

##CFG BWOP Manuals##

Astramax LED[®] Ceiling & Wall Mounted Single Head Models Installation Guide

IG-AMAX-CEILING Issue B2– 06th January 2015



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1 Before starting the installation

For your full satisfaction with this equipment it is recommended that you read this section carefully before starting the installation.


1.1 Symbols used

The symbols used in this guide and on the product are explained in the following table.

Symbol	Description
	WARNING/DANGER – Pay special attention.
	Note this point.
	Refer to another section/guide.

1.2 Models covered

Model	Approx. weight
AMAX30FCJ	15 Kg
AMAX30FCU	15 Kg
AMAX30FW	15 Kg

 Each of the above models is also available with a separate power supply and in this case the product number has the suffix ST, e.g. AMAX30FCJST.


1.3 Related guides

The other guides that relate to the Astramax LED lamps are:

- *Astramax LED Routine Maintenance Guide*
- *Astramax LED Instructions for Use*
- 45mm Adjustable Stem Installation Guide.

1.4 Installer qualifications

Installation should only be undertaken by a suitably qualified general electrician.

 Each installation requires two people, one of whom should be an approved installer.

1.5 Classifications

The classifications are explained in the following table.

Classification	Description
Electrical classification	Class 1
Classification according to EU Medical Device Directive 93/42/EEC	Class 1
Lamp head degree of protection from ingress of dust and water	IP54
Degree of protection against the presence of flammable anaesthetic mixtures	Not for use in a flammable atmosphere

1.6 Environmental conditions

The environmental conditions relate to transportation/storage and operating.

1.6.1 Transportation and storage

The environmental conditions relating to transportation and storage are explained in the following table.

Condition	Range
Temperature	-40°C to 70°C
Relative humidity	10% to 95% non-condensing
Pressure	500hPa to 1060hPa


1.6.2 Operating


The environmental conditions relating to operating are explained in the following table.

Condition	Range
Temperature	15°C to 30°C ambient temperature
Relative humidity	10% to 80% non-condensing

2 Electrical installation

Installation should only be undertaken by a suitably qualified general electrician.

 Each installation requires two people, one of whom should be a qualified electrician

	<p>Always ensure the electrical supply requirements as detailed on the serial number label correspond with your supply before connecting. Standard models include an integral power supply and should be supplied with an appropriate switched and fused mains supply. An appropriate external power supply to achieve a nominal 24V DC should apply to "ST" models.</p>
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The following is an illustration of the wiring view as supplied for the standard model.



Fig 1

3 Mechanical installation (ceiling version)

Unpack the boxes and check that all the parts listed in the following table are present.

Box	Quantity	Contents/Quantity
Stem box	1	Stem with PSU attached except in the case of ST models Tab washer Flat washer Circlip Ceiling Cover Cover Support Ring & 3 grub screws End Cap & 3 Csk screws Interface Assembly
Spring Arm box	1	Spring arm parts bag
Lamp Head box	1	Lamp head including Yoke arm Handle Carrier (blue) Sterile handle

Table 1

Examine all the parts carefully for any damage in transit. Report any damaged or missing items to the supplier within 5 working days.

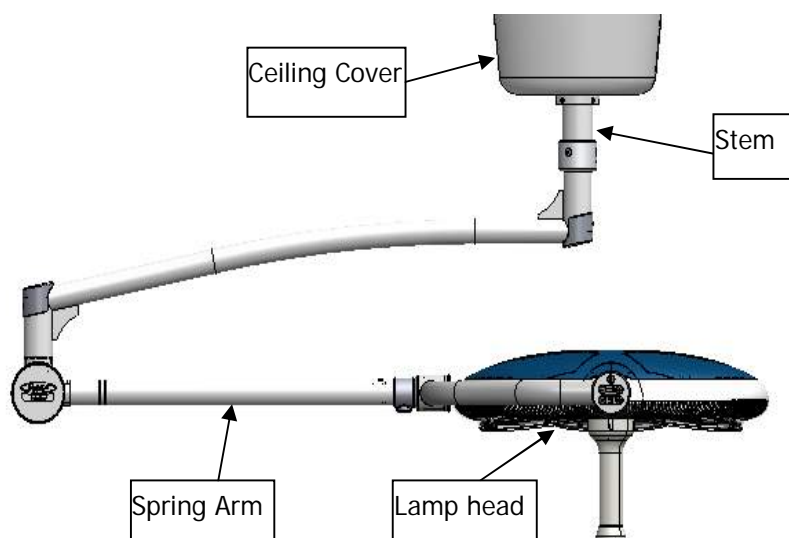



Fig 2

3.1 Selecting the stem length

	<p>The fixing height of 2000 mm shown in the illustration is only a recommendation and relates to general clinical use. In some specialties, e.g. maternity, lights may need to be mounted much lower to cater for certain clinical procedures.</p>
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The Stem is supplied at a length of 1M but can be cut to a minimum length of 210mm to suit various ceiling heights. The method for calculating the stem length required is as follows:

$$\text{Ceiling Height (A)} - (2000 \text{ (C)} + 329) = \text{Calculated Distance (B)} - 38 \text{ mm (if anchor ring is fitted)}$$

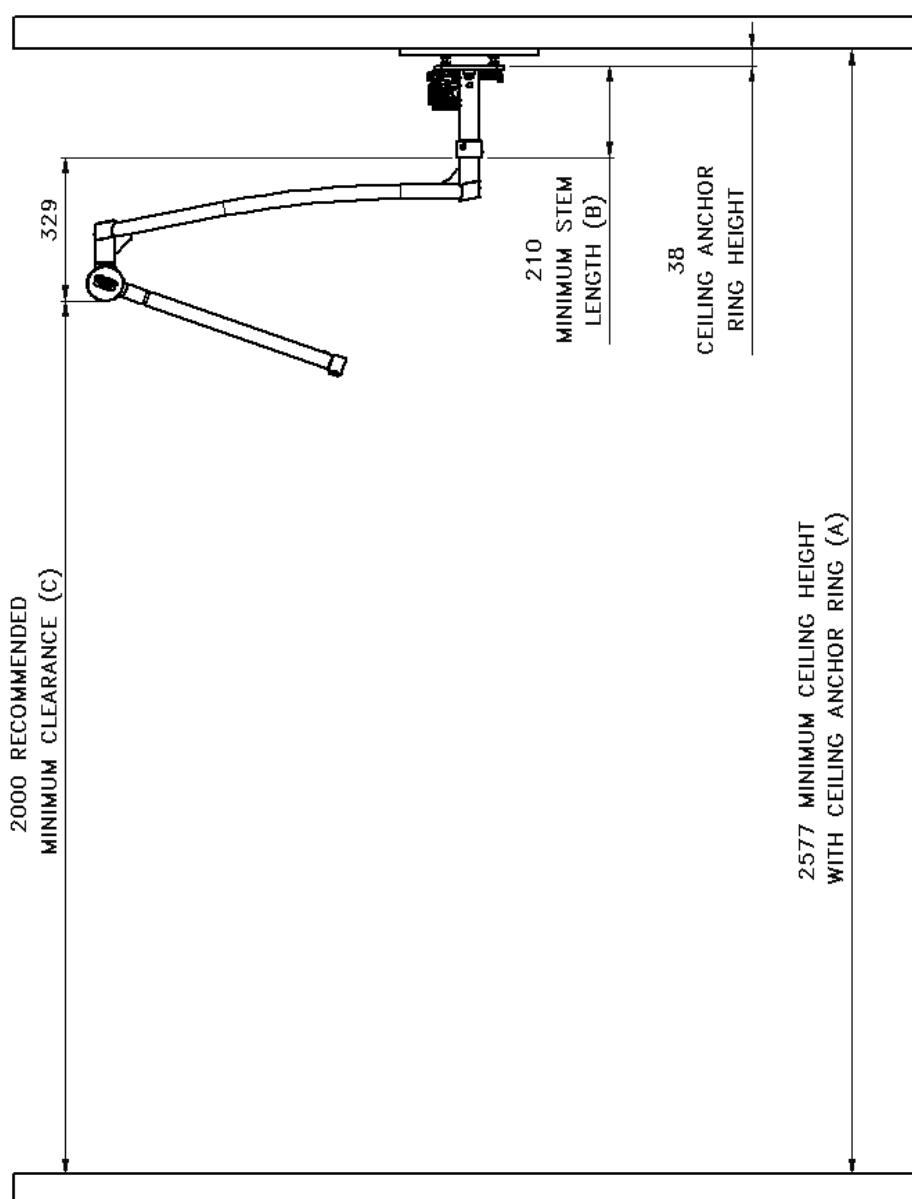



Fig 3

3.2 Fitting the spring arm

- Remove the retaining screw and carefully lift the cover cap containing the connector free from the spring arm.
- Remove the circlip, tab washer and flat washer from the stem interface and retain. Keeping the connector clear, slide the arm onto the stem interface and push up until the groove on the interface is visible.
- Position the flat washer and tab washer on the stem interface then secure in place with the circlip.
- Carefully replace the cover cap ensuring that the connector is properly engaged. Secure with the retaining screw.

 **Ensure the circlip is fully seated into the groove.**

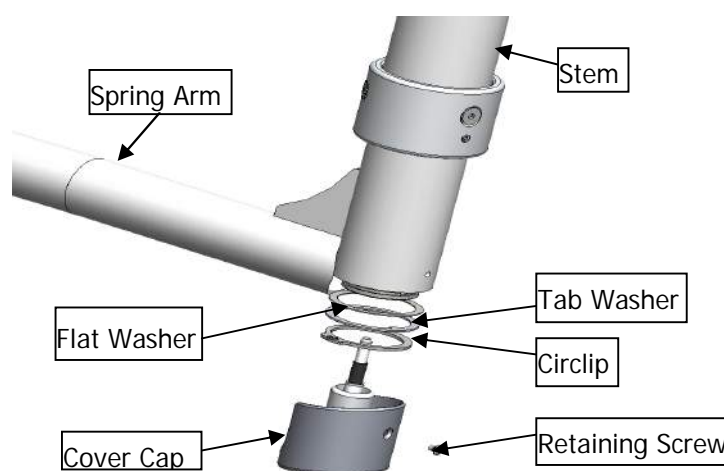


Fig 4

3.3 Fitting the Ceiling Cover Kit

- To fit the cover, place both halves around the stem then carefully but firmly push together. See fig 5
- Fix the 2 halves in position with 4 fixing screws provided.
- Slide the now assembled cover up to the false ceiling or ceiling slab. Using the 3 grub screws provided screw into the collar until secure.

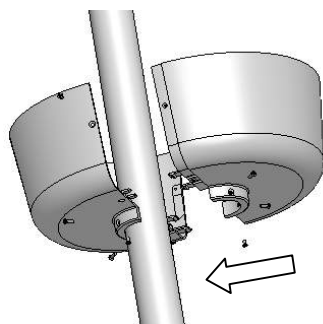


Fig 5

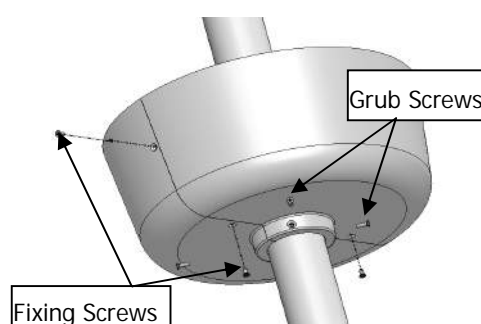


Fig 6

 Go to section 5, "Mechanical installation (all versions)".

4 Mechanical installation (wall version)

Unpack the boxes and check that all the parts listed in the following table are present.

Box	Quantity	Contents/Quantity
Bracket box	1	Wall bracket
Spring Arm box	1	Wall bracket Spring arm
PSU box	1	Power Supply
Lamp Head box	1	Lamp head including Yoke arm Bayonet handle (blue) Sterile handle

Table 2

Examine all the parts carefully for any damage in transit. Report any damaged or missing items to the supplier within 5 working days.

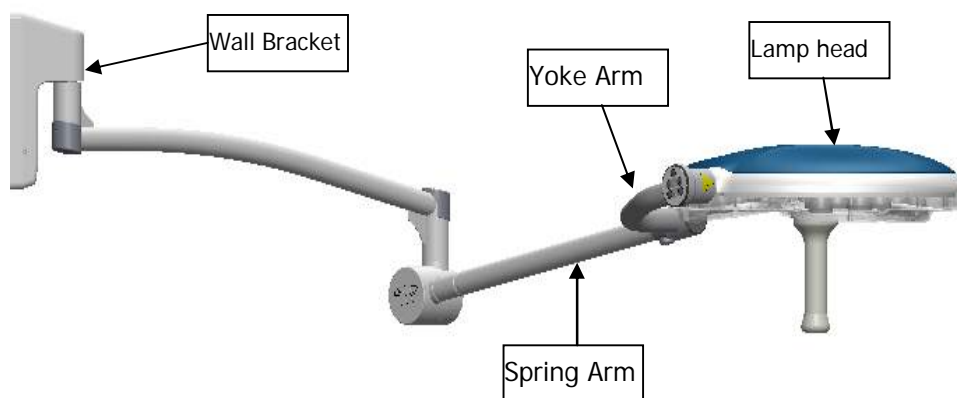



Fig 7

4.1 Selecting the fixing height

	<p>The fixing height of 1800 mm shown in the illustration is only a recommendation and relates to general clinical use. In some specialties, e.g. maternity, lights may need to be mounted much lower to cater for certain clinical procedures.</p>
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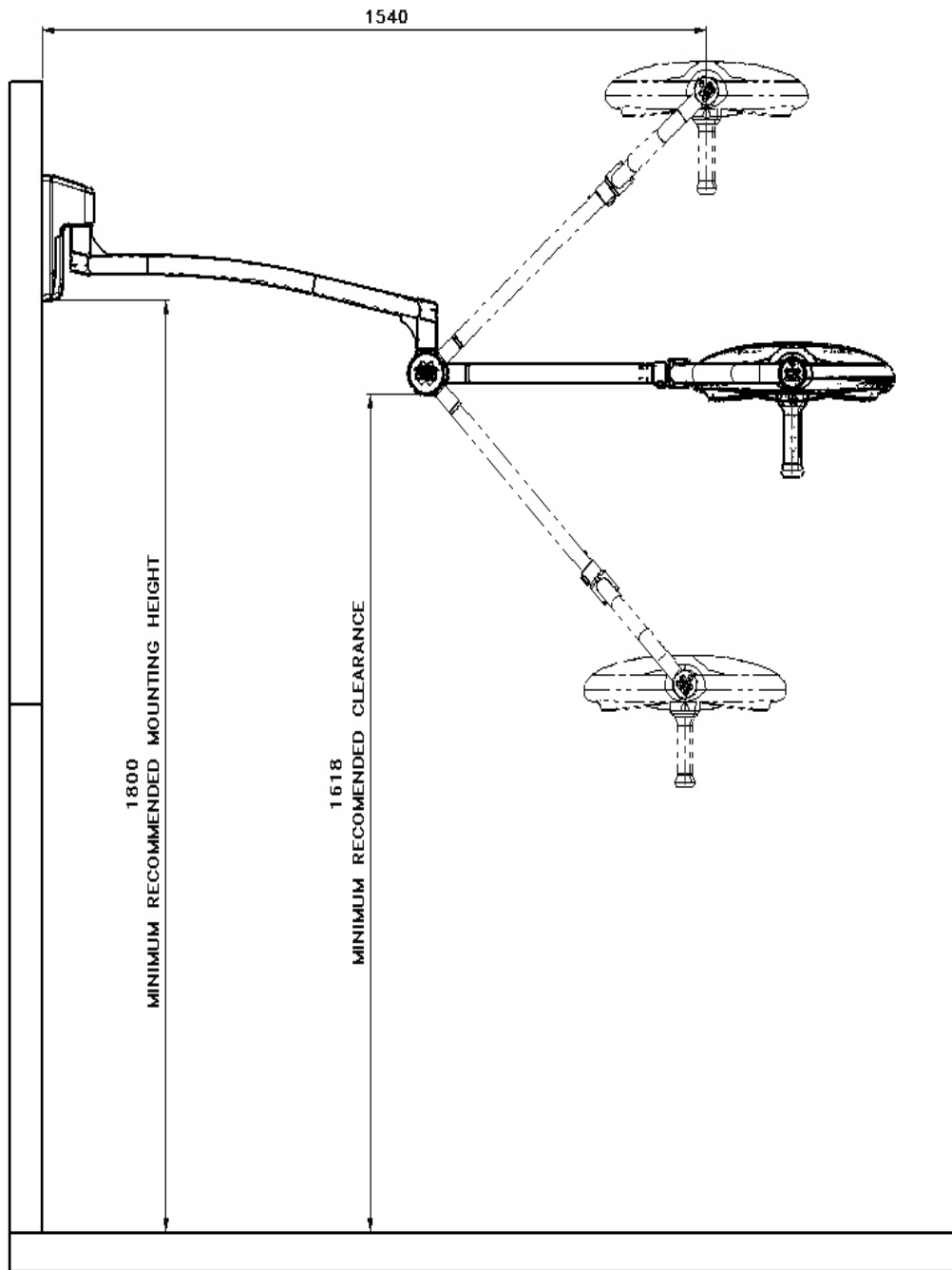


Fig 8

4.2 Mounting the wall bracket

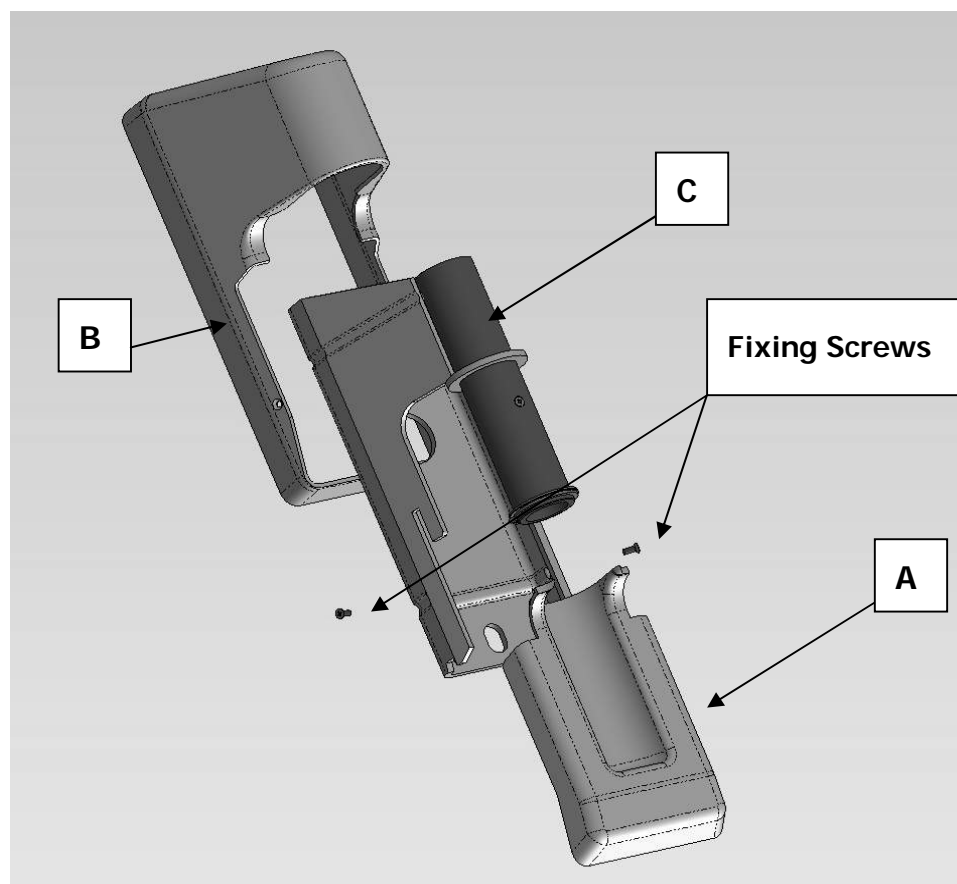


Fig 9

Before mounting the wall bracket remove cover (A) by removing the two fixing screws and pulling the cover away from cover (B). Lift cover (B) away from the wall bracket (C). Care should be taken when removing covers not to break the small plastic clips.

Before fixing to the wall, ensure the surface is clean, dry and is capable of supporting the weight of the lamp. The selection of the correct fixing and the safe execution of the fixing are the responsibility of the installer and advice should be taken from a qualified Structural Engineer if required.

Fit the wall bracket to the wall using two appropriate fixings, taking care to allow safe routing of electrical supply cables. Refer to the illustration above for fixing position and cable entry position. Re-fit the covers in reverse sequence then secure in place with two fixing screws.

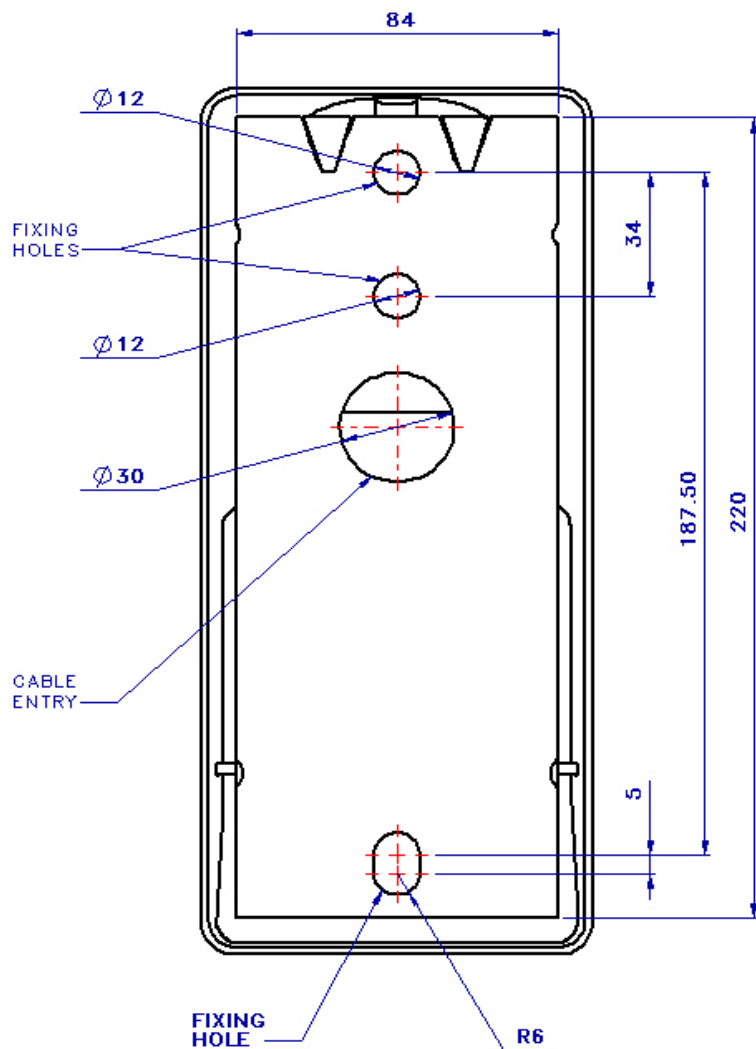


Fig 10

	Ensure the wall bracket is secured the correct way round with the mounting spigot pointing down towards the floor.
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4.3 Fitting the spring arm

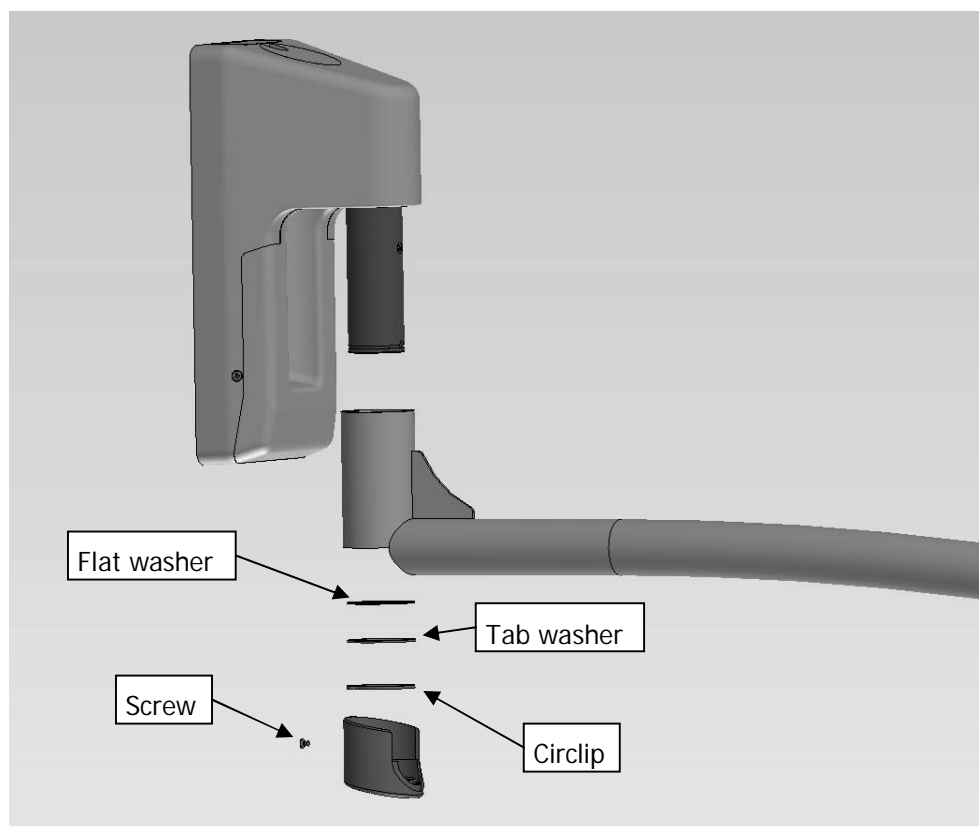


Fig 11

- Apply grease – ideally food-grade grease – to the interface.
- Remove the screw from the cover on the back knuckle of the horizontal arm.
- Withdraw the cover and electrical plug and slide the spring arm over the interface.
- Fit the flat washer over the interface and then the tab washer taking care to position the tab into the hole in the sidewall of the interface.
- Secure with the circlip using the circlip pliers supplied.



Ensure the circlip is fully seated into the groove.



Go to section 5, "Mechanical installation (all versions)".

5 Lamp head installation (all versions)

5.1 Fitting the Lamp head

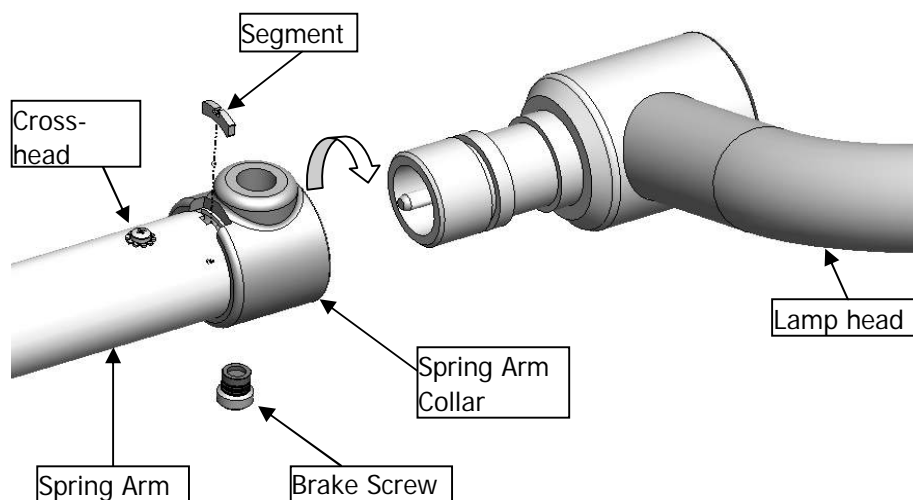


Fig 12

- Remove the protective cap and collar from the end of the spring arm. The protective cap can be discarded.
- Remove the brake screw from the spring arm collar and retain it. Rotate the spring arm collar until the segment is revealed. Remove the segment.
- Insert the lamp head interface into the end of the spring arm until the groove in the lamp head interface is clearly visible through the slot in the top of the spring arm. Insert the segment before rotating the collar. Refit the brake screw.



It is important that there is a good electrical connection between the lamp head and the spring arm, but sometimes the groove in the lamp head interface may not line up with the slot in the spring arm. If this is the case then the electrical socket in the spring arm will require adjustment. see below.

- Loosen, but DO NOT remove, the Cross-head screw on top of the spring arm. Now re-insert the lamp head into the spring arm as previously described. It should now be possible to fit the segment. Re-tighten the cross-head screw on the top of the spring arm.
- Secure the lamp head with the segment. Rotate the spring arm collar 180° and refit the brake screw. Gently screw the brake screw in place until it stops and then tighten approximately another 1/8 of a turn but do not over tighten. The lamp head should rotate freely but if it does not, adjust the brake screw.

5.2 Fitting the sterilisable handle system

Before fitting the handle carrier to the lamp, ensure the grub screw is backed off 1 full turn. Screw the handle carrier on to the threaded handle mount until tight. Now screw the grub screw in until it is tight. The handle carrier should now be secure.

To fit a sterilisable handle cover you only need to push the handle cover over the Carrier until an audible click is heard and the handle has locked in position. As shown below. To release the sterilisable handle cover, simply push the blue release button and the cover can be removed.

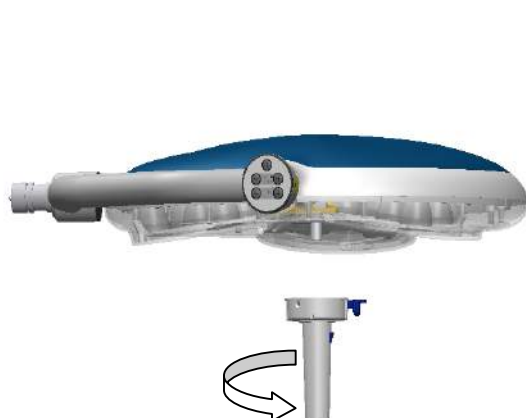


Fig 13

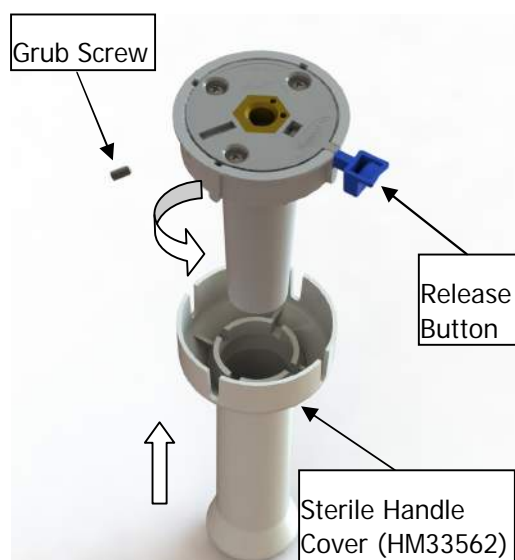


Fig 14



The sterilisable handle as supplied is not sterile. You must sterilise it by autoclave – typically steam sterilisation at 134°C for three minutes.

6 Mechanical Adjustment

Before first use the lamp must be balanced. This is achieved by using the Spring arm tensioning mechanism, details of which are shown in this section. Adjustments may be made to the brake screw used to dampen the freedom of travel in the Yoke arm, also shown in this section.



Do not attempt to remove the lamp head as the spring arm could react strongly and may cause serious injury.

6.1 Adjusting the Spring Arm Balance

Remove the Top Cover to reveal the adjustment ring. Move the spring arm up and down until the adjusting ring appears in the adjustment window. Insert a lever (supplied) into the adjustment ring and Rotate it clockwise or anti-clockwise as required.

If the spring arm drifts down, the spring force is too low and the setting screw must be rotated to the left +VE, i.e. anti-clockwise.

If the spring arm drifts upwards then the spring force is too high and the setting screw must be rotated to the right -VE, i.e. clockwise.

Replace the cover when complete.

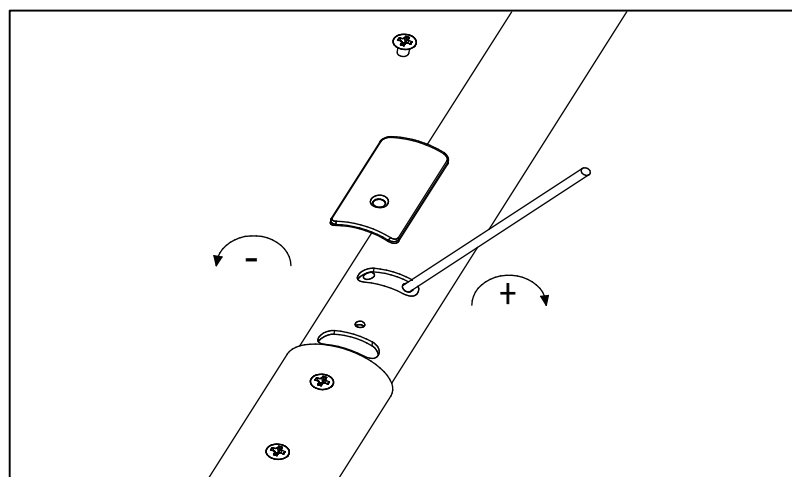


Fig 15

6.2 Adjusting the Yoke Arm

The brake screw is located in the collar at the end of the spring arm as shown in the illustration below.

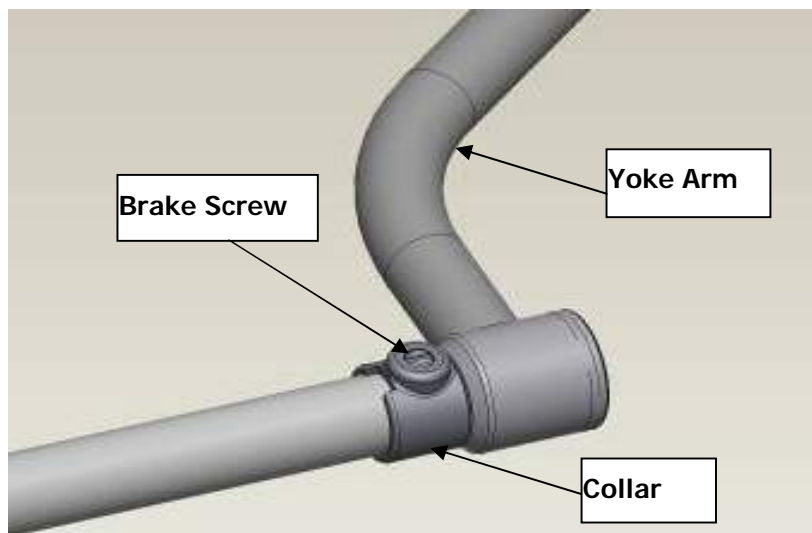


Fig 16

To increase the friction, tighten the screw in a clockwise direction. To decrease the friction, loosen the screw in an anti-clockwise direction. The lamp head should rotate freely but if it does not, reduce the tension on the brake screw.

7 Settings

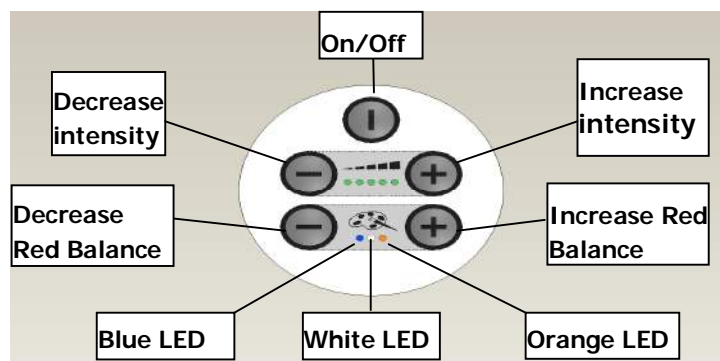


Fig 17

7.1 Entering the Setting Mode

To enter the 'default setting' mode press the 'Decrease intensity key', 'Increase intensity key' and the 'Increase Red Bal key' simultaneously. The orange LED will illuminate on the key pad display when the 'default mode' has been entered. See image below.



Fig 18



To leave the default setting mode ensure only orange Red Bal led is on then press the 'on/off button'. Only a green LED should then be flashing.

7.1.1 Available parameters

Table 3 below lists the seven default setting states, the first state allows entry and exit of the default setting mode. The next six are the parameter states.

Parameter list	Red Balance Led's position	Intensity Led's (Green)
Enter/Leave default mode	Orange Led On	No led's are illuminated
On/Off-Behaviour	White Led On	Intensity Led 1 or 2
Intensity after Power-On	Blue Led On	Refer to Table 2
Red Balance after Power-On	Blue & White led On	Refer to Table 3
Working Hours for service Led	Blue & Orange led's On	Refer to Table 4
Reset service hours	White & orange led's on	Intensity Led 1
Pairing	Blue, Orange & White led's On	Refer to Table 5

Table 3

7.2 Changing Power on Behaviour

Sets the lamp to power on or off when the main power is first applied to the lamp head. Press the Red Bal (-) button until the white led is on. Refer to image below.



Fig 19

Intensity LED1 (Green) is on; the lamp will be off when it is first powered up.
 Intensity LED2 (Green) is on; the lamp will come on when it is first powered up.
 The Green LED1 will blink when a different setting is selected, to save the change to memory press the on/off button.
 The service LED will stop flashing after the on/off button has been pressed

7.3 Changing the default intensity at power up

Sets the lamp intensity when the lamp is powered

Press the Red Bal (-) button until the blue LED is on.

One of Intensity Led's will be on.

To increase the light intensity, press the intensity (+) button until the required setting is achieved.

To decrease the light intensity, press the intensity (-) button until the required intensity is achieved.

Intensity LED1 will blink when a different setting is selected, to save the change to memory press the on/off button.

Intensity-Led	Intensity after Power-On
1	20 %
2	40 %
3	60 %
4	80 %
5	100 %

Table 4

The factory default level for light intensity is 3, i.e. 3 of the 5 Led's are illuminated.

To leave the default setting mode ensure only orange colour temp led is on then press the 'on/off button'. Only a green LED should then be flashing.

7.4 Changing the default colour temp at power up

Press the Decrease Red Bal key until the blue and white LED's are on.

Intensity-LED1 will blink when a different setting is selected, to save the change to memory press the ON/OFF button.

Colour temp Led	Colour Temperature after Power-On
Orange	3500 K
White	4000 K
Blue	5000 K

Table 5

The factory default level for colour temperature is orange.



To leave the default setting mode ensure only orange LED is on then press the 'ON/OFF button'. Only a green LED should then be flashing.

7.5 Setting the service hour counter

Sets the service interval time, when the working hours are exceeded by the internal timer the Red Bal led's will flash.

Press the Red Bal (-) button until the blue and orange LED's are on.

To adjust the working hours press the decrease or increase intensity keys.

To select the working hours press the decrease or increase intensity key until the required setting is achieved.

The intensity LED1 will blink when a different setting is selected, to save the change to memory press the ON/OFF button.

Green Intensity Led	Working Hours
1	32500
2	1000
3	2000
4	3000
5	5000

Table 6

The factory default level for working hours is 1000Hours.



To leave the default setting mode ensure only the orange LED is on then press the 'ON/OFF button'. Only a green LED should then be flashing.

7.6 **Resetting the service hour counter**

Resets the service counter and turns the flashing Red Bal LED off.

Press the Red Bal (-) button until the orange and white LED's are on.

Press the intensity (+) button and step to LED 2 position, the green LED will flash.

Press the standby button and the green led will revert back to LED1 position.

Once this is done the service light and service timer will be reset.



To leave the default setting mode ensure only the orange LED is on then press the 'ON/Off button'. Only a green LED should then be flashing.

7.7 Pairing the remote control (if supplied)

- ✍* Read this whole section prior to commencing the pairing operation.
- ✍* If the Lamp head has been paired previously; then it must be un-paired before starting the pairing operation. See section 1.7.2 below.
- ✍* A time window of approximately 8 seconds exists between steps 5 & 6.

7.7.1 Pairing

1. Set the lamp to standby 'flashing green intensity LED '
2. Enter 'default setting mode. See section 6.1.
3. Press Red Bal (-) key until all three Red Bal LED's; blue, white and orange are lit.



Fig 22

4. Locate the pairing button on the remote control. Now press the pairing button, until the single green led comes on. Note when two red LED's illuminate this indicates that the pairing window has timed out.
5. Promptly Press the Lamp head INT(+) button until the middle two LED's are illuminated. INT LED 1 flashes to initialise the pairing mode.
6. Press the Red Bal (+) button until only the orange LED is on then press the 'ON/Off button'. Only a green LED should then be flashing.
7. press the on/off button on the remote key pad.
8. Press standby again and the lamp will come on at its default settings. The process is now complete.

7.7.2 Un-pairing

To un-pair the lamp head or multiple lamp heads; Follow steps **1** to **3** above then steps **6** to **9**. If multiple lamp heads are fitted then each lamp head will need to be un-paired separately.

8 Commissioning the unit

Check all movements of the lamp to ensure it rotates freely and that the lamp head stays in position without drifting. Before use, fit the sterilisable handle system and sterilisable handle covers to the lamp.



The sterilisable handle covers as supplied are not sterile.

For a full list of items to be checked, please consult and complete the Installation Checklist.



Refer to Section 9.

Hand the Instructions for Use over to the Clinical Manager and hand the Routine Maintenance Guide over to the Engineering Maintenance Manager.

9 Installation Checklist

Site Data	
Hospital	
Room Location.	
Model installed	
Serial No.	

Light Intensity	Lux at 1 metre

Inspection	Initi	Comments
Check building mountings are secure		
Check lamp to stem mountings are secure		
Check stem tube is perpendicular and stiff		
Check all fixing screws and retainers are secure		
Check operation of all switches and indicators		
Check correct operation of focus control		
Check all articulations move freely		
Check all spring arms are balanced correctly		
Check external surfaces are free from scratches		
Check ceiling cover is fitted correctly		
Inspect incoming wiring (where accessible)		
Secure handle bodies to lamp heads		
Pass manuals & sterilisable handle covers to customer		
Additional notes:		

Customer Acceptance	
Signature	
Print name	
Position	
Date	

10 Guarantee

10.1 Terms of the Guarantee

Subject to the conditions listed below Brandon Medical Company Ltd guarantee to provide for the repair of, or at its option replacement of Brandon Medical equipment, or any component thereof (other than consumables), found to be faulty or below standard, as a result of inferior workmanship or materials. This Guarantee will be passed to the purchaser through the Approved Brandon Medical Distributor where equipment is purchased outside of the United Kingdom.

10.2 Conditions of the Guarantee

- This Guarantee shall only apply to defects or faults that are notified to Brandon Medical Company Ltd. or its Approved Distributor within 12 months of the delivery date.
- This Guarantee covers equipment intended for use in hospitals and healthcare establishments only.
- It is a condition of the Guarantee that the equipment is maintained as recommended in the instruction manuals provided.
- This Guarantee does not cover – and is invalidated by – faults or defects caused by accident, misuse, fair wear and tear, neglect, tampering with the equipment, or any attempt at adjustment or repair other than by Brandon Medical approved Service Technicians.
- In the unlikely event of the equipment requiring repair, please contact the Dealer or Supplier from whom it was purchased. Where this is not possible or where the equipment was purchased direct from Brandon Medical Company Ltd., please contact us directly:
 - Tel: +44 (0)113 277 7393
 - Fax: +44(0)113 272 8844
 - E-mail: enquiries@brandon-medical.com
- The cost of any carriage to and from the Dealer, Supplier, Brandon Medical Company Ltd or approved Service Agent shall be borne by the Purchaser.
- This Guarantee cannot be varied except by written notification by Brandon Medical Company Ltd authorised by a Company Director.
- Under no circumstances whatsoever shall Brandon Medical Company Ltd. be liable in respect of consequential loss.
- The Guarantee is subject to the equipment in question having been paid for in full.
- This Guarantee is offered as an additional benefit to the Purchaser's statutory rights and does not affect these rights in any way.

11 Declaration of Conformity



Brandon Medical Co Ltd hereby declares that this product – Astramax– is in compliance with the EC Directive 93/42/EEC.

The Class 1 medical device specified above conforms to the essential requirements listed in the Annex 1 of the EC Directive 93/42/EEC of 14 June 1993.

Despite any compliance with EMC standards, the device may emit radiation that interferes with adjacent equipment. If this becomes apparent then increase the distance between the two pieces of equipment.



 Brandon Medical Co Ltd | Elmfield Road | Morley | Leeds | LS27 0EL | UK
T: +44 (0)113 277 7393 **F:** +44 (0)113 272 8844 **E:** enquiries@brandon-medical.com
W: www.brandon-medical.com