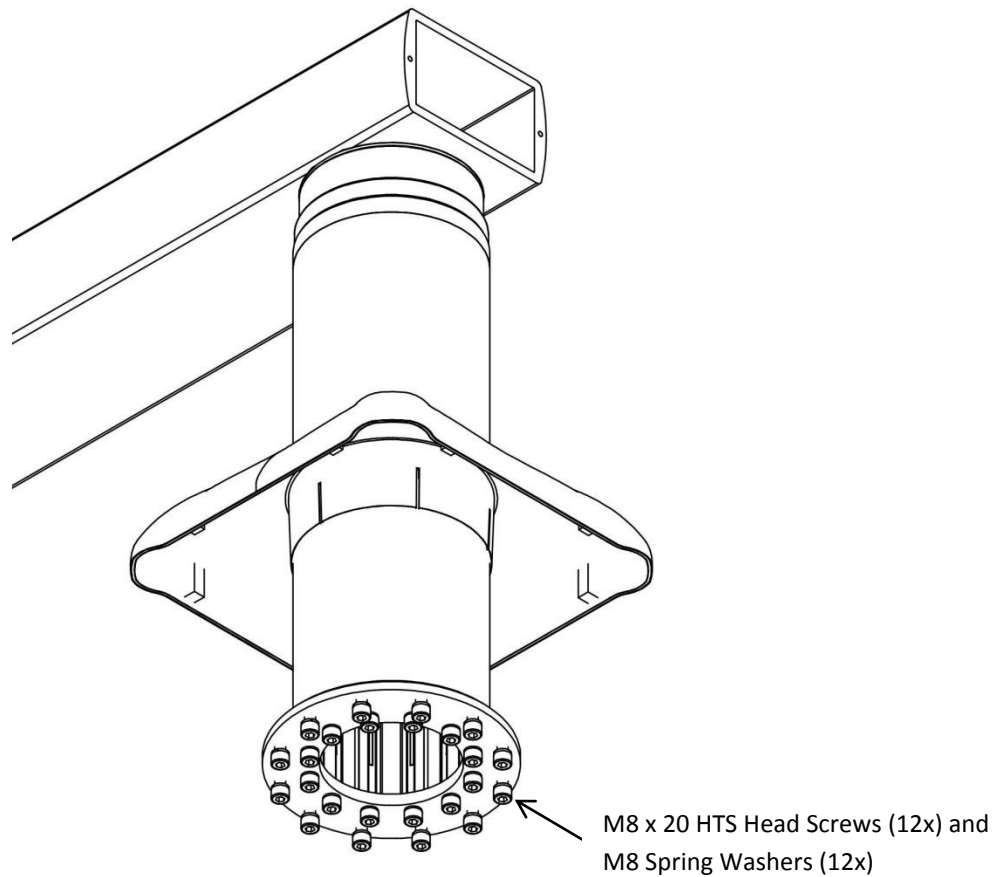


## SECTION 11: INSTALLATION of the SERVICE PILLAR

- 11.2.5 Remove the Top Pillar Plate from the Service Pillar assembly by using a 6mm Allen Key to remove the (4x) M8 x 25 Button Head Screws and M8 Spring Washers in each corner.

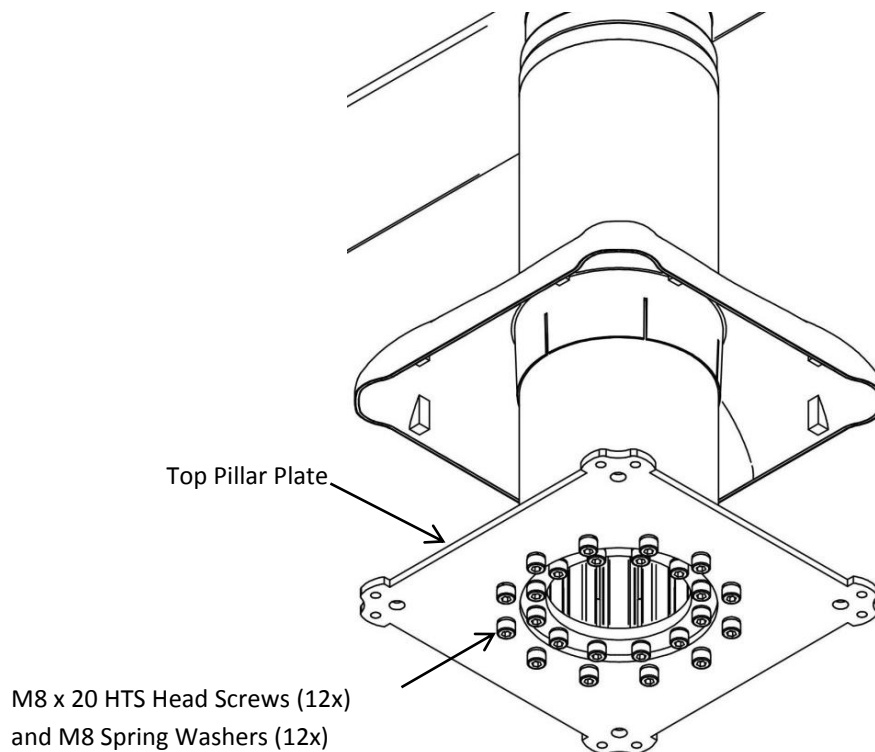


- 11.2.6 Remove the (12x) M8 x 20 HTS Socket Head Screws and M8 Spring Washers pre-inserted in the Service Pillar Bottom Interface Plate.

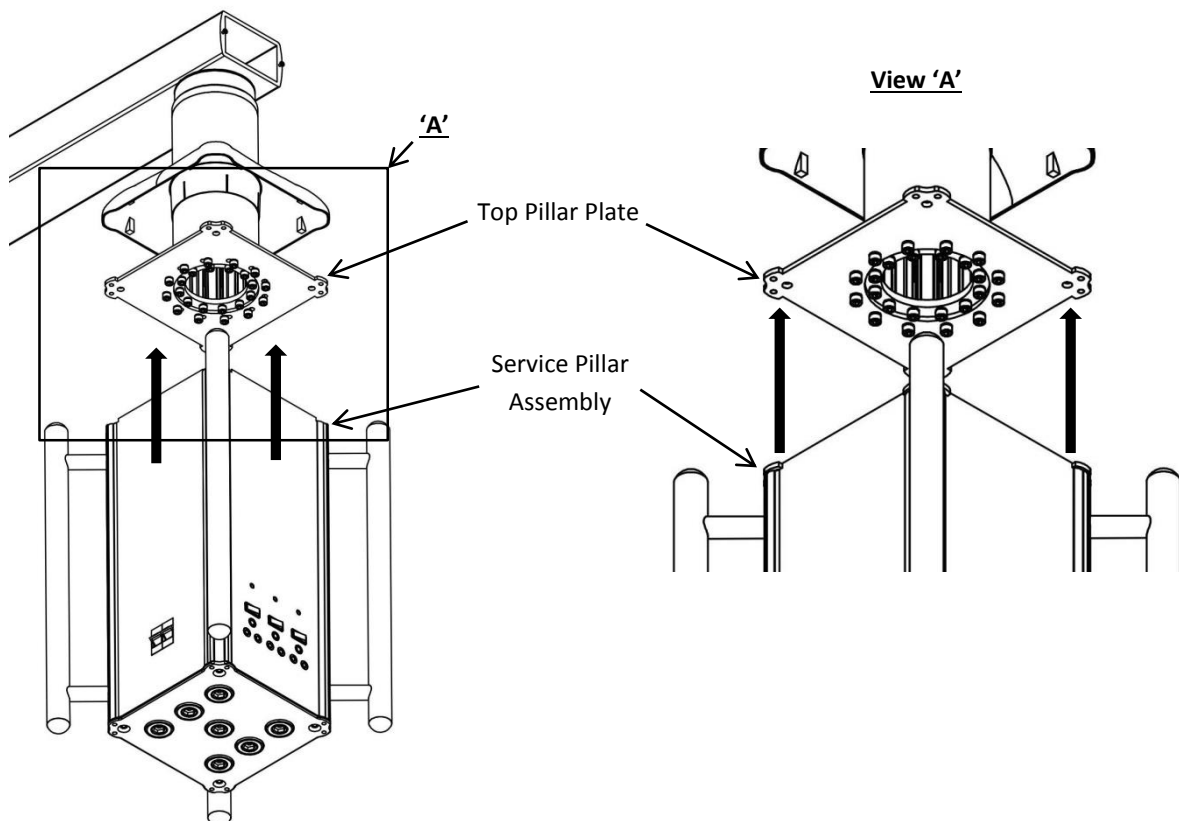


## SECTION 11: INSTALLATION of the SERVICE PILLAR

- 11.2.7 Fit the top Pillar Plate to the Drop Tube assembly by using a 6mm Allen Key to tighten the (12x) M8 x 20, that were pre-inserted Drop Tube assembly to the Drop Tube assembly as illustrated below:

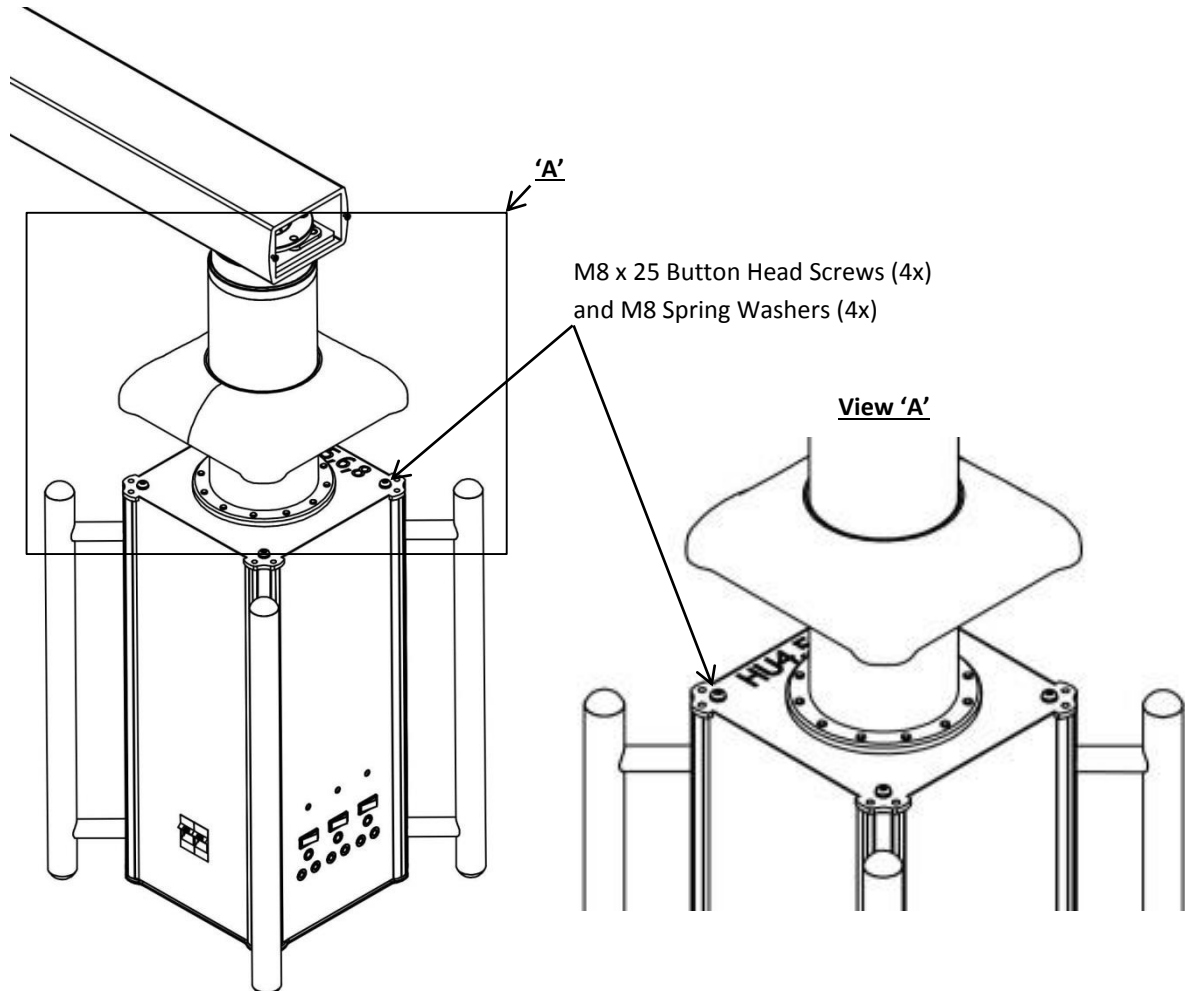


- 11.2.8 Lift the Service Pillar assembly to the Top Pillar Plate and align the Top Pillar Plate with the (4x) threaded holes in the Corner Extrusion.




## SECTION 11: INSTALLATION of the SERVICE PILLAR

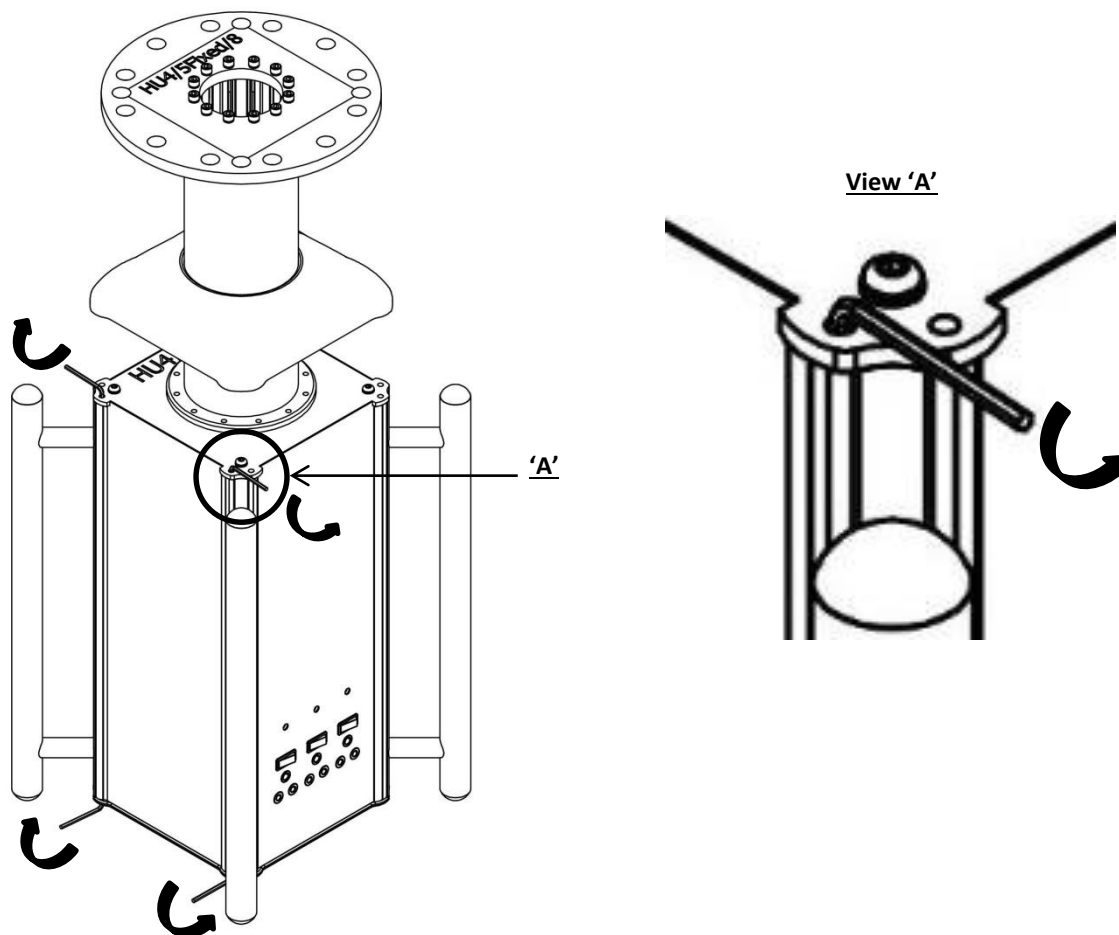
- 11.2.9 Fit the Corner Extrusion to the Top Service Pillar Plate by using a 6mm Allen Key to tighten the (4x) M8 x 25 Button Head Screws with the (4x) M8 Spring Washers; removed in 11.2.6.



- 11.2.10 Ensure the Service Pillar Cowling is not seated on the Top Service Pillar Plate.

## SECTION 11: INSTALLATION of the SERVICE PILLAR

- 11.2.11 Remove the Fascia Panel identified with the electrical sticker  from the Service Pillar assembly by using a 4mm Allen Key. The top and bottom Pillar Plates have (2x) Ø8mm clearance holes on each corner through which the 4mm Allen Key is inserted to open the Corner Hinge Extrusion. Turn the Corner Hinge Extrusion on the left, clockwise to open and turn the Corner Extrusion on the right, anti-clockwise to open and release the Fascia Panel.

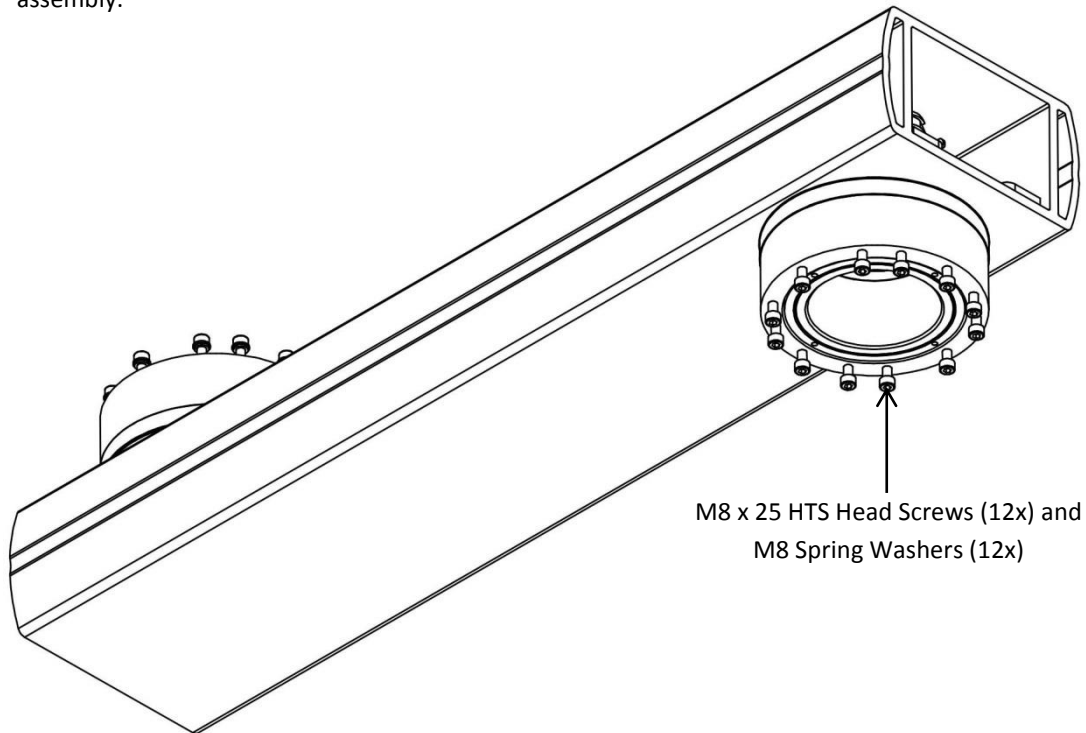


- 11.2.12 Remove the medical gas, vacuum and scavenging flexible hoses from the Service Pillar assembly.
- 11.2.13 Feed the electrical supply cables and convoluted tubing protruding out of the Swing Arm assembly above the Drop Tube and Service Pillar assembly through bottom Bearing assembly, through the Drop Tube assembly and into the Service Pillar assembly, for connection to the respective services.
- 11.2.14 Feed the medical gas, vacuum and scavenger flexible hoses carefully through the top opening in the Service Pillar assembly, through the Drop Tube assembly, through the Swing Arm assembly for connection to the respective services.  
**A draw-wire can be used to assist, to feed the above mentioned through all the assemblies.**
- 11.2.15 Feed the medical gas, vacuum and scavenger flexible hoses carefully through the top opening in the Service Pillar assembly, through the Drop Tube assembly, through the Swing Arm assembly for connection to the respective services.  
**A draw-wire can be used to assist, to feed the above mentioned through all the assemblies.**

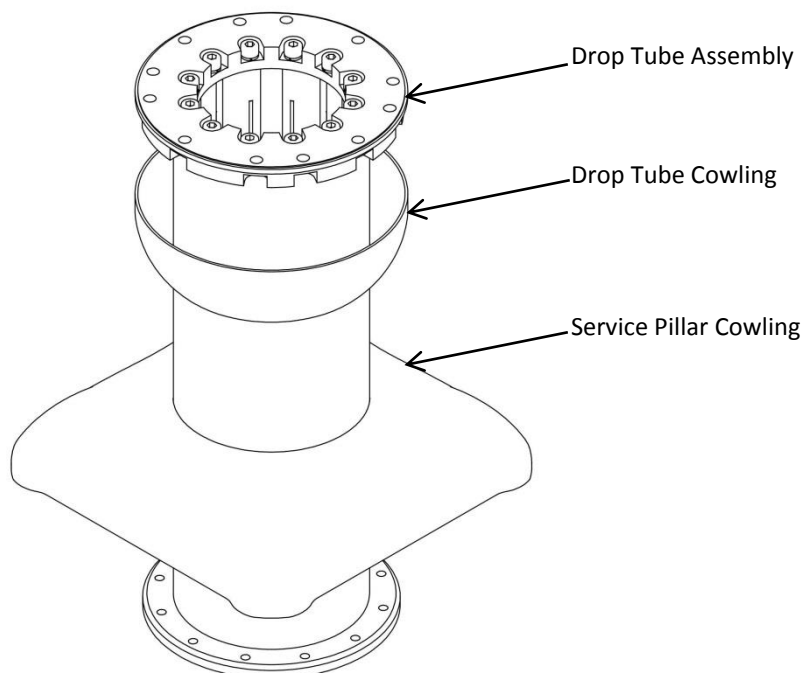
## SECTION 11: INSTALLATION of the SERVICE PILLAR

### 11.3 Installation of the HU6 Service Pillar and Drop Tube assembly onto the Swing Arm assembly: (It is recommended that the installer has an assistant to assist with this task)

Remove the (12x) M8 x 30 HTS Socket Head Screws and M8 Spring Washers pre-inserted in the Swing Arm assembly.

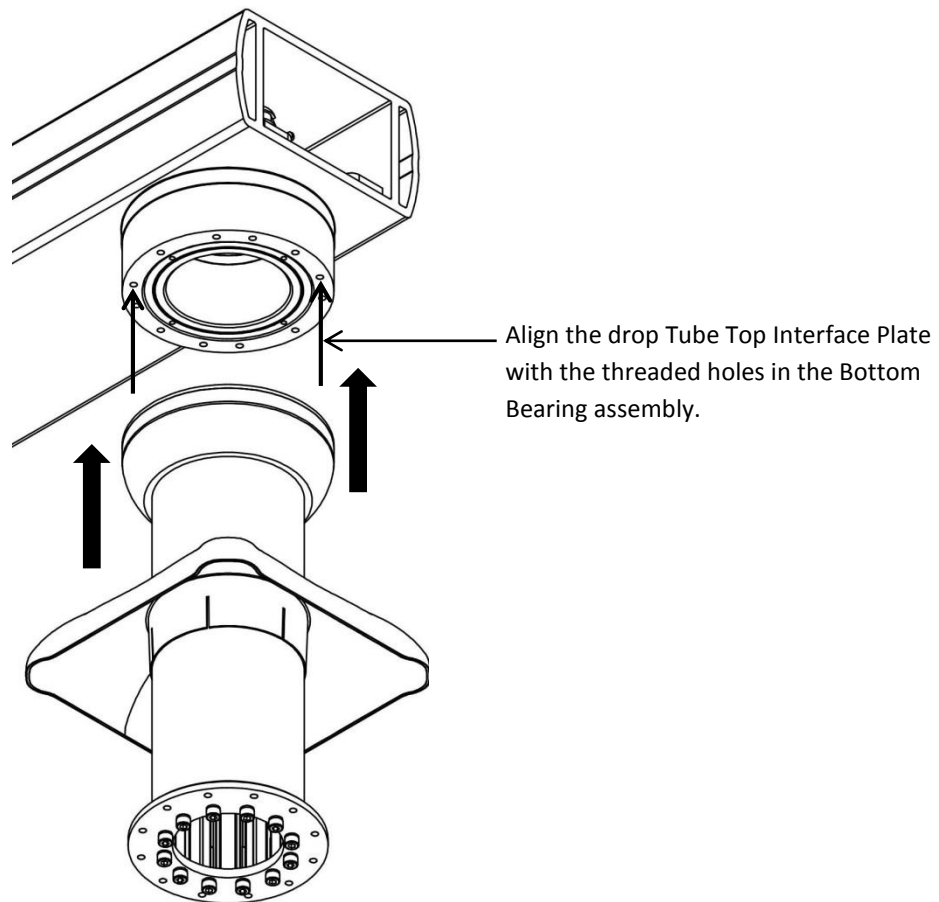


#### 11.3.1 Ensure that the Drop Tube Cowling and Service Pillar Cowling is on the Drop Tube assembly before continuing.

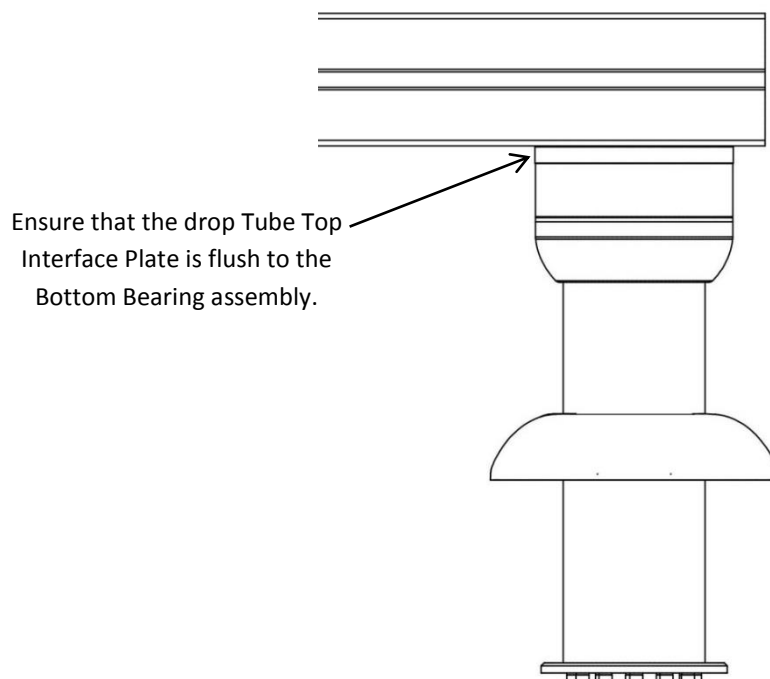


## SECTION 11: INSTALLATION of the SERVICE PILLAR

- 11.3.2 Lift the Drop Tube assembly up to the Swing Arm Bottom Bearing assembly and align the Drop Tube Top Interface Plate with the threaded holes in the Bottom Bearing Assembly.

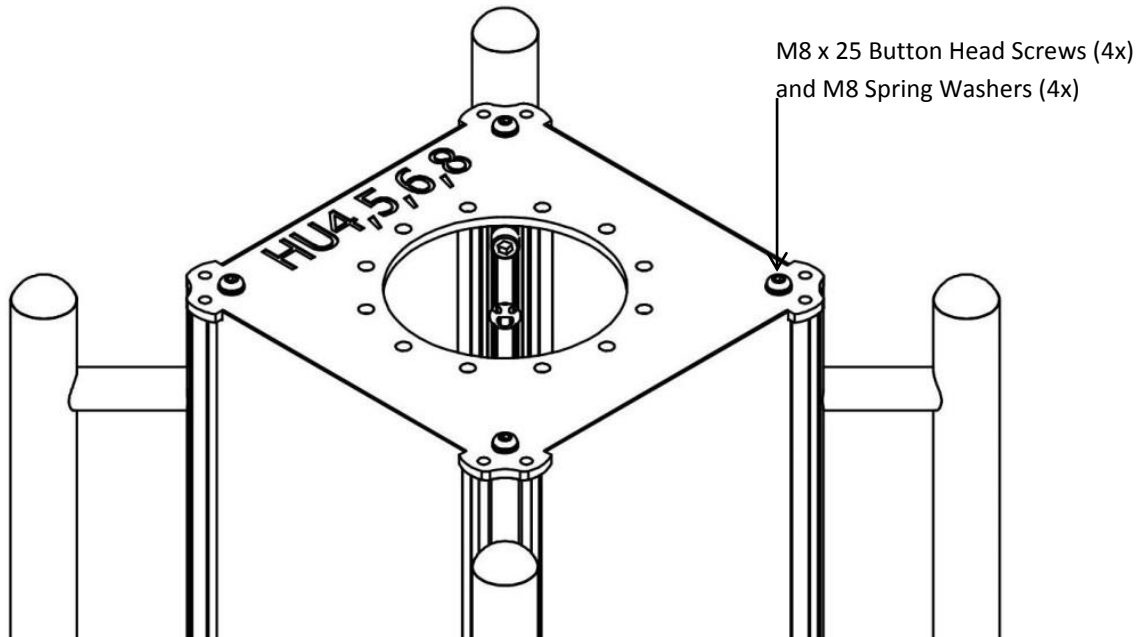


- 11.3.3 Tighten the Drop Tube to the Bottom Bearing assembly, ensuring the Drop Tube Top Interface Plate is flush to the Bottom Bearing assembly with the (12x) M8 x 25 HTS Socket Head Screws, that were pre-inserted in the Swing Arm assembly by using a 6mm Allen Key.

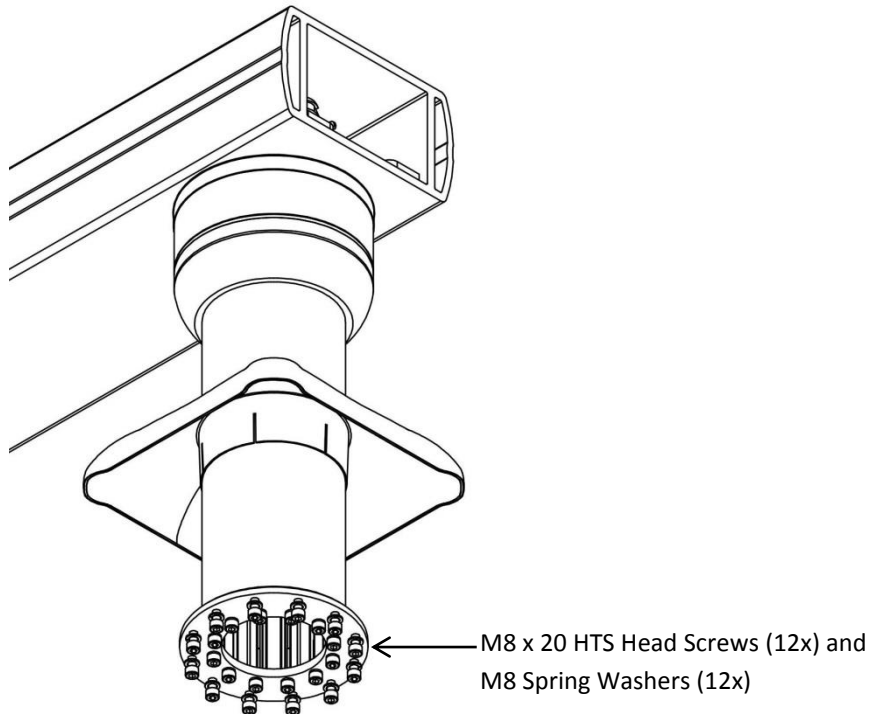


## SECTION 11: INSTALLATION of the SERVICE PILLAR

- 11.3.4 Remove the Top Pillar Plate from the Service Pillar assembly by using a 6mm Allen Key to remove the (4x) M8 x 25 Button Head Screws and M8 Spring Washers in each corner.



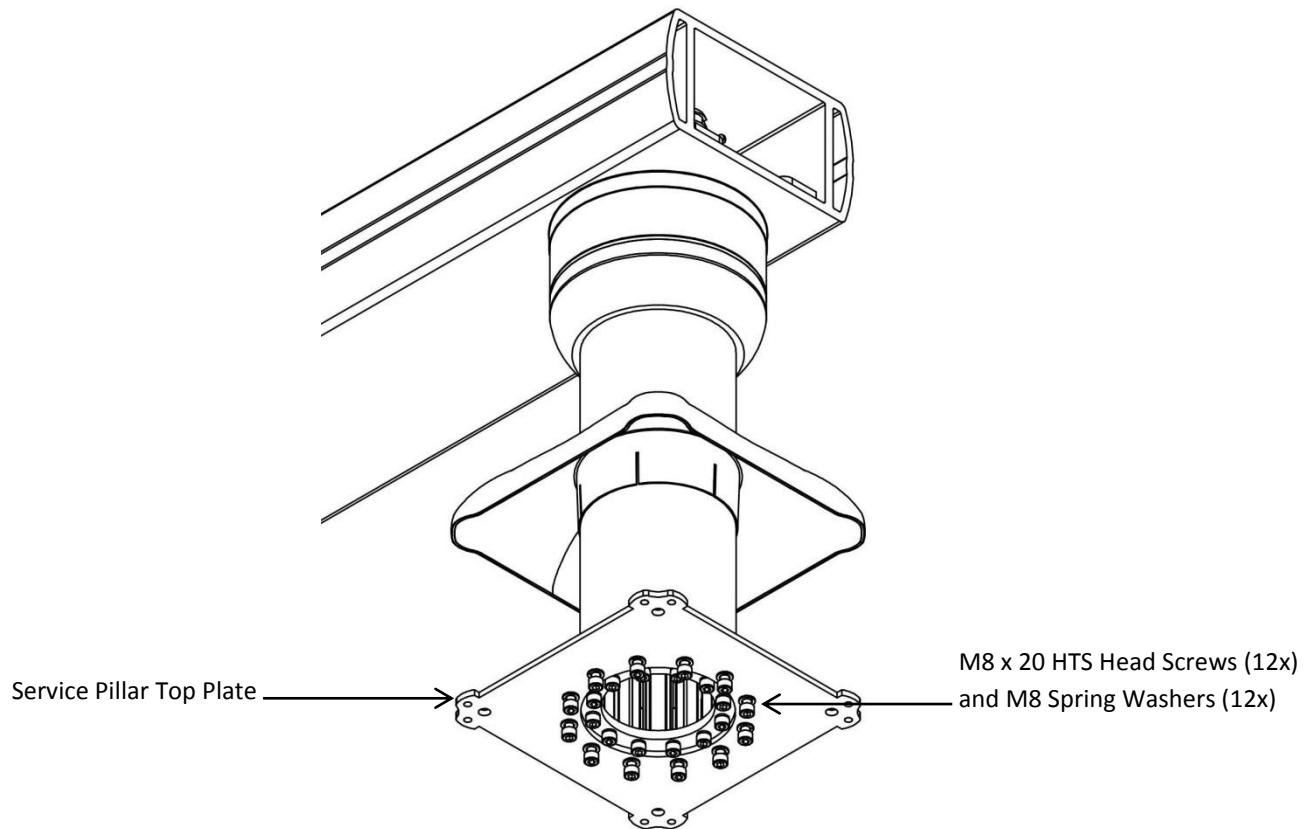
- 11.3.5 Remove the (12x) M8 x 20 HTS Socket Head Screws and M8 Spring Washers pre-inserted in the Service Pillar Bottom Interface Plate.



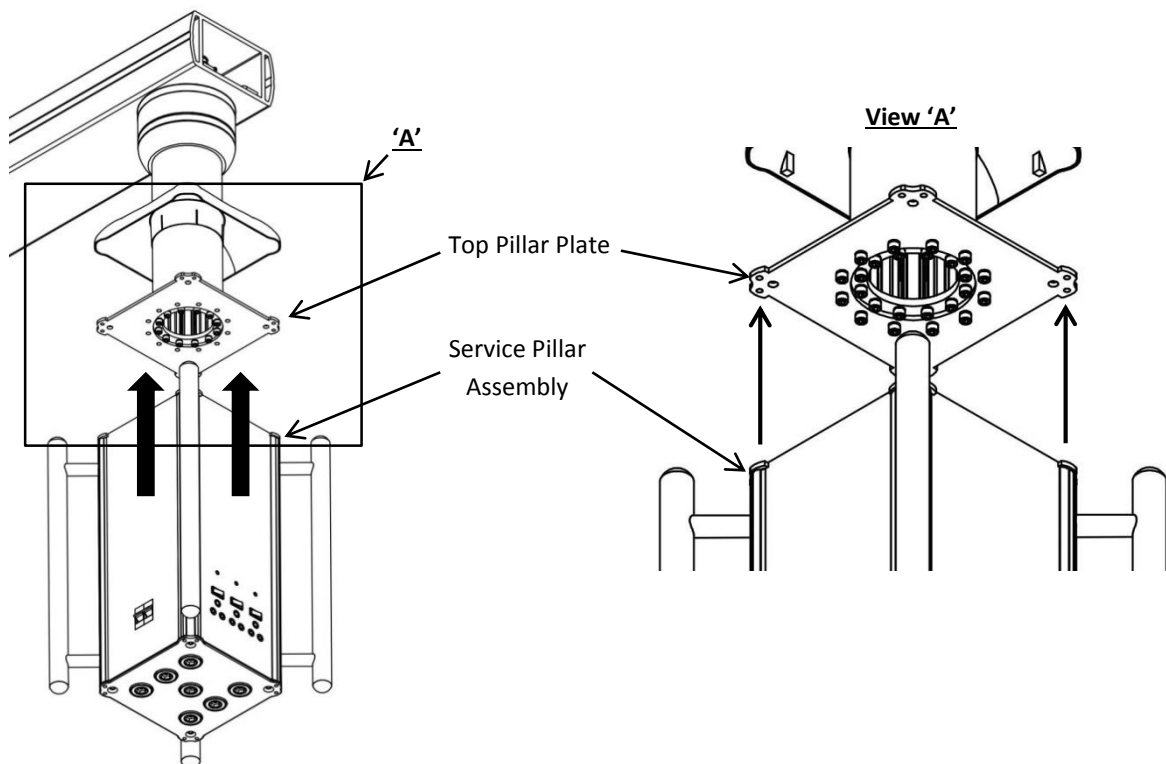


## SECTION 11: INSTALLATION of the SERVICE PILLAR

- 11.3.6 Fit the Top Pillar Plate to the Drop Tube assembly by using a 6mm Allen Key to tighten the (12x) M8 x 20 to the Drop Tube assembly that were pre-inserted Drop Tube assembly as illustrated below:

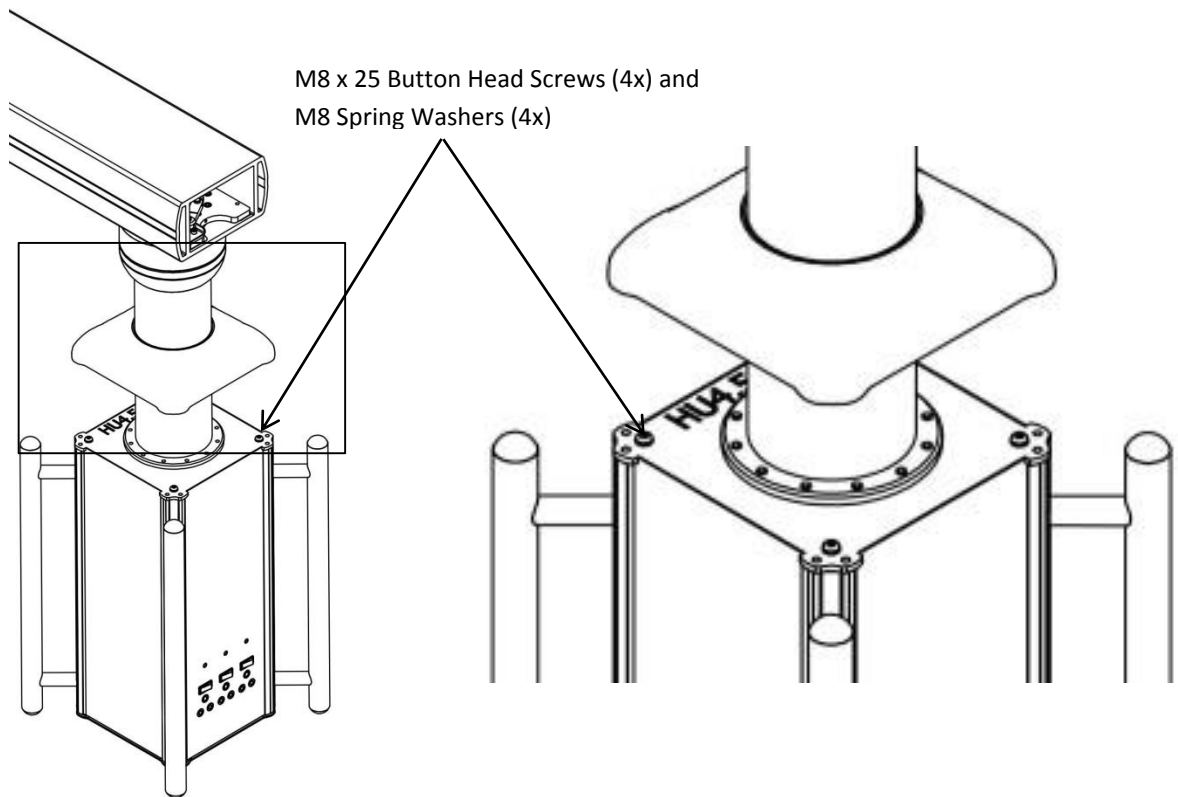


- 11.3.7 Lift the Service Pillar assembly to the Top Pillar Plate and align the Top Pillar Plate with the (4x) threaded holes in the Corner Extrusion.



## SECTION 11: INSTALLATION of the SERVICE PILLAR

- 11.3.8 Fit the Corner Extrusion to the Top Pillar Plate by using a 6mm Allen Key to tighten the (4x) M8 x 25 Button Head Screws with the (4x) M8 Spring Washers; removed in 11.3.8



- 11.3.9 Ensure the Service Pillar Cowling is not seated over the Service Pillar Top Plate.

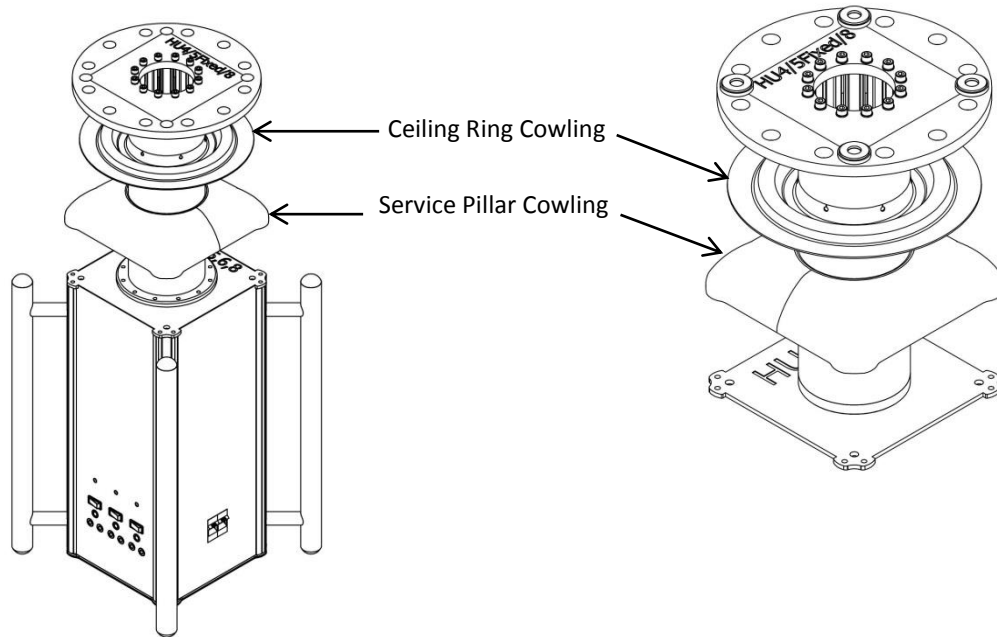
- 11.3.10 To proceed, remove the fascia from the Service Pillar assembly, refer to 11.2.11 - 11.2.15.

## SECTION 11: INSTALLATION of the SERVICE PILLAR

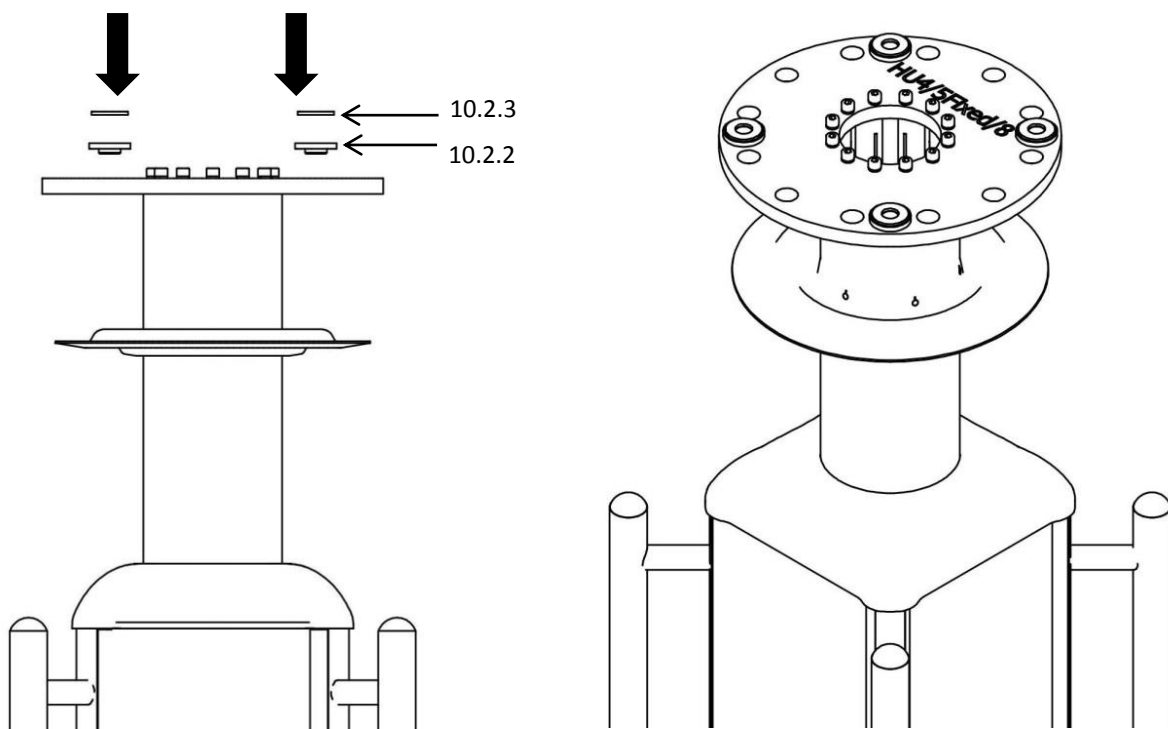
### 11.4 Installation of the HU8F/R Service Pillar and Drop Tube assembly onto the Slab / Ceiling Carrier assembly; ceiling to slab distance <600mm

*The HU8F/R Service Pillar assembly variant is supplied with the Drop Tube already fitted. It is recommended that the installer has an assistant to assist with this task.*

- 11.4.1 Ensure that the Ceiling Cowling Ring and the Service Pillar Cowling are on the Drop Tube assembly before continuing.

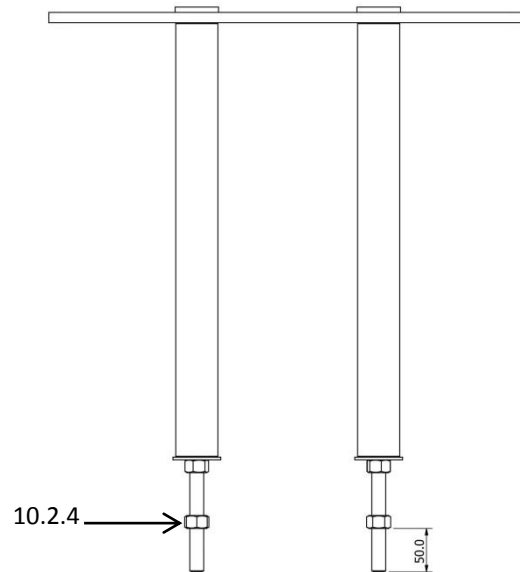


- 11.4.2 Fit insulation (6x) bushes (10.2.2) into the holes on the top of the drop tube flange plate accompanied by (6x) oversized washers (10.2.3), as illustrated below:

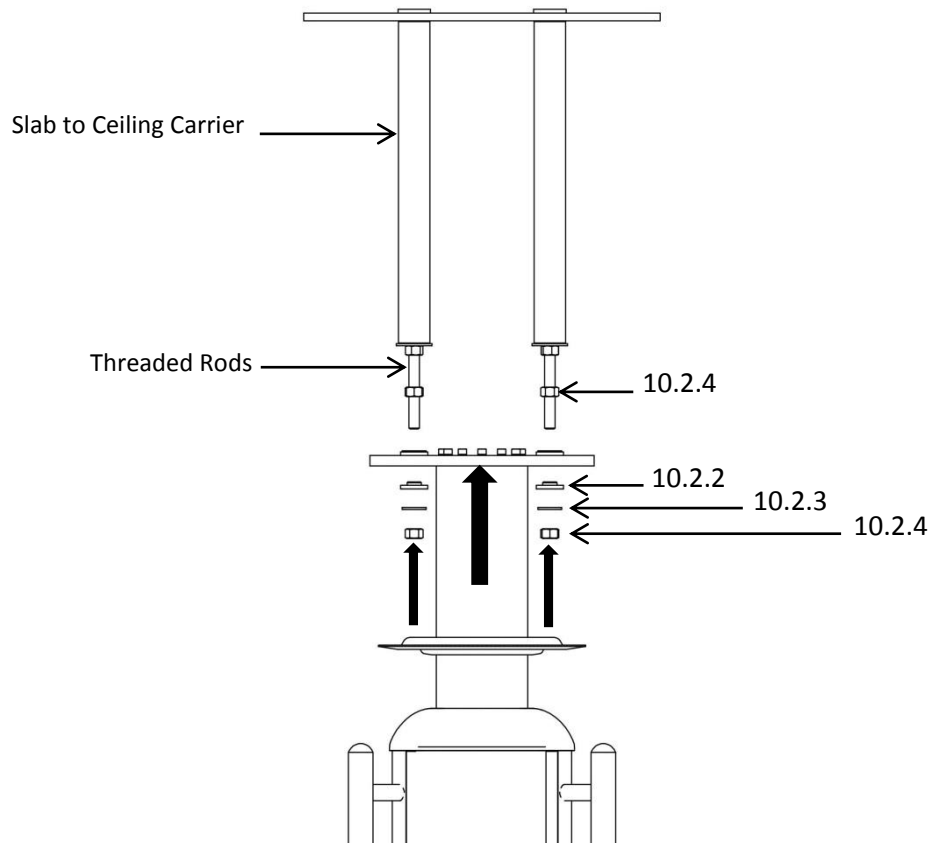


## SECTION 11: INSTALLATION of the SERVICE PILLAR

- 11.4.3 Turn 4x M16 nuts (10.2.4) onto the slab to ceiling carrier assembly 4x threaded rods to a distance of 50 mm from the bottom.



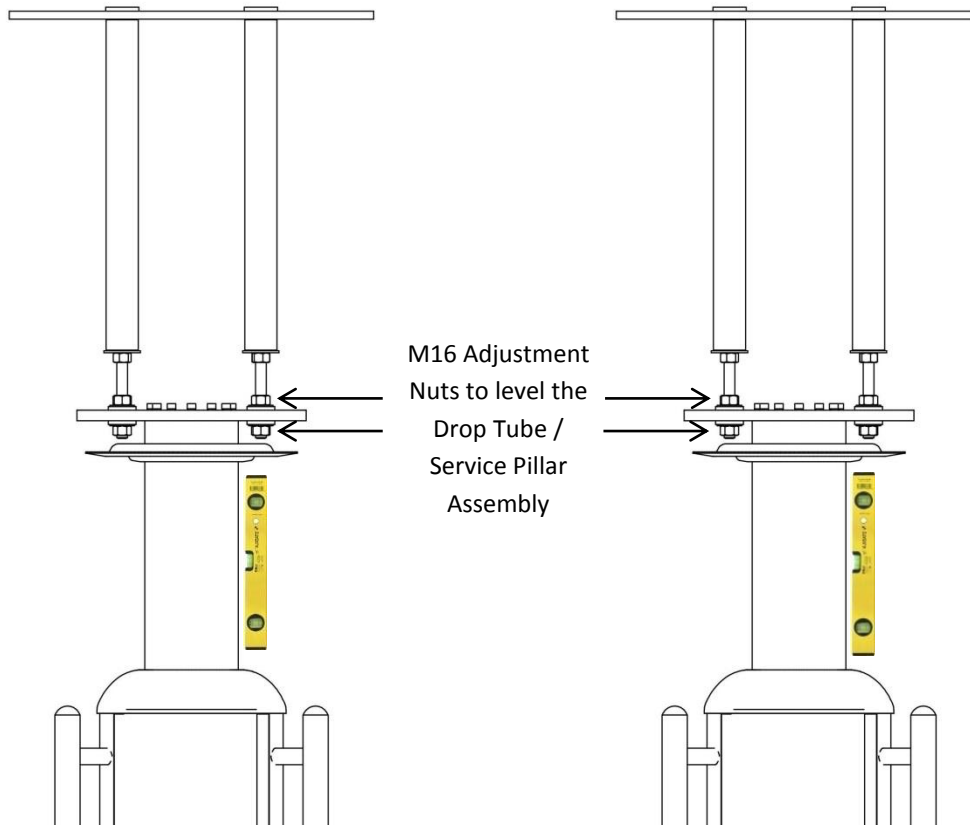
- 11.4.4 Lift the Drop Tube and Service Pillar assembly and allow the 4x threaded rods of the Slab to Ceiling Carrier to pass through the 4x oversize washers, insulation bushes and pre-drilled holes in the Drop Tube Flange. Fit the 4x insulation bushes (10.2.2), oversize washers (10.2.3) and M16 nuts (10.2.1) from the bottom as shown below:



## SECTION 11: INSTALLATION of the SERVICE PILLAR

11.4.5 Use a spirit level in two positions, 90° to each other, to check that the Drop Tube is vertical.

11.4.6 To level the Drop Tube, adjust the M16 nuts that are fastening the Drop Tube to the Ceiling Plate.



11.4.7 **When the Drop Tube is perpendicular, torque the top M16 nuts to 120Nm.**

11.4.8 Ensure the Service Pillar Cowling is not seated on the Service Pillar Top Plate.

11.4.9 To proceed, remove the fascia from the Service Pillar assembly, refer to 11.1.11 - 11.1.14

## SECTION 12: ELECTRICAL CONNECTIONS



***NB: Electrical installations shall be performed by a qualified electrician***

- 12.1 Connect the electrical cables to the WDU Connector inside the Service Pillar according to the Wiring Legend which is pasted to the inside of the fascia panel.
- 12.2 Remove the Electrical Termination Box from the packaging and place it on a flat surface or table.
- 12.3 Unscrew the 2 screws securing the lid of the Electrical Termination Box.
- 12.4 Check that the following components are inside the Electrical Termination Box:

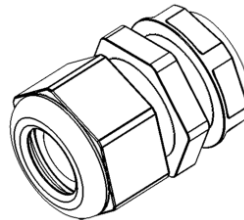
12.4.1 Self-Tapping screws: 4 of

12.4.2 Compression Glands: 10 of

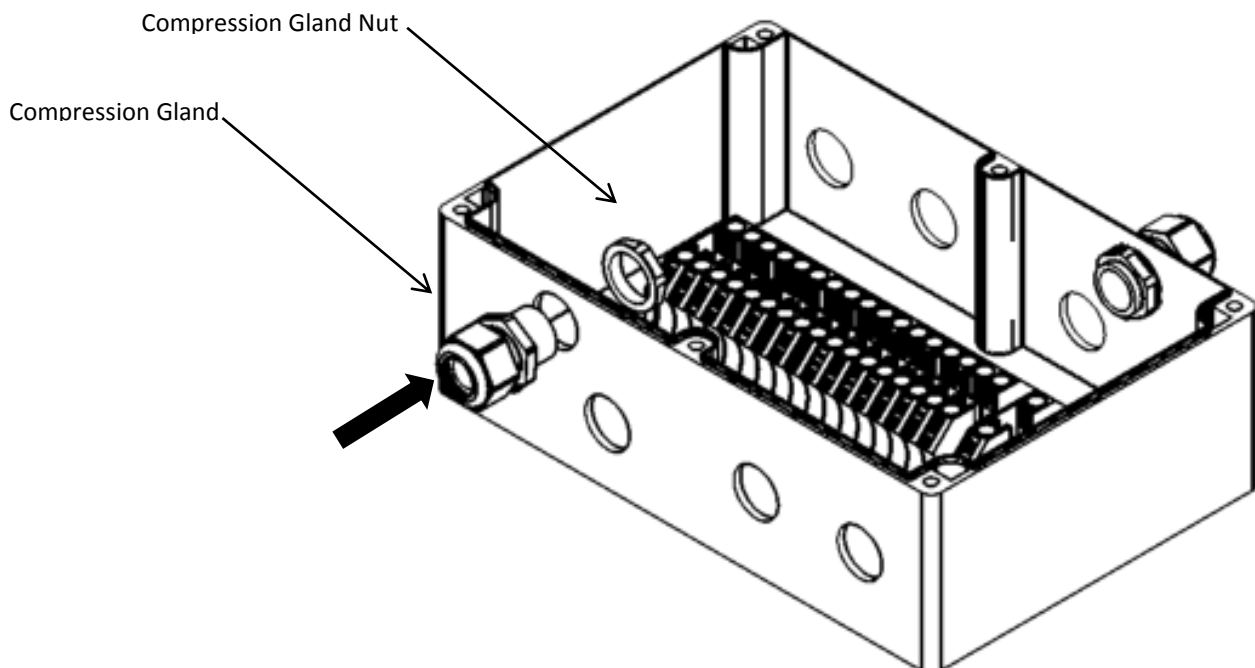
12.4.1



12.4.2



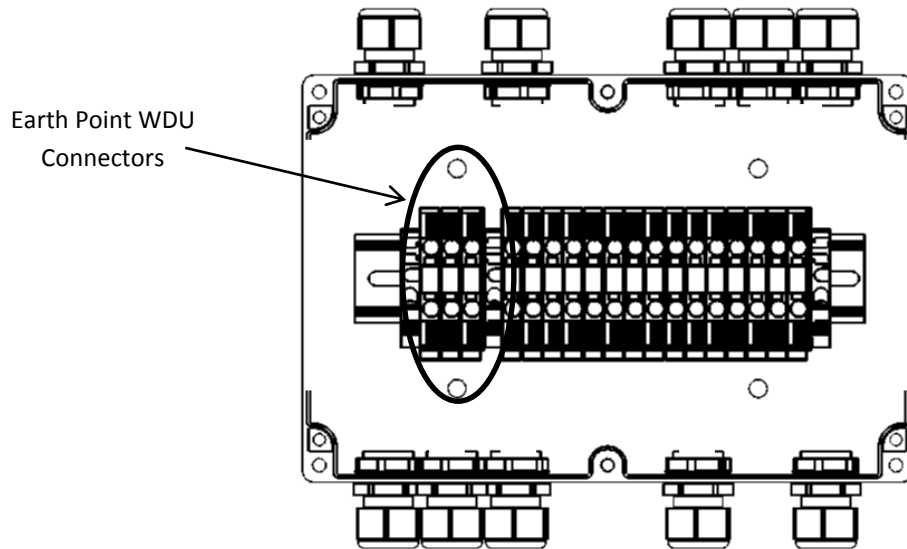
- 12.5. Remove the Compression Gland Nuts from the Compression Glands.
- 12.6. Insert the Compression Glands into the pre-drill holes from the outside of the Electrical Termination Box and tighten with the Compression Gland Nut from the inside of the Electrical Termination Box.



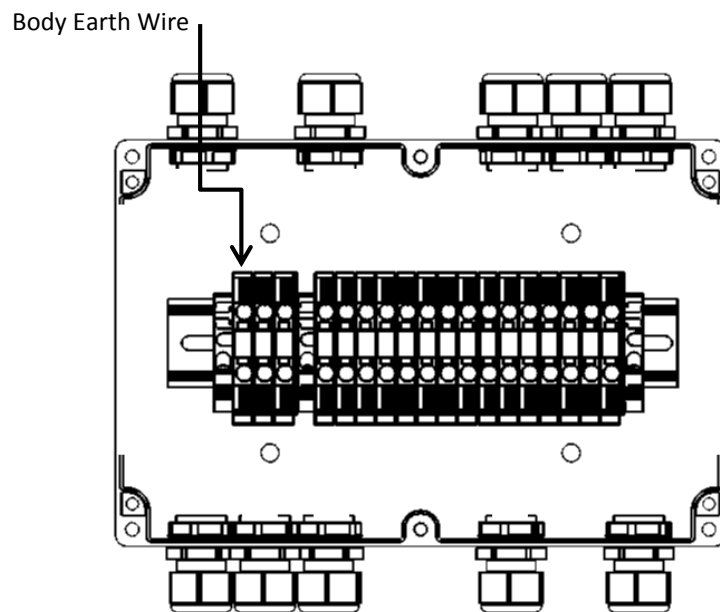
- 12.7 The Electrical Termination Box can accommodate 5 circuits and 3 single earth points.

## SECTION 12: ELECTRICAL CONNECTIONS

- 12.8 It is recommended to attach the Electrical Termination box to one of the Slab to Ceiling Carrier Mounting Tubes by means of cable ties.
- 12.9 Place the Electrical Termination Box with the 3 earth point WDU Connectors on the left hand side.

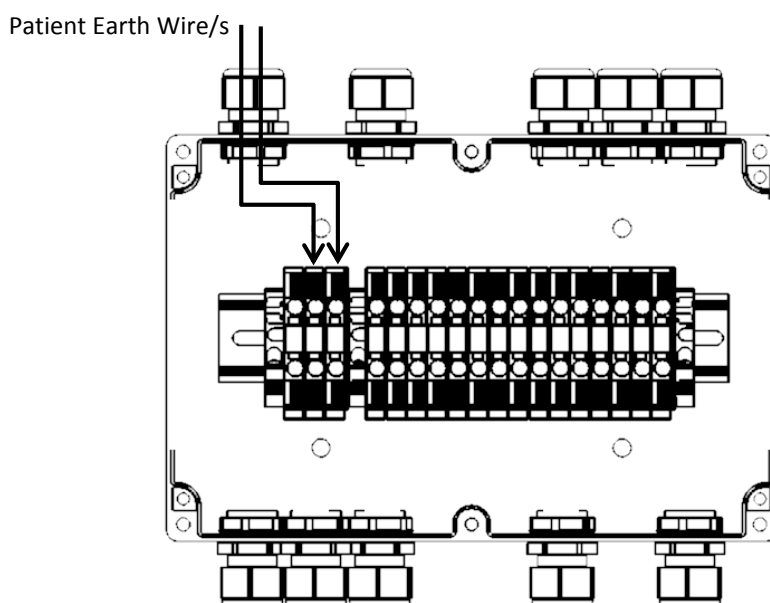


- 12.10 Connect the Body Earth Wire to the extreme left WDU Connector.



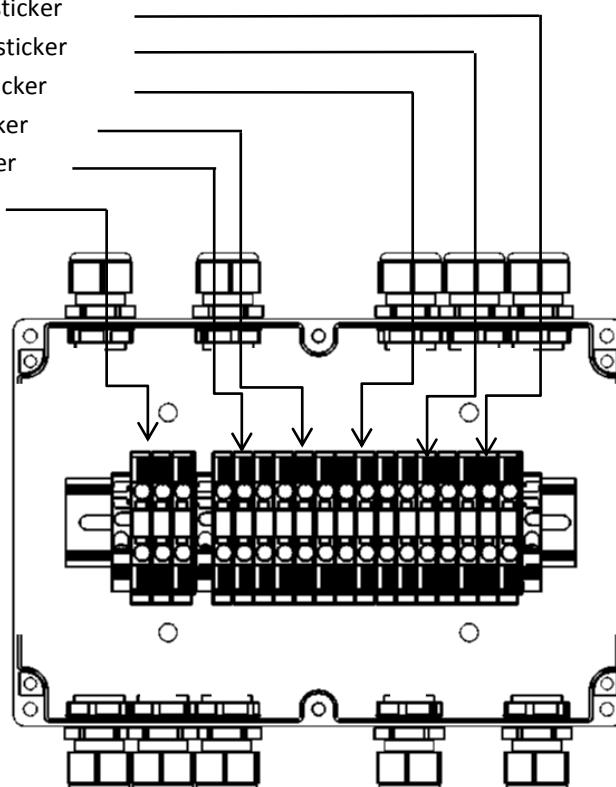
## SECTION 12: ELECTRICAL CONNECTIONS

12.11 Connect the patient earth wire/s to the 2 adjoining WDU Connectors



12.12 From the RH side of the WDU Connectors moving to the LH side, connect the following circuits to the WDU Connectors (wires supplied with the Service Pillar – refer 12.3.3).

- Supply 5 - YELLOW sticker
- Supply 4 - ORANGE sticker
- Supply 3 - GREEN sticker
- Supply 2 - BLUE sticker
- Supply 1 - RED sticker
- Body Earth Wire



12.13 An additional Electrical Termination Box will be supplied if there are 6 or more circuits for the Pendant. The connecting of the circuits to the WDU Connectors is to be carried as per the previous paragraphs.

12.14 The Electrical Termination Box it now ready for connection to the main power supply.



## SECTION 13: CONNECTION of MEDICAL GAS / VACUUM / SCAVENGER, PNEUMATIC and DATA SERVICES

Pendants with a movable or rotating Service Pillar are supplied with medical grade *flexible gas hoses*.  
HU8 *non-rotating* Pendants are supplied with medical grade *copper gas piping*.

The factory fitted gas terminal units and flexible hose Medical Gas system have been factory leak tested, but after connection to the mains supply, the entire gas reticulation system is to be tested to BS EN ISO 7396, for copper piping and BS EN ISO 5359, for flexible hoses (or regional equivalent) before being commissioned for use. Refer any queries in this regard to Hutz Medical Service Department (refer to cover page for contact details).

Note: When installing pendants with Medical Gas flexible hoses, cognisance should be taken of the fact that the Medical Gas flexible hoses should be replaced every 8 years. Refer any queries in this regard to Hutz Medical Service Department (refer to cover page for contact details).



***Cross-connection of Medical Gas flexi-hoses shall prove fatal. Gas connection and testing is to be carried out a by certified gas installer only.***

### 13.1 Install the Medical Gas and Vacuum flexible hoses to the Non Interchangeable Screw Thread (NIST) connectors

13.1.1 For each medical gas and vacuum flexi-hose line supplied from the Service Pillar, a NIST connector is supplied. Specific NIST Connectors are supplied for each type of medical gas and vacuum service – refer to the engraving on the NIST Connector Body and the NIST Connector Fish Tail.

13.1.2 Unscrew the brass protection cap from the NIST Connector Body.  
There is no further use for the protection cap.



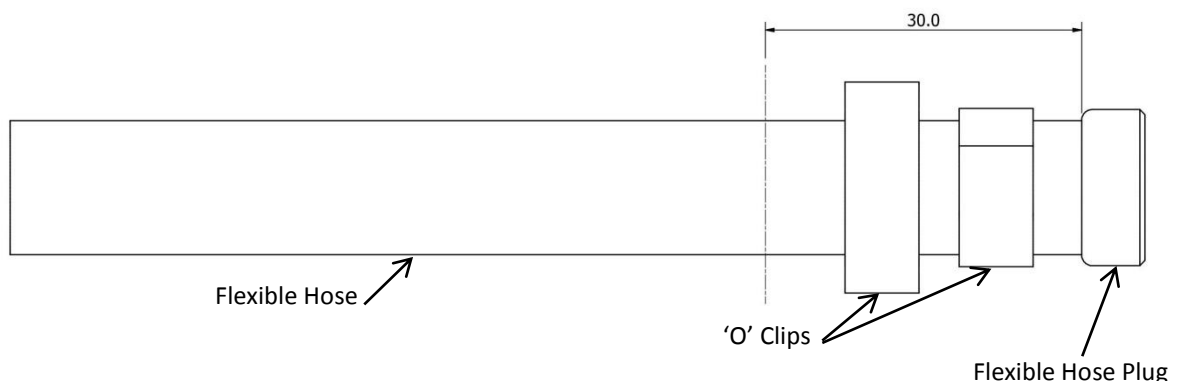
**Ensure no debris, dust or other contamination enters the exposed end of the NIST Connector.**



13.1.3 Cut off the end of the flexible hose; approximately 30mm from the end of the flexible hose plug.  
There is no further use for the flexible hose plug and the 'O' clips must be discarded.

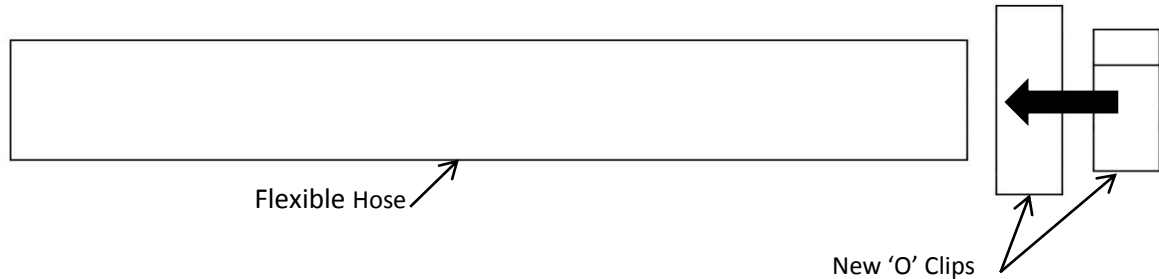


**Ensure that no debris or any other contamination, dust etc. falls into the hose**

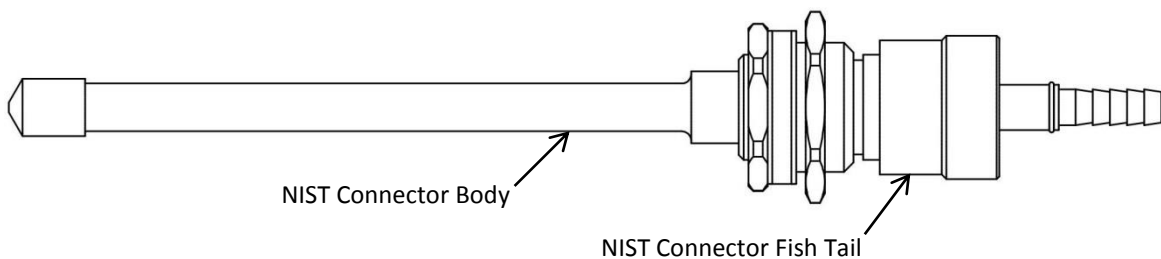


## SECTION 13: CONNECTION of MEDICAL GAS / VACUUM / SCAVENGER, PNEUMATIC and DATA SERVICES

- 13.1.4 Slide 2x **new** 'O' Clips over the Flexible Hose. (supplied with each NIST Connector for each Flexible Hose) The 'O' Clip for the Vacuum flexible hose is stamped 13 – 15 and the 'O' Clip for the other hoses, is stamped 11 – 13.



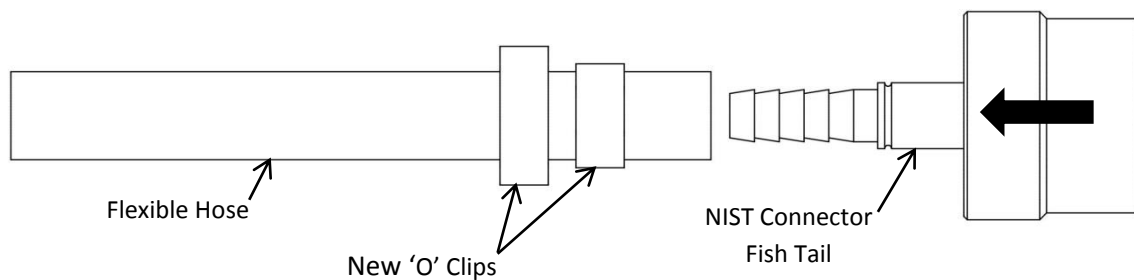
- 13.1.3 Remove the NIST Connector Fish Tail from the NIST Connector assembly by unscrewing it.



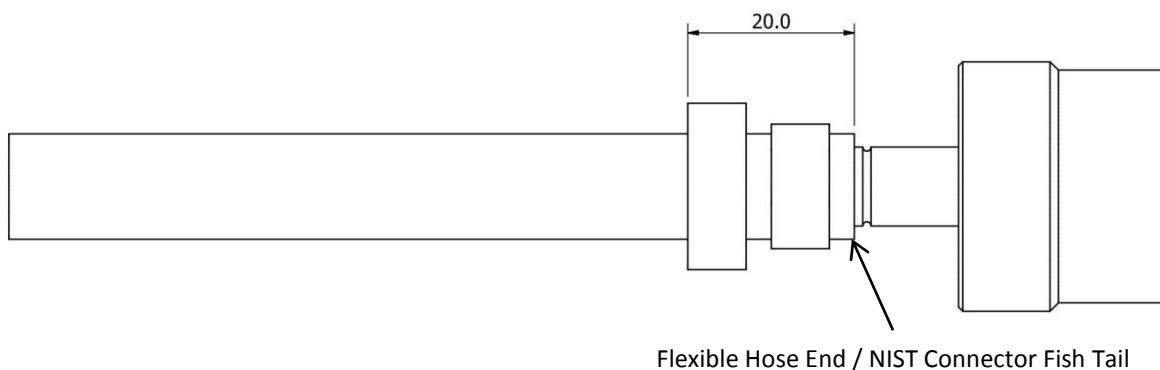
- 13.1.4 Push the flexible hose over the NIST Connector Fish Tail up to the shoulder.



**Ensure that the correct flexible hose is fitted to the correct NIST Connector Fish Tail. Refer to the label on the flexible hose and the engraving on the NIST Connector Fish Tail.**



- 13.1.5 Crimp the 2x 'O' Clips firmly over the area of Flexible Hose, not more than 20mm from the end of the Flexible Hose or from the shoulder of the NIST Connector Fish Tail.

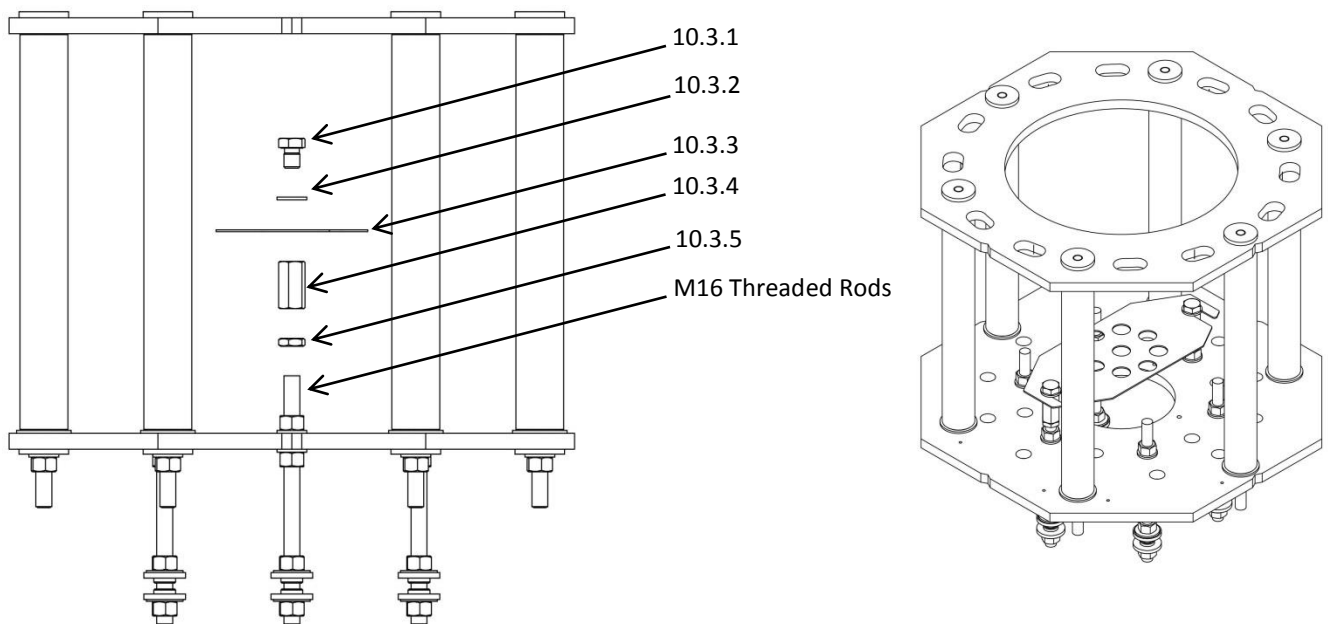


## SECTION 13: CONNECTION of MEDICAL GAS / VACUUM / SCAVENGER, PNEUMATIC and DATA SERVICES

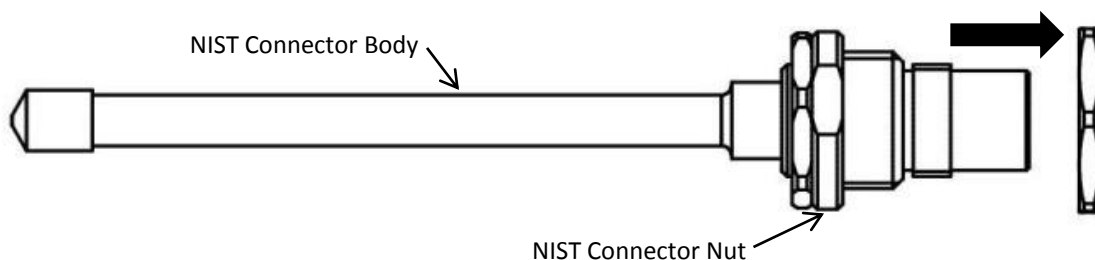
13.1.6 Use suitable crimping pliers – refer illustration below



13.1.7 Fit the Gas Termination Bracket in the inside of the Slab / Ceiling Carrier Assembly by fitting 2x of the following of each in the respective order on 2x M16 threaded rods: M16 ½ nut (item 10.2.5), M16 coupling nut (item 10.2.4) approx. 20mm onto the threaded rod, the gas termination plate (item 10.2.3), M16 washer (item 10.2.1) and M16 x 20 hexagon head bolt (item 10.2.1).

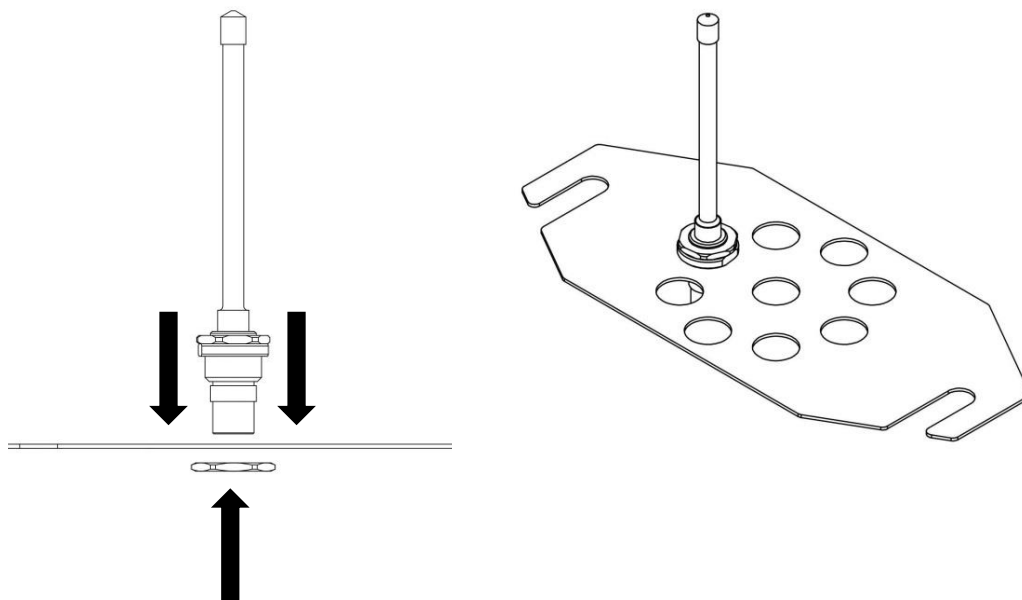


13.1.8 Remove the NIST Connector nut (supplied on each NIST Connector assembly) by screwing it off the NIST Connector body. A 36mm wrench is to be used if required to remove the nut, if too tight.

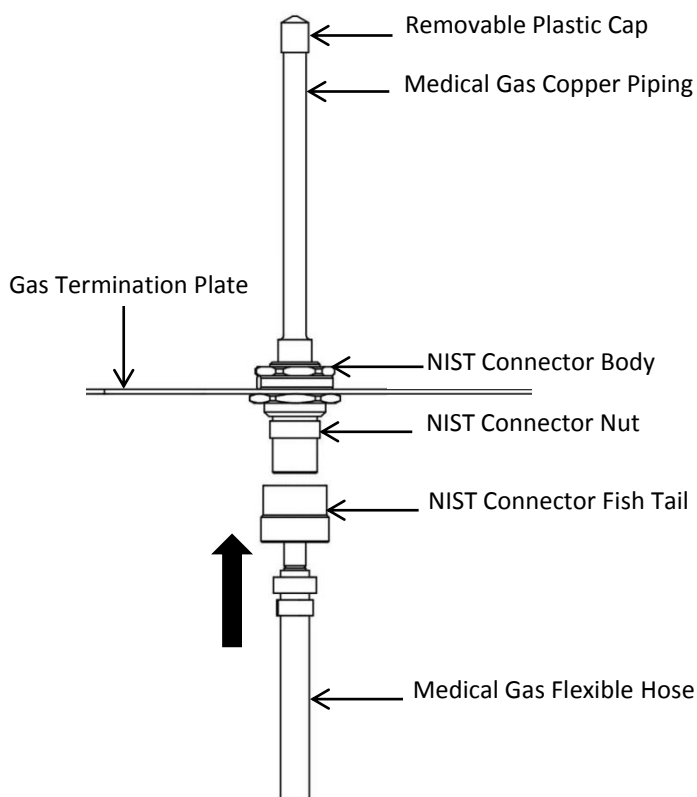


## SECTION 13: CONNECTION of MEDICAL GAS / VACUUM / SCAVENGER, PNEUMATIC and DATA SERVICES

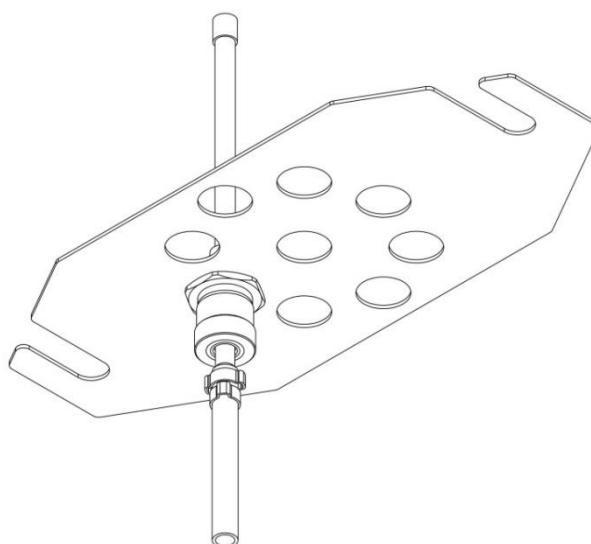
- 13.1.9 Fit the NIST Connector through one of the holes in the Gas Termination Bracket. Fit and tighten the NIST Connector Nut (supplied on each NIST Connector) with a 36mm wrench – see diagram below.



- 13.1.10 Screw and tighten the NIST Connector Fish Tail to the NIST Connector.

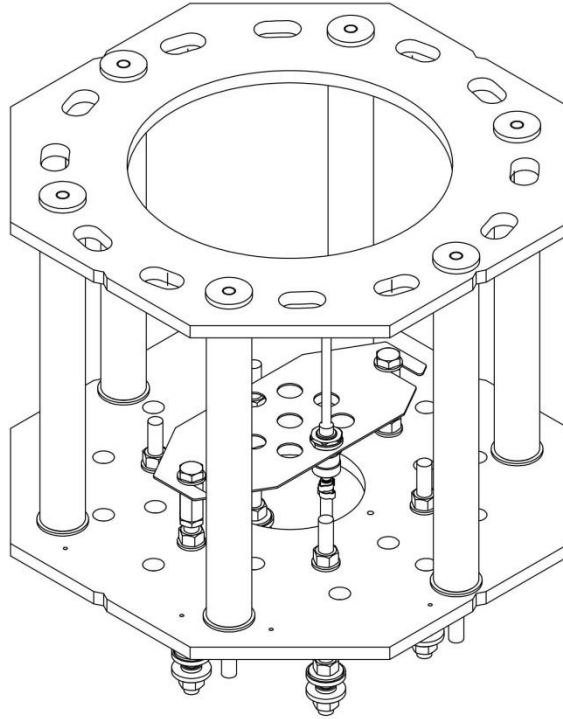


**NIST Connector fitted to the Gas Termination Plate**



## SECTION 13: CONNECTION of MEDICAL GAS / VACUUM / SCAVENGER, PNEUMATIC and DATA SERVICES

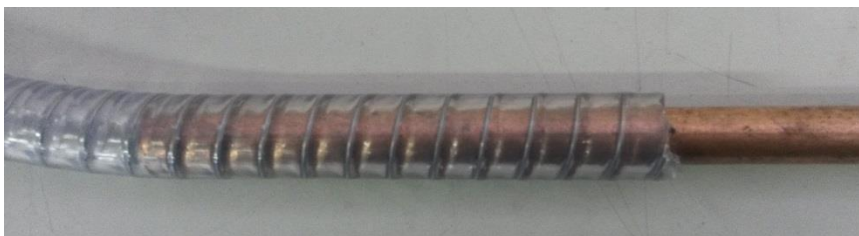
### NIST Connector fitted to the Gas Termination Plate on the inside of the Slab to Ceiling Carrier Assembly



- 13.1.11 Repeat for each Flexible Hose from 13.1.8 until all the Medical Gas and Vacuum Flexible Hoses have been connected.

### **13.2 Terminating the Scavenger Flexible Hose**

- 13.2.1. The Scavenger Flexible Hose is a transparent reinforced Flexible Hose, approximately 20mm in diameter, which has been routed through the swing arm(s) from the service pillar. An Ø12 x 400mm long Medical Gas Copper Pipe and a 20mm 'O' Clip are supplied for each Scavenger Flexible Hose.
- 13.2.2. Push one end of the medical gas copper pipe approximately 110 mm into the Scavenger Flexible Hose as shown below: (ensure the end of the copper pipe has no sharp edges)



- 13.2.3. Secure the Scavenger Flexible Hose over the Medical Gas Copper Pipe with the 'O' Clip approximately 80mm from the end of the Scavenger Flexible Hose – refer to 13.1.6 for illustration of crimping the 'O' Clip.
- 13.2.4 The Scavenger Hose and Medical Gas Copper Pipe is now ready for connection to the Scavenger main line. Cut the copper pipe to suit if required.

## SECTION 13: CONNECTION of MEDICAL GAS / VACUUM / SCAVENGER, PNEUMATIC and DATA SERVICES

### 13.3. Brazing of the Medical Gas Copper Pipes to the medical gas, vacuum and scavenging supply lines

- 13.4.1. Recommended copper to copper on-site jointing process: Silver / copper / phosphorus brazing alloy type CP1 or CP04 to BS 1845 (or equivalent) using a clean, dry, oil and oxygen free nitrogen inert gas shield with no flux.



***Cross-connection of Medical Gas Flexible Hoses shall prove fatal. Gas connection and testing is to be carried out by certified gas installer only.***

- 13.4.2. Ensure that the copper gas pipes have been bonded to the earth system.
- 13.4.3. The Medical Gas, Vacuum and Scavenger Terminal Units and piping systems in the unit have been fully factory leak tested, the entire gas reticulation system is to be tested to BS EN ISO 5359 (or regional equivalent) before being commissioned for use. Refer any queries in this regard to Hutz Medical Service Department (refer to cover page for contact details).



***Gas connection and testing to be carried out by certified gas installer only.***

### 13.4 Connection of the Pneumatic Brake System piping (HU-6 variants)

- 13.4.1. Firmly push the 6mm diameter pipes into the connectors on the end of the connection pipes in the service pillar. Ensure to match the colour, i.e. red to red, blue to blue and yellow to yellow.



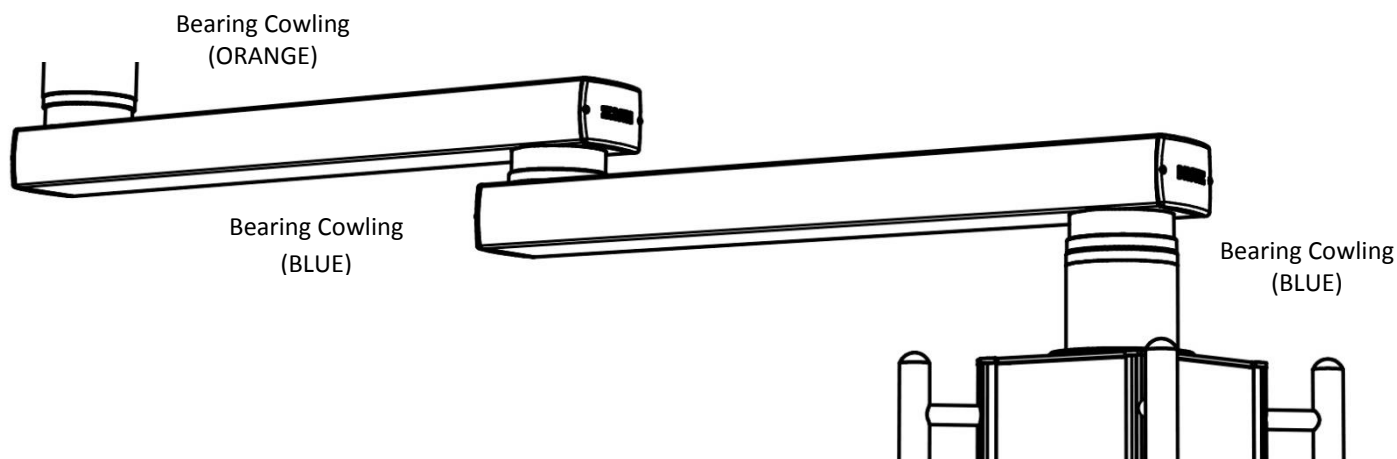
Maximum 7 Bar pressure.

### 13.5 Connection of the data cables – to be performed by a person with the required data cabling competency

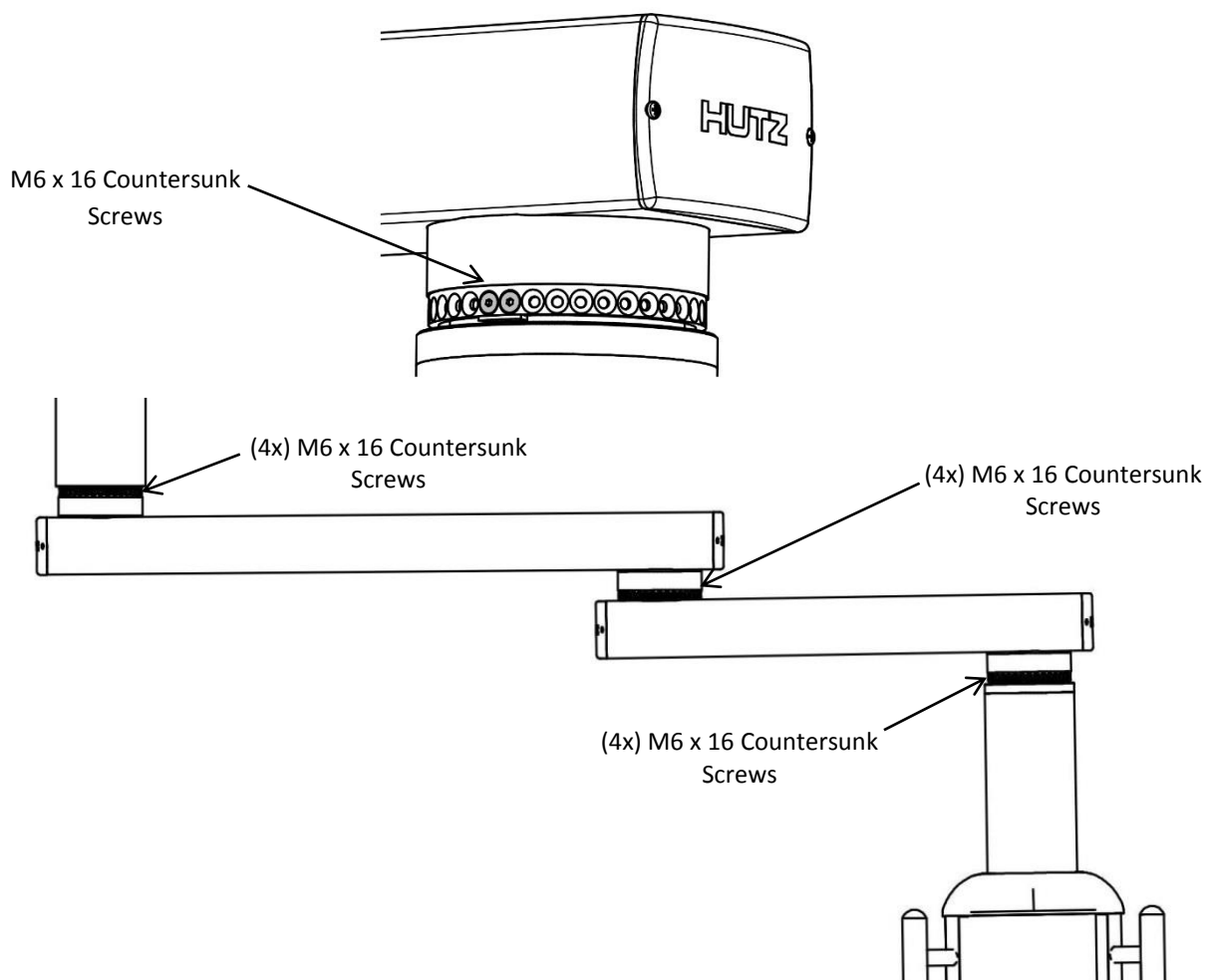
- 13.5.1 Data cables are not supplied with the product.
- 13.5.2 Pull the data cables through the convoluted pipes using a 'draw-wire'.
- 13.5.3 Connect the data cables to the data points which are fitted in the Service Pillar Assembly.

## SECTION 14: SETTING THE STOPPERS IN THE HU5/6/8R SWING ARMS BEARING ASSEMBLIES

14.1 Remove the ORANGE and BLUE Cowlings on the Bearing assemblies.



14.2 Remove all the M6 x 16 Countersunk Screws from all the adjustable stop blocks. There are 2x adjustable stops per Bearing assembly, therefore (4x) M6 x 16 Countersunk Screws per Bearing assembly.

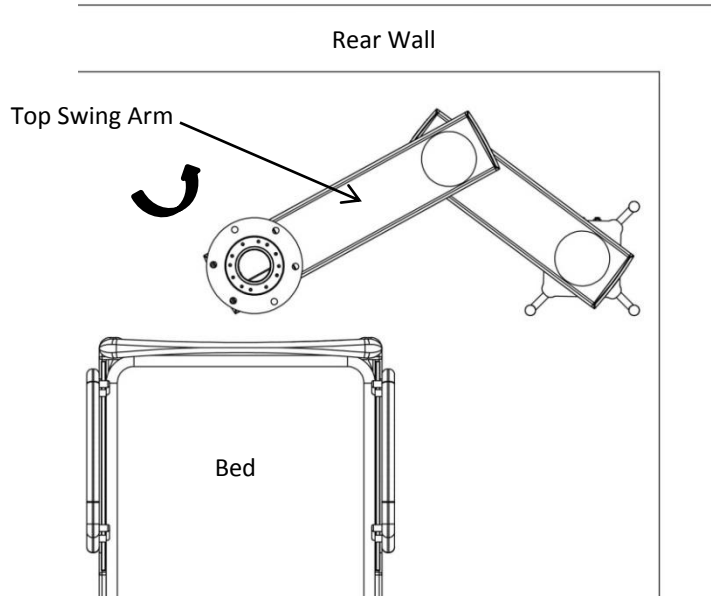


## SECTION 14: SETTING THE STOPS IN THE HU5/6/8R SWING ARMS BEARING ASSEMBLIES

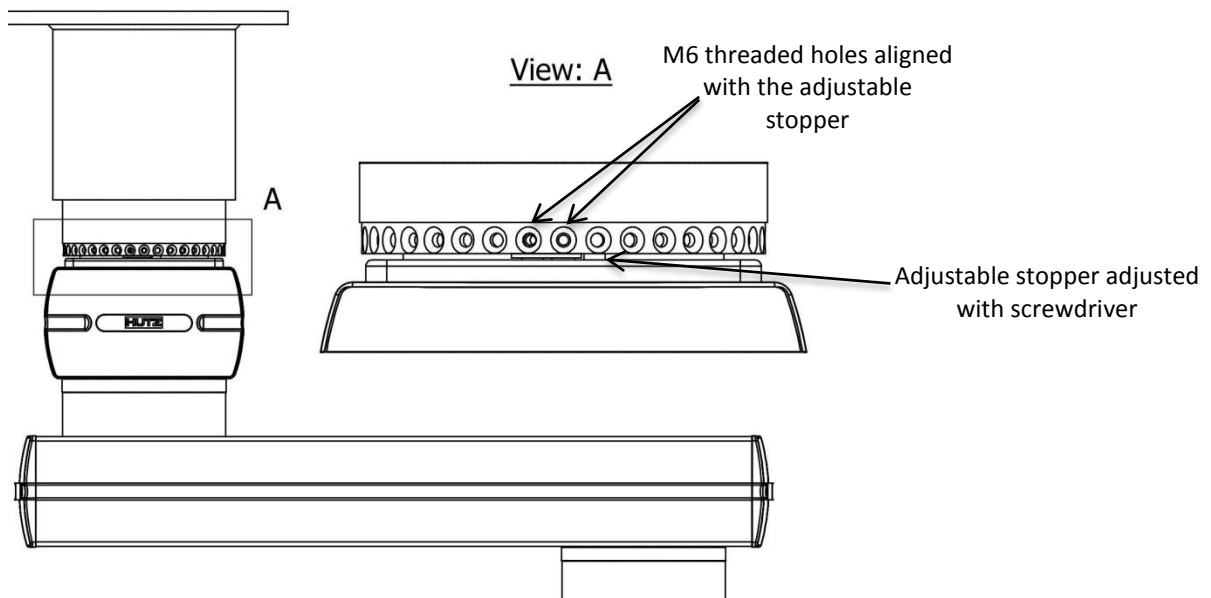
- 14.3 To prevent the top Swing Arm from touching the rear wall, push the ORANGE push-button to release the brake and push the top Swing Arm (long arm) back, to the desired position, ensuring to stop before the arm meets the wall.



The activation of the ORANGE and BLUE push-buttons are located on the Service Pillar or the Tray assembly.



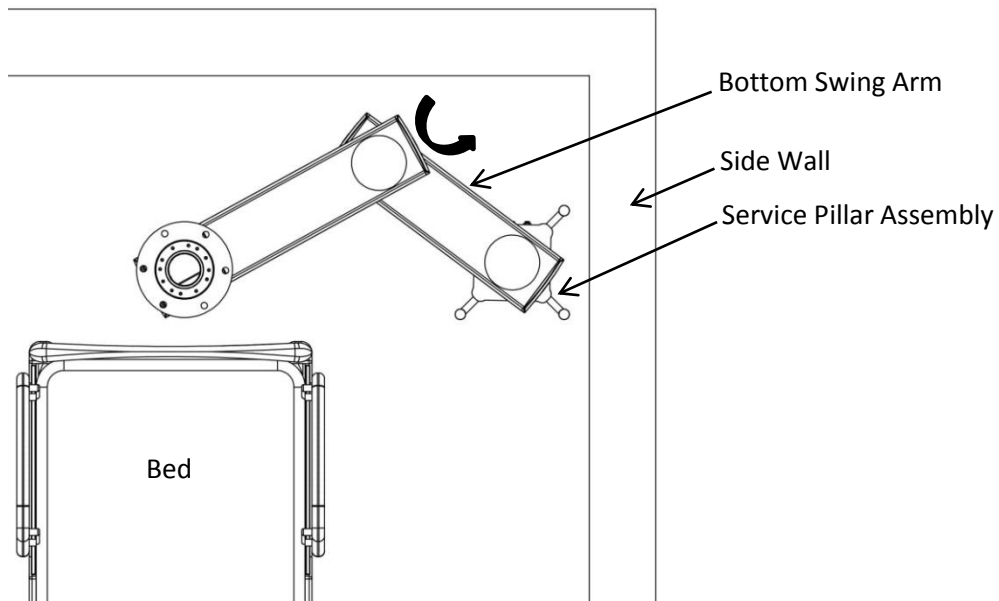
- 14.4 On the Drop Tube bearing assembly, use a thin flat screwdriver to push the front adjustable stop up against the fixed stop.
- 14.5 Align the M6 threaded holes in the adjustable stop, to the closest clearance holes in the bearing assembly.



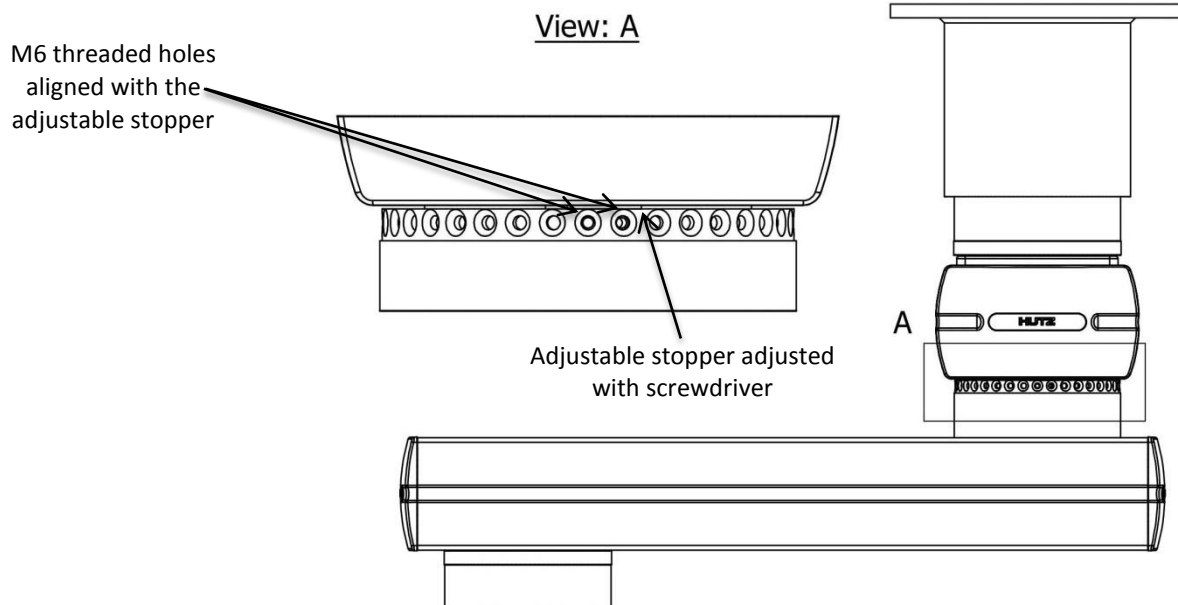


## SECTION 14: SETTING THE STOPPERS IN THE HU5/6/8R SWING ARMS BEARING ASSEMBLIES

- 14.6 Insert (2x) M6 x 16 Countersunk Screws through the Bearing assembly and tighten the screws into the adjustable stop using a 4mm Allen Key.
- 14.7 To prevent the bottom Swing Arm or any part of the Service Pillar from touching the side wall, push the BLUE push-button to release the brake and push the bottom Swing Arm (short arm) back to the desired position ensuring to stop before it meets the side wall.

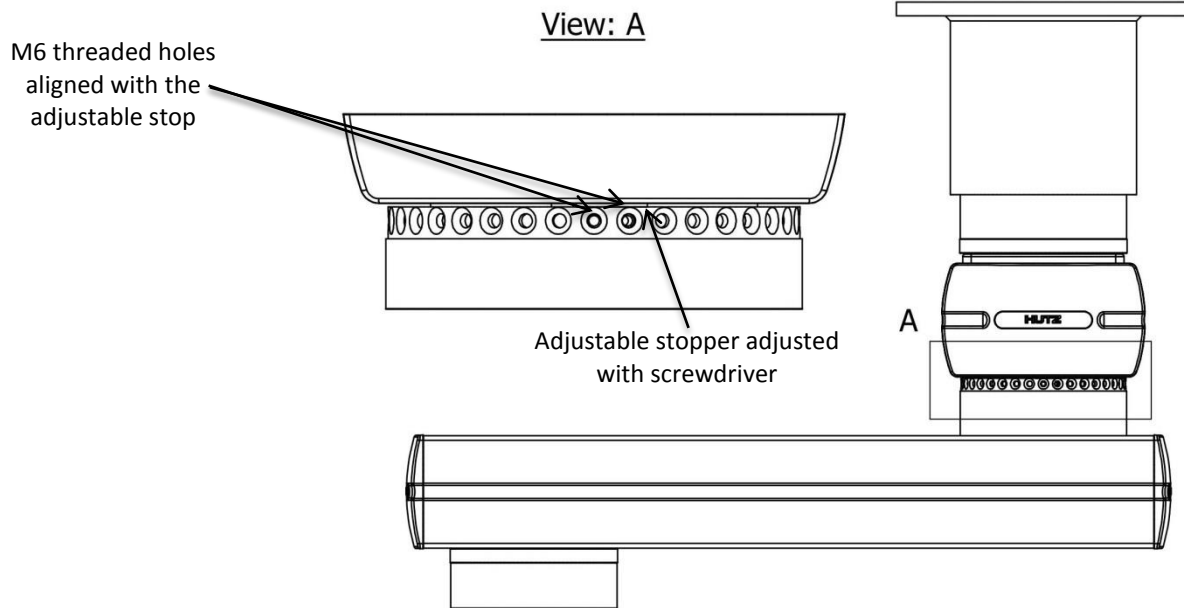


- 14.8 On the Centre Bearing assembly, use a thin flat screwdriver to push the 1<sup>st</sup> adjustable stop up against the front side of the fixed stop inside the Centre Bearing assembly.
- 14.9 To proceed, tighten the screws into the adjustable stop, Repeat 14.5 and 14.6

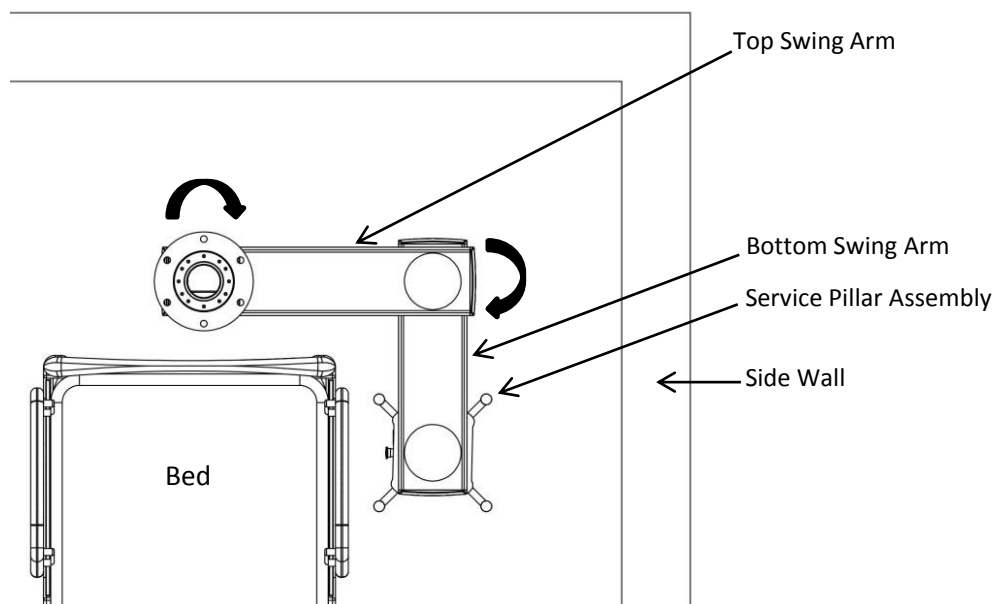


## SECTION 14: SETTING THE STOPPERS IN THE HU5/6/8R SWING ARMS BEARING ASSEMBLIES

- 14.10 On the Centre Bearing assembly, push the 2<sup>nd</sup> adjustable stop up against the 1<sup>st</sup> adjustable stop. The 2<sup>nd</sup> adjustable stop is to allow the full rotation of 340° of the bottom swing arm and to prevent the flexible hoses from twisting and restricting the medical gas flow and suction.
- 14.11 To proceed, tighten the screws into the adjustable stop, Repeat 14.5 and 14.6



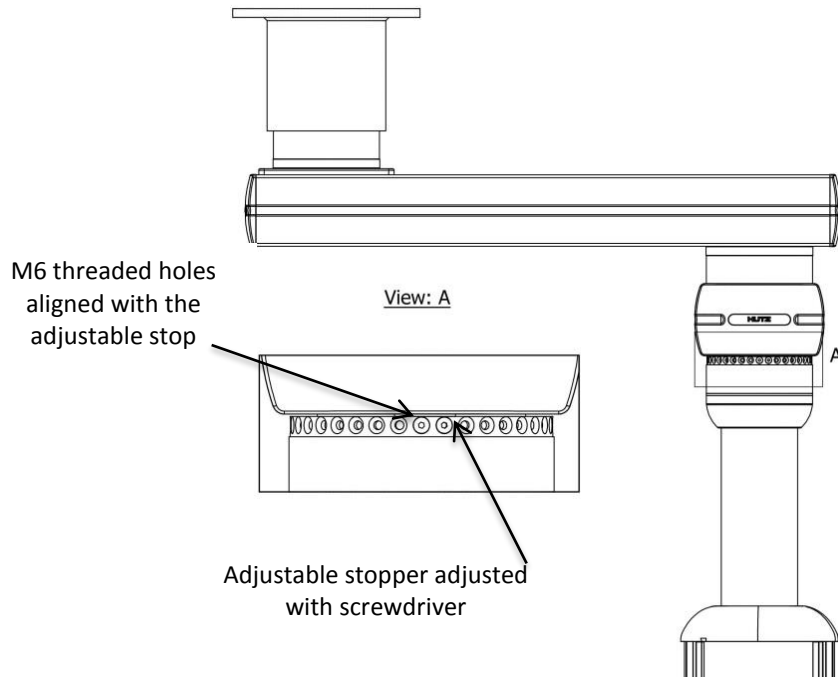
- 14.12 Set the Service Pillar in-line / parallel with bottom Swing Arm.
- 14.13 To prevent the Service Pillar from touching the bed, push the BLUE push-button to release the brake and pull the top Swing Arm (long arm) forward, to the desired position, closest position of the Service Pillar to the bed side, desired position or until the bottom Swing Arm is parallel to the bed side.



## SECTION 14: SETTING THE STOPPERS IN THE HU5/6/8R SWING ARMS BEARING ASSEMBLIES

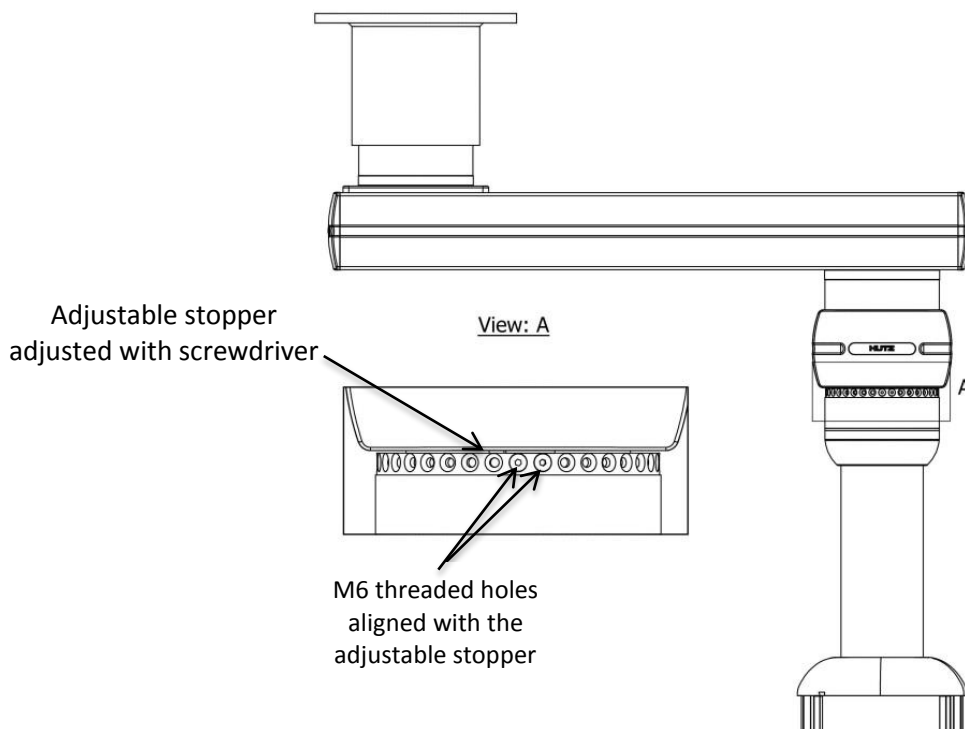
14.14 On the Drop Tube Bearing assembly, use a thin flat screwdriver to push the rear adjustable stop, up against the fixed stop inside the Drop Tube Bearing assembly.

14.15 To proceed, tighten the screws into the adjustable stop, Repeat 14.5 and 14.6



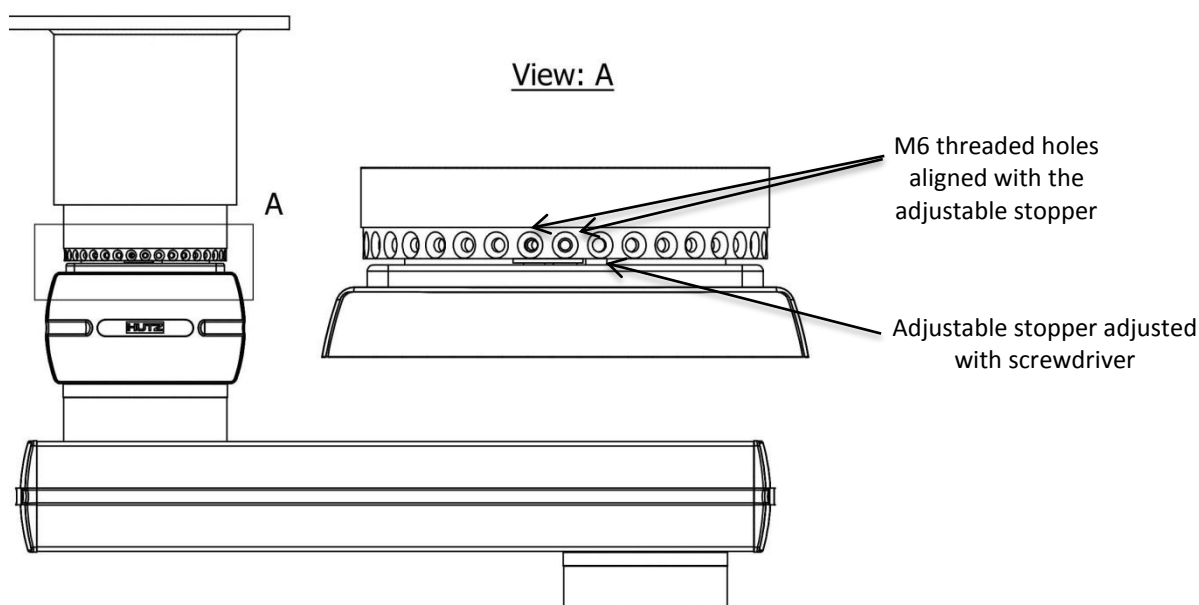
14.16 To ensure that the service pillar fascia always faces the patient, push the BLUE push-button to release the brake and turn the service pillar to the desired position. Then turn the service pillar approx. 170° clockwise or anti-clockwise.

14.17 On the service pillar bearing assembly, use a thin flat screwdriver to push the 1<sup>st</sup> adjustable stopper, up against the front or rear side of the fixed stopper, attached inside the service pillar bearing assembly.



## SECTION 14: SETTING THE STOPPERS IN THE HU5/6/8R SWING ARMS BEARING ASSEMBLIES

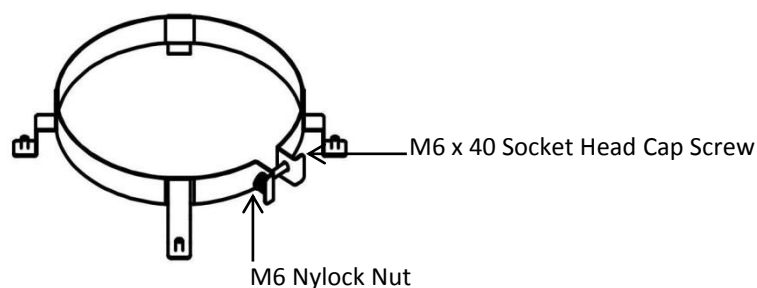
- 14.18 To proceed, tighten the screws into the adjustable stop, Repeat 14.5 and 14.6
- 14.19 On the Service Pillar Bearing assembly, use a thin flat screwdriver push the 2<sup>nd</sup> adjustable stop up against the 1<sup>st</sup> adjustable stop. The 2<sup>nd</sup> adjustable stop is to allow the full rotation of 340° of the Bottom Swing Arm and to prevent the flexible hoses from twisting and cutting-off the medical gas flow and suction.
- 14.20 To proceed, tighten the screws into the adjustable stop, Repeat 14.5 and 14.6.



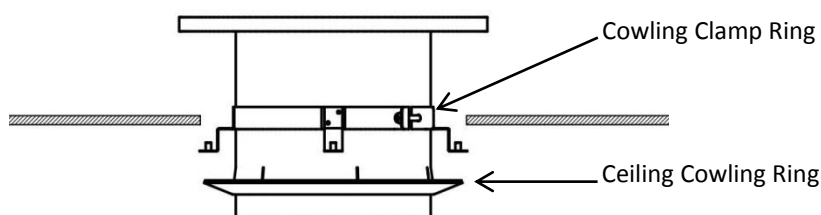
## SECTION 15: ASSEMBLY OF COWLING

### 15. Fitment of the HU6 Ceiling Cowling Assembly on the Ceiling Drop Tube

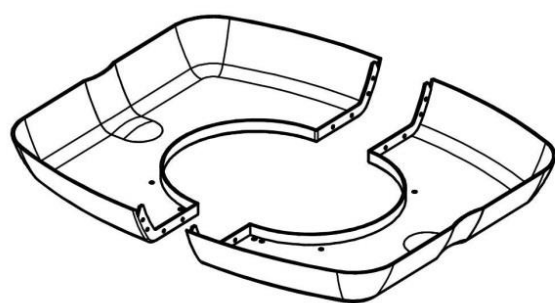
- 15.1 Use a 5mm Allen Key and a 10mm wrench to remove the M6 x 40 Socket Head Cap Screw and M6 Nylock Nut from the Cowling Clamp Ring.



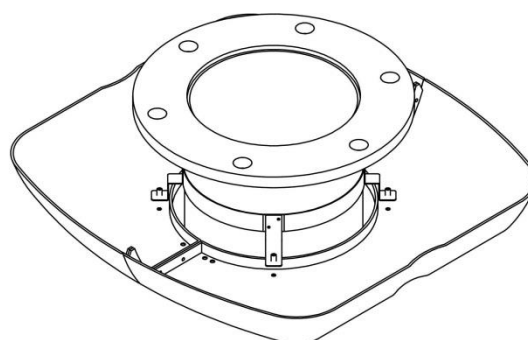
- 15.2 Open the Cowling Clamp Ring wide enough to be able to seat around the Ceiling Drop Tube.
- 15.3 Ensure that the Cowling Clamp is assembled above the Ceiling Cowling Ring and insert the M6 x 40 Socket Head Cap Screw and M6 Nylock Nut to secure the Cowling Clamp Ring around the Ceiling Drop Tube.



- 15.4 Assembly the two halves of the Ceiling Cowling around the Ceiling Drop Tube assembly.



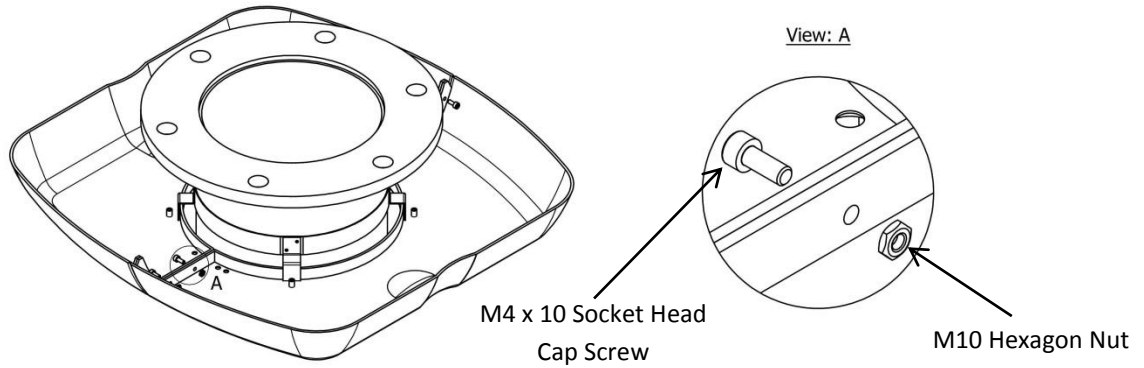
Ceiling Cowling



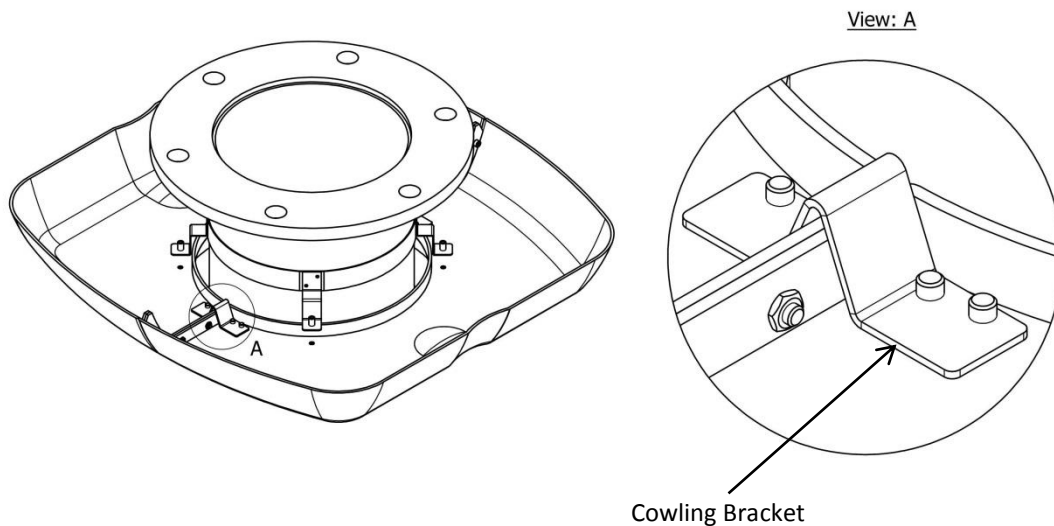
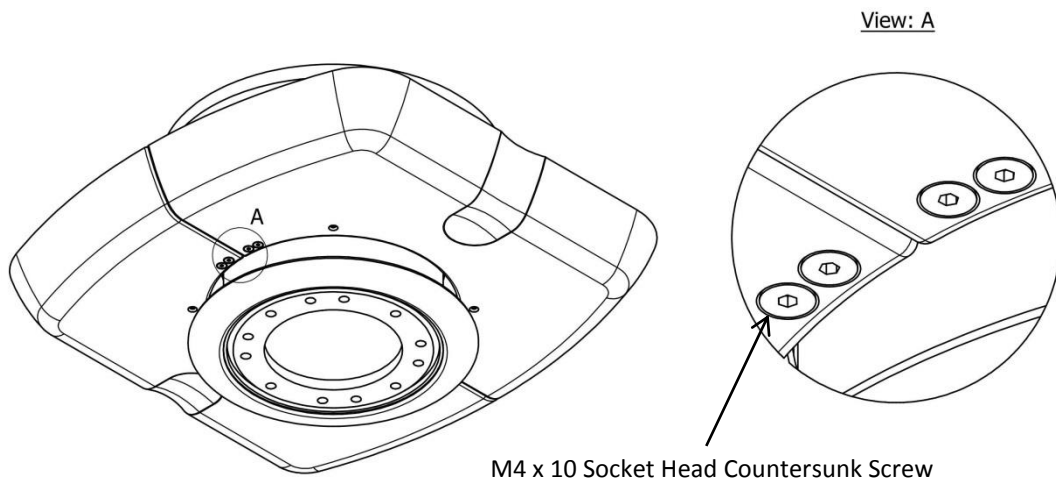
Ceiling Cowling Assembly fitted around  
Ceiling Drop Tube Assembly

## SECTION 15: ASSEMBLY OF COWLING

- 15.5 Use a 2.5mm Allen Key to tighten the M4 x 10 Socket Head Cap Screws and M4 Hexagon Nuts (8x in total) to secure the two halves of the Ceiling Cowling around the Ceiling Drop Tube assembly.

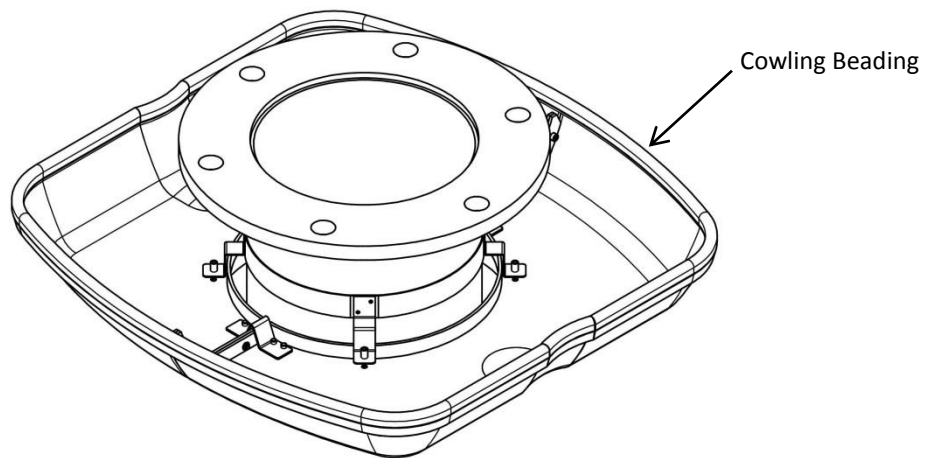


- 15.6 Use a 2.5mm Allen Key to tighten the M4 x 10 Socket Head Countersunk Screws (8x in total) from the underside into the Cowling Bracket (2x in total) on the inside of the Ceiling Cowling to secure the two halves of the Ceiling Cowling together.

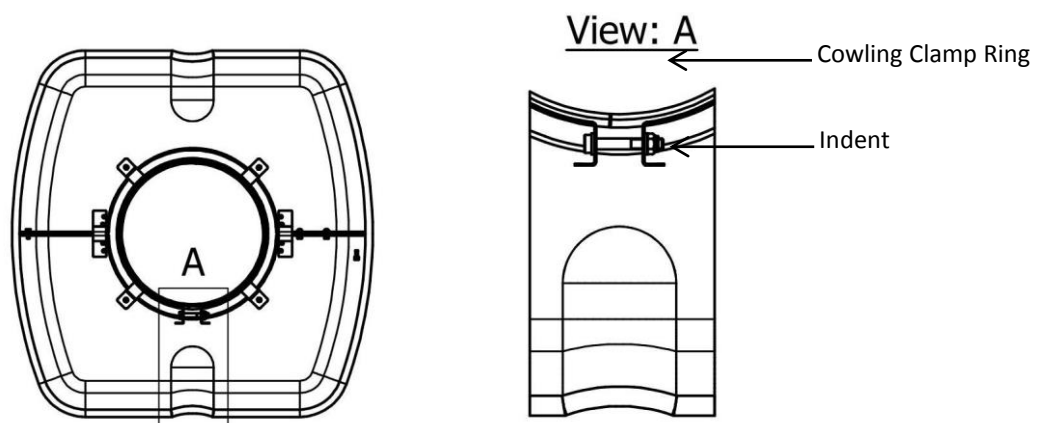


## SECTION 15: ASSEMBLY OF COWLING

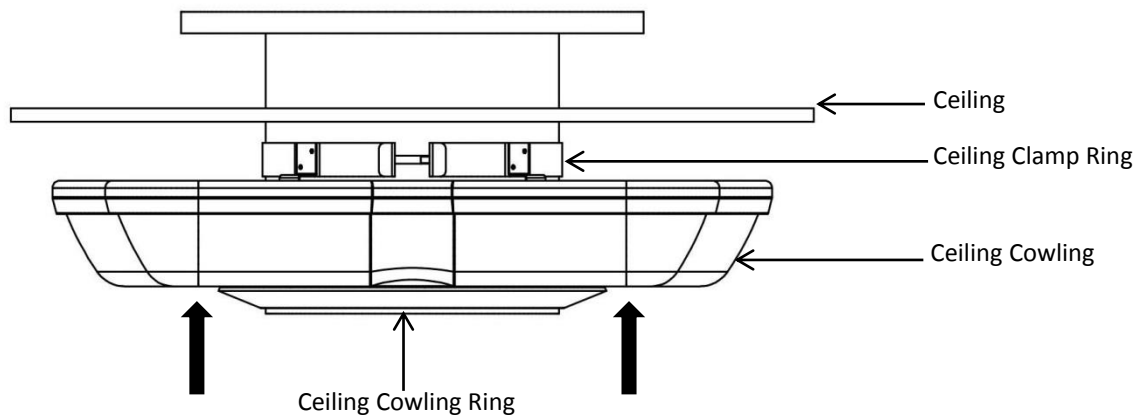
15.7 Fit the Cowling Beading over the edge of the Ceiling Cowling.



15.8 Align the screw clamp with the indent on the Ceiling Cowling.

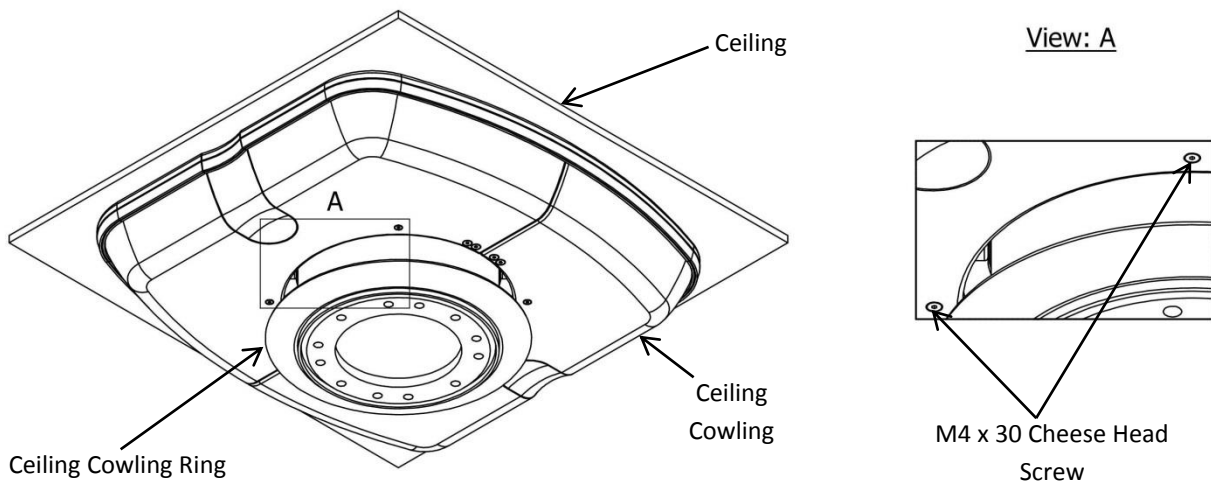


15.9 Push the Ceiling Cowling up against the ceiling ensure the Ceiling Cowling is flush against the ceiling and the Cowling Clamp Ring. Adjust the height of the Cowling Clamp Ring if required.

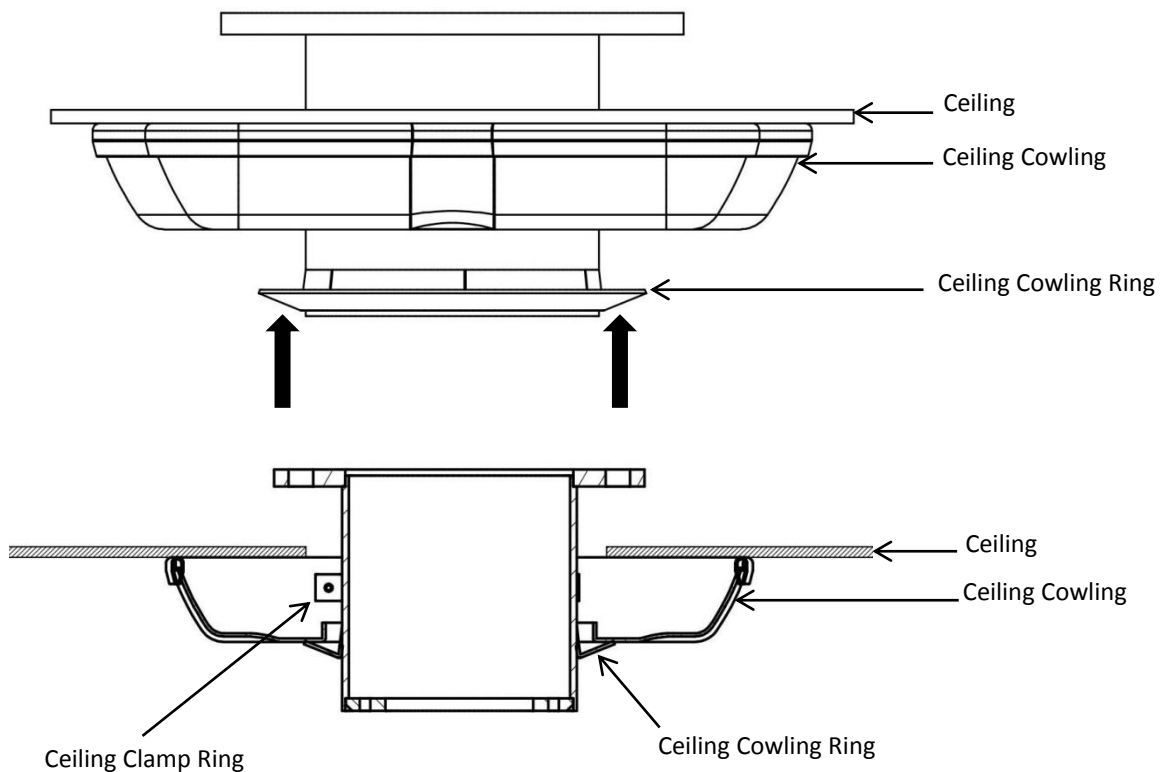


## SECTION 15: ASSEMBLY OF COWLING

- 15.10 Use a flat thin screwdriver to tighten the M4 x 30 Cheese Head Screw (4x in total) from the underside into the Cowling Clamp Ring.



- 15.11 Push the Ceiling Cowling Ring which is already located around the CEILING DROP TUBE (refer to 11.1.1 & 11.4.1) into the Ceiling Cowling.





## NOTES