# SECTOR II RECTANGULAR BOOM POLE JACK-KNIFE INSTALLATION MANUAL

**Centurion Systems (Pty) Ltd**
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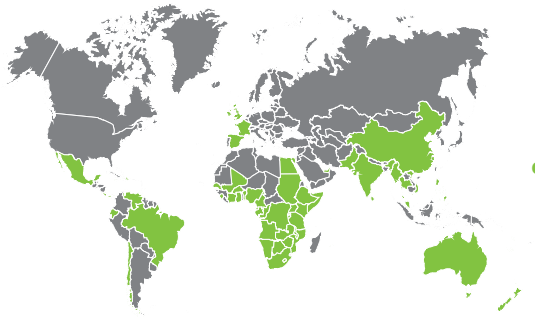

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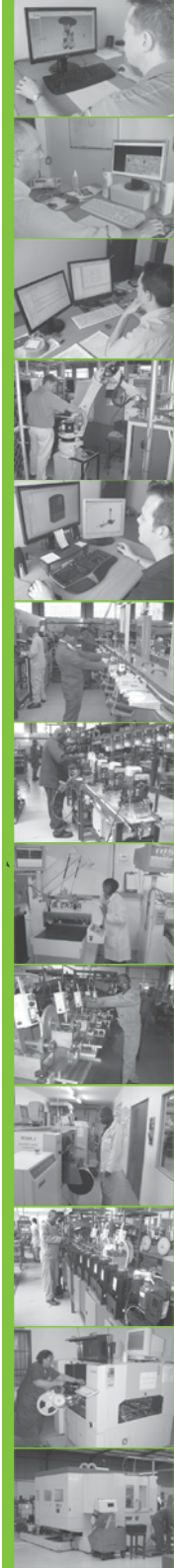

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**Icons used in this manual**

This icon indicates tips and other information that could be useful during the installation.

This icon denotes variations and other aspects that should be considered during installation.

**This icon indicates warning, caution or attention! Please take special note of critical aspects that MUST be adhered to in order to prevent injury.**

# 1. Introduction

**ATTENTION!**

**To ensure the safety of people and possessions, it is important that you read all of the following instructions.**

**Incorrect installation or incorrect use of the product could cause serious harm to people.**

**The installer, being either professional or DIY, is the last person on the site who can ensure that the operator is safely installed and that the whole system can be operated safely.**

## Warnings for the Installer

**CAREFULLY READ AND FOLLOW ALL INSTRUCTIONS before installing the product.**

- All installation, repair, and service work to this product must be carried out by a suitably qualified person
- Do not activate your barrier unless you can see it and can determine that its area of travel is clear of people, pets, or other obstructions
- **NO ONE MAY CROSS THE PATH OF A MOVING BARRIER**. Always keep people and objects away from the barrier and its area of travel
- **NEVER LET CHILDREN OPERATE OR PLAY WITH THE BARRIER CONTROLS**
- Secure all easily-accessed barrier controls in order to prevent unauthorised use of the barrier
- Do not in any way modify the components of the automated system
- Do not install the equipment in an explosive atmosphere: the presence of flammable gasses or fumes is a serious danger to safety
- Before attempting any work on the system, cut electrical power to the operator and disconnect the batteries
- The mains power supply of the automated system must be fitted with an all-pole switch with contact opening distance of 3mm or greater. Use of a 5A thermal breaker with all-pole circuit break is recommended
- Make sure that an earth leakage circuit breaker with a threshold of 30mA is fitted upstream of the system
- Never short-circuit the battery and do not try to recharge the batteries with power supply units other than that supplied with the product, or manufactured by Centurion Systems (Pty) Ltd
- Make sure that the earthing system is correctly constructed, and that all metal parts of the system are suitably earthed

- Safety devices must be fitted to the installation to guard against mechanical movement risks, such as crushing, dragging and shearing
- It is recommended that at least one warning indicator light be fitted to every system
- Always fit the warning signs visibly to the inside and outside of the barrier
- The installer must explain and demonstrate the manual operation of the barrier in case of an emergency, and must hand over the user guide to the user
- Explain these safety instructions to all persons authorised to use this barrier, and be sure that they understand the hazards associated with traffic barriers
- Do not leave packing materials (plastic, polystyrene, etc.) within reach of children as such materials are potential sources of danger
- Dispose of all waste products like packing materials, worn-out batteries, etc. according to local regulations
- Always check the obstruction detection system and safety devices for correct operation
- Neither Centurion Systems (Pty) Ltd, nor its subsidiaries, accepts any liability caused by improper use of the product, or for use other than that for which the automated system was intended
- This product was designed and built strictly for the use indicated in this documentation. Any other use, not expressly indicated here, could compromise the service life/operation of the product and/or be a source of danger
- Anything that has not been specified in these instructions may be considered a risk to your safety, and the safety of others. If you are unsure of an installation matter, please contact your nearest distributor

# 2. Product Identification

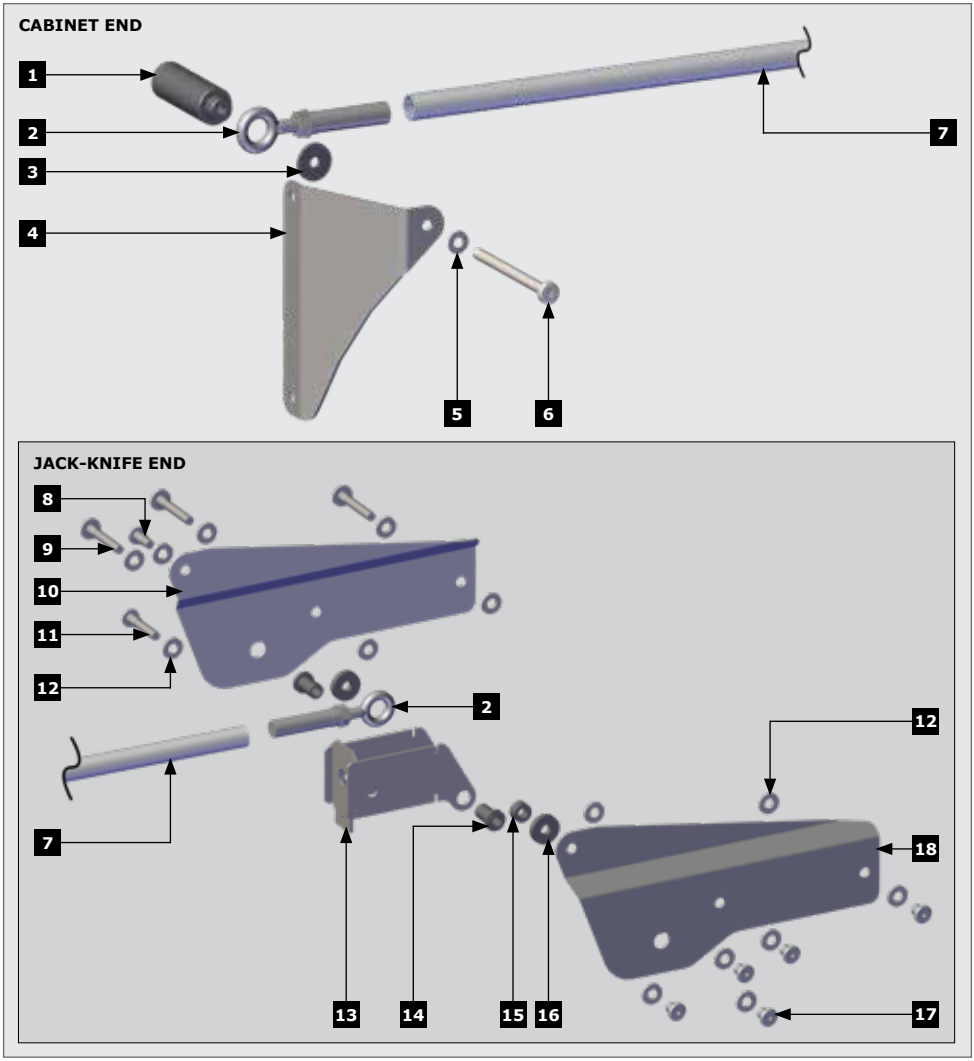


**FIGURE 1. PRODUCT IDENTIFICATION**

1. Jack-knife stand-off
2. M10 expansion bolt
3. Jack-knife stand-off spacer
4. Jack-knife support bracket (Left-hand side)
5. M8 x 16,8 washer
6. M8 x 110 torx taptite bolt
7. Tension rod
8. M8 x 1,25 threaded rod (19mm)
9. M8 x 1,25 threaded rod (52mm)
10. Jack-knife plate (Left)
11. M8 x 1,25 threaded rod (43mm)
12. M10 x 20 washer
13. Jack-knife hinge
14. Jack-knife bottom bush
15. Jack-knife top bush
16. Jack-knife top bush spacer
17. M8 connector cap
18. Jack-knife plate (Right)

# 3. New Site Installation Preparation

## 3.1. General considerations for the Installation

The barrier pole must be cut into two pieces using a hacksaw; the length of the individual pieces will be dependent upon the height of the ceiling – the lower the ceiling, the shorter the inner pole will be. It is not necessary to cut the pole into equal lengths.

## 3.2. Barrier - Jack-knife compatibility

- Maximum supported installed length with a 3m spring is 3m
- Maximum supported installed length with a 4.5m spring is 4m
- Maximum supported installed length with a 6m spring is 5m

**Failure to follow these guidelines may result in unexpected failure of the spring.**

- The supplied tension rod allows for clearance under the Jack-knife pole of 2.5m. This corresponds to a vertical pole length of 1670mm and requires 2650mm of roof height measured from the base of the **SECTOR II** cabinet
- If the roof height is less than 2650mm, then the vertical pole and tension rod should be shortened by the same measurement

## 3.3. Recommended vehicle clearance

Figure 2 shows the recommended minimum clearance when fitting the **SECTOR II** Jack-knife Assembly, giving an indication of the length that the inner pole should be cut to.

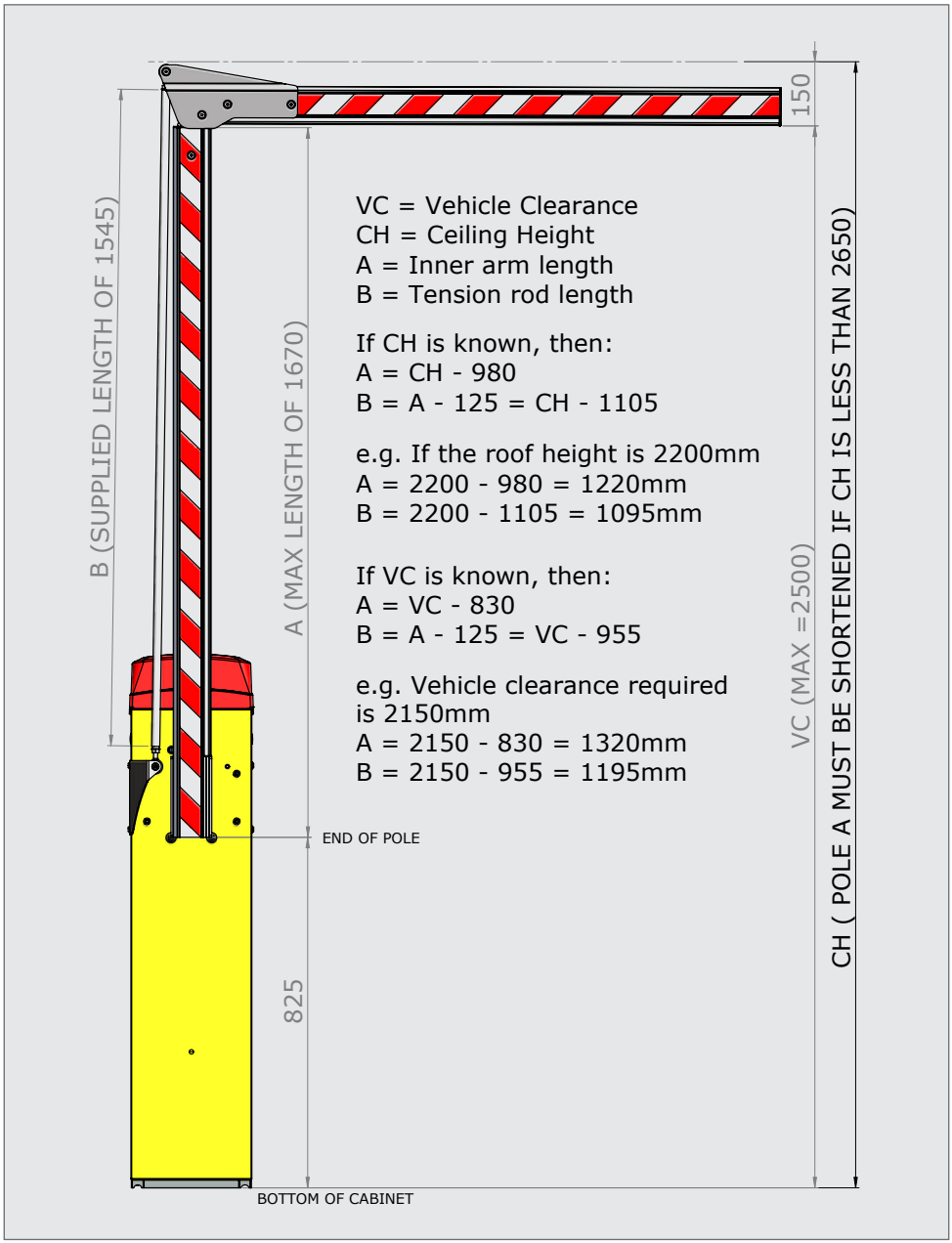


**FIGURE 2. RECOMMENDED MINIMUM CLEARANCE**

# 4. Physical Installation

**The SECTOR II can be installed in different configurations. It is important to fully understand the site requirements before purchasing the unit.**

Look at the site and decide where the unit will be positioned, then determine which direction the pole will face. This will enable you to ascertain whether a right-hand or left-hand barrier is needed for the installation.

1. Identify where you want to mount the Jack-knife Assembly and cut the boom pole into two pieces.

Remove the plastic bumper and silicone plug before cutting the boom pole to size.

2. Carefully remove the end cap from one end of the shortened boom pole.
3. Place the Coupler on the boom pole and align it to the edge of the boom pole.
4. Mark and centre punch the hole positions for drilling.

Keep note of orientation. Holes must be facing away from the direction of traffic and the plastic bumper must be facing downwards.

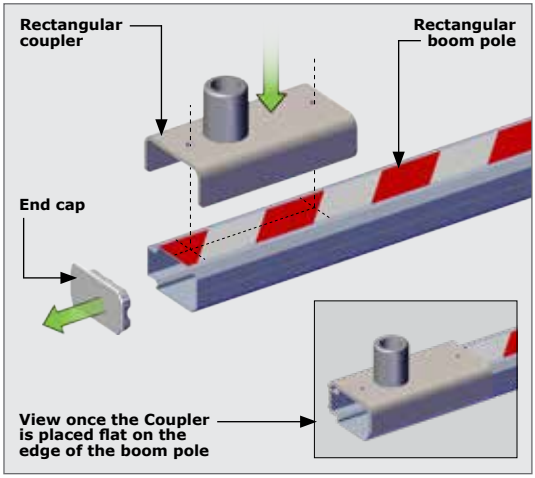


FIGURE 3

5. Drill two 8.5mm holes.

**Holes must be drilled through only one wall of the boom pole.**

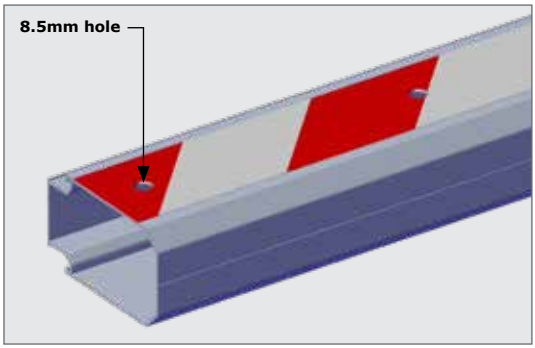


FIGURE 4

6. From the opposite end of the same boom pole, mark and centre punch a hole position 65mm from the edge.

The centre line of the boom pole can be found by a groove in the extrusion.

7. Repeat step 6 on the opposite side of the boom pole.

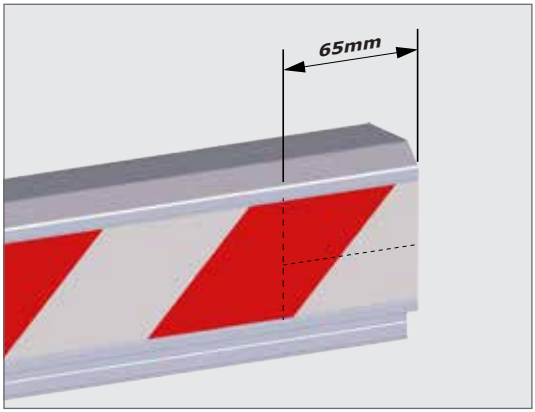


FIGURE 5

8. Drill one 10mm hole.
9. Repeat step 8 on the opposite side of the pole.

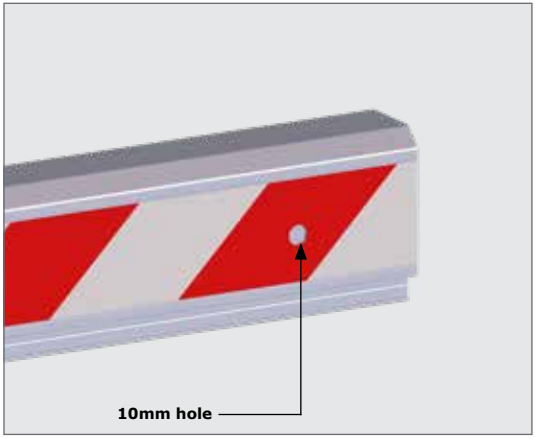


FIGURE 6

10. Slide the Jack-knife hinge into the boom pole.

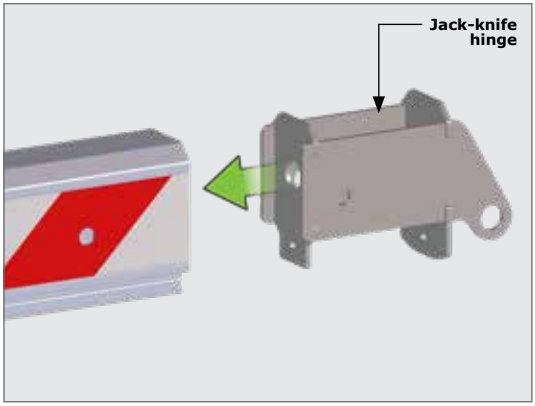


FIGURE 7

11. Fasten the Jack-knife hinge to the boom pole using the M8 threaded rod (43mm) and connector cap.

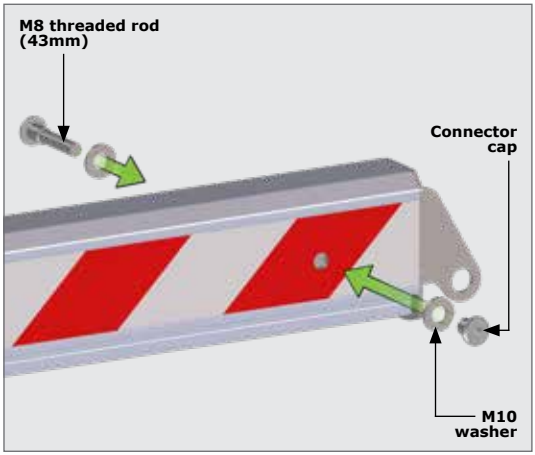


FIGURE 8

12. From the opposite end of the other shortened boom pole, mark and centre punch hole positions at 30mm and 180mm from the edge.

The centre line of the boom pole can be found by a groove in the side of the extrusion.

13. Repeat step 12 on the opposite side of the boom pole.

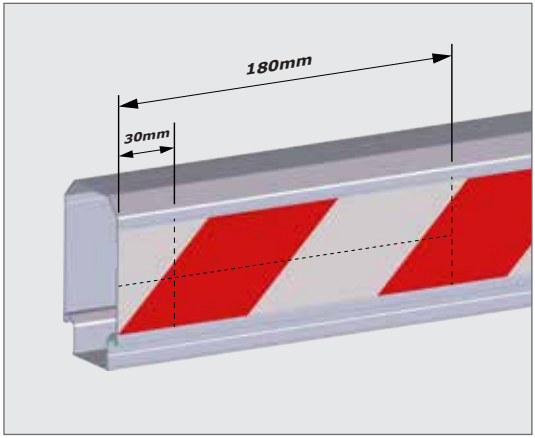


FIGURE 9

14. Drill two 10mm holes.

15. Repeat step 14 on the opposite side of the pole.

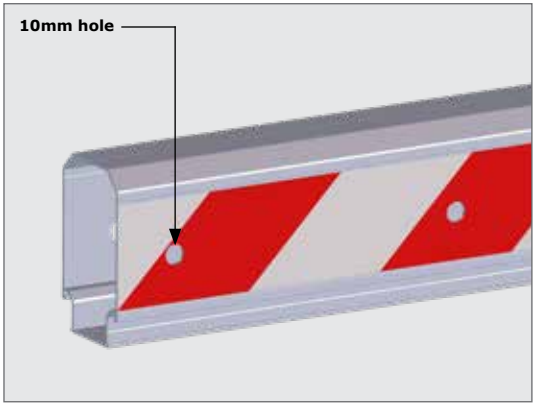


FIGURE 10

16. Place the Jack-knife plates onto the boom pole.

M10 washers need to be placed against the boom pole on both sides before bolting on the plates. For this reason, it is easier to assemble the boom pole on its side.

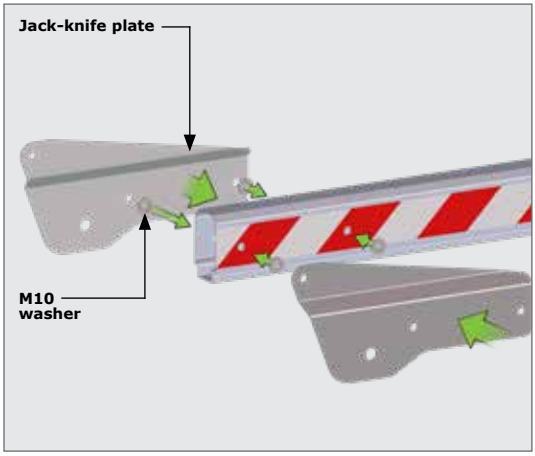


FIGURE 11

17. Loosely fasten the Jack-knife plates to the boom pole using the M8 threaded rods (52mm) and connector caps.

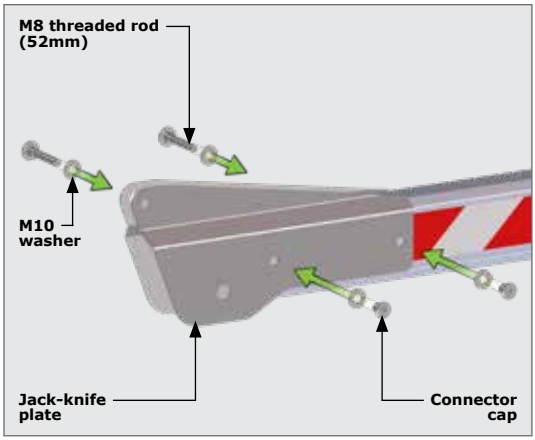


FIGURE 12

18. Insert the Jack-knife bottom bushes into the Jack-knife hinge.

Ensure that the flat side of the "D" on the Jack-knife bottom bushes are facing up, so that they can be easily placed into the Jack-knife plates.

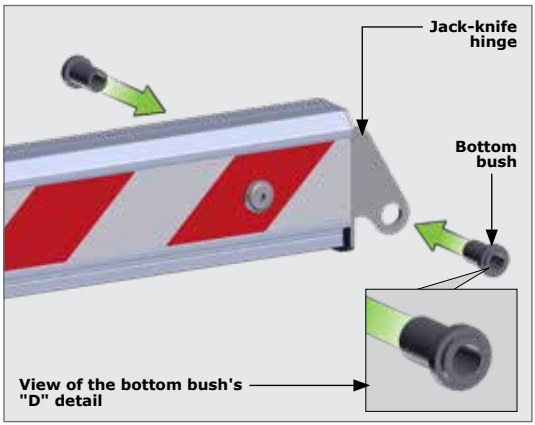


FIGURE 13

19. Align the flat side of the "D" on the Jack-knife bottom bushes to the flat side of the "D" on the Jack-knife plates.

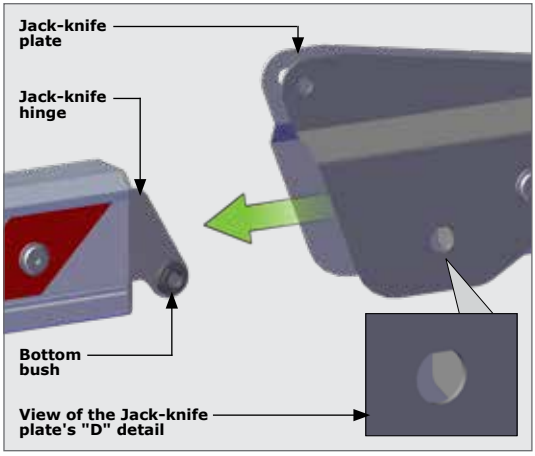


FIGURE 14

20. Fasten using the M8 threaded rod (52mm) and connector cap.

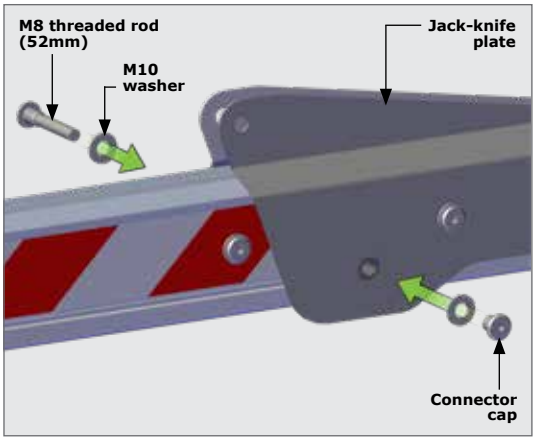


FIGURE 15

21. Cut the Jack-knife tension pole.

See figure 2 for instructions on where to cut the Jack-knife tension pole.

22. Slide the M10 expansion bolts into both ends of the Jack-knife tension pole and fasten them.

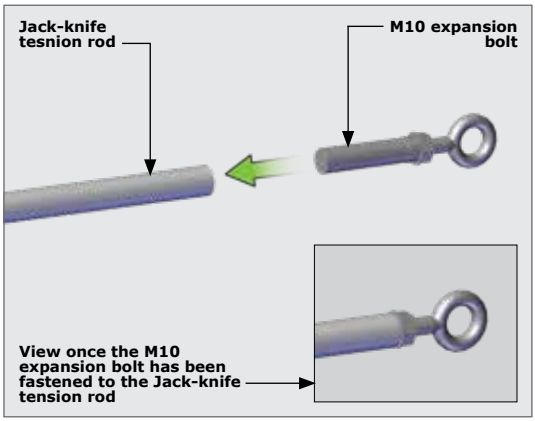


FIGURE 16

23. Fasten one end of the Jack-knife tension rod to the Jack-knife plates using the Jack-knife top bush, top bush spacers, an M8 threaded rod and connector cap.

24. Tightly fasten all the M8 threaded rods (52mm) and connector caps on the Jack-knife plates.

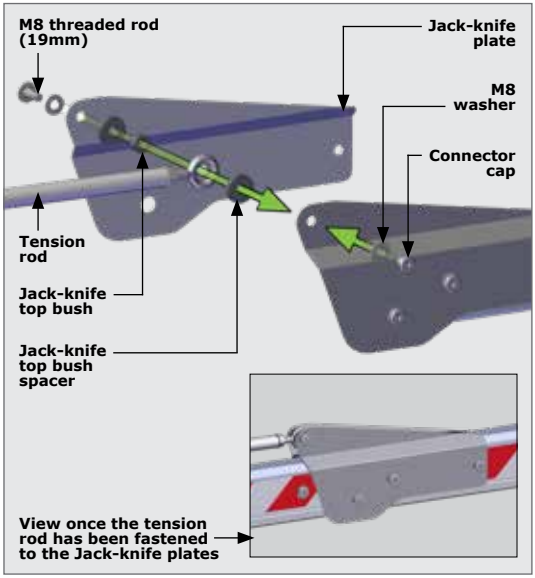


FIGURE 17

25. Vertically align the Coupler to the Spline and fasten it.

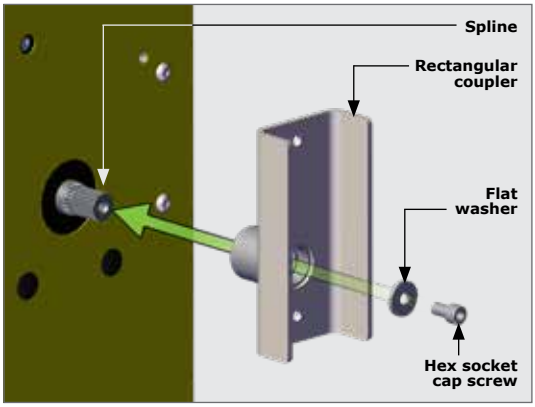


FIGURE 18

26. Insert the boom pole retainer and locate the threaded studs in the drilled holes on the boom pole that will be attached to the coupler.

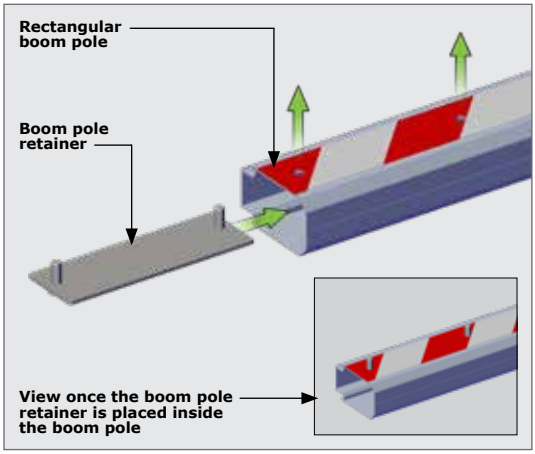


FIGURE 19

27. Place the boom pole with the retainer into the coupler holes.

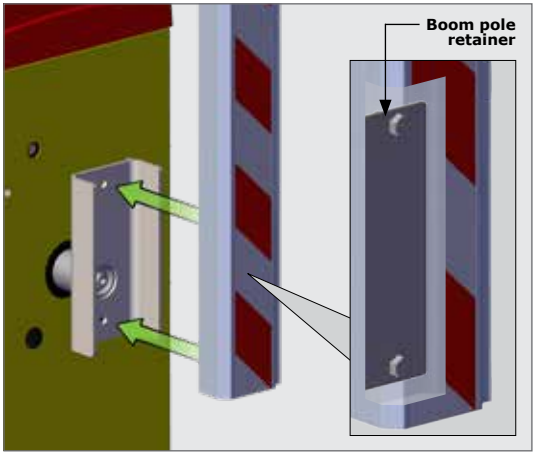


FIGURE 20

28. Fasten the rectangular boom pole to the coupler as shown in Figure 21.

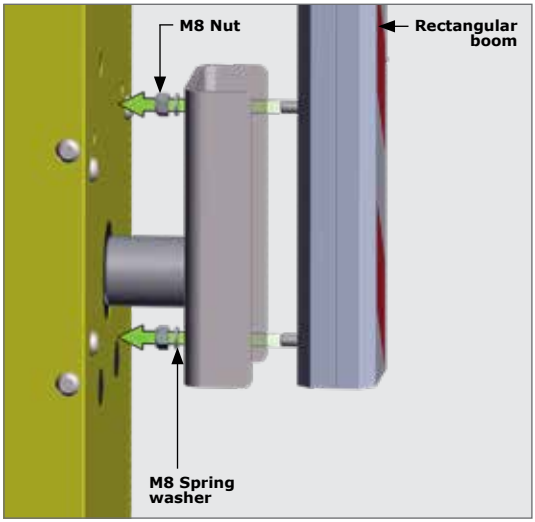


FIGURE 21

29. Fit the support bracket by removing the two existing bolts on the cabinet and then fastening it into place using the same bolts.

The left and right support brackets are supplied with the **SECTOR II**. Use the appropriate support bracket for your installation.

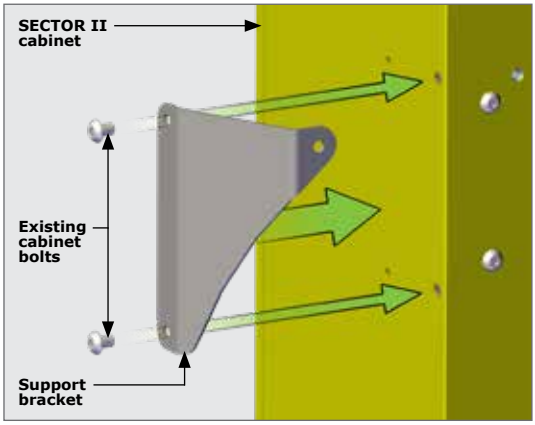


FIGURE 22

30. Rotate the boom poles and coupler so that they are horizontal to the cabinet.

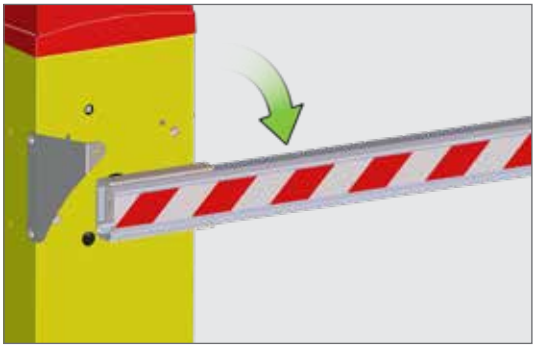

FIGURE 23

31. Fasten the other end of the Jack-knife tension rod to the cabinet and support bracket using the Jack-knife standoff and an M8 Bolt.

You may need to adjust the length of the eyebolt to align the holes by loosening the lock-nut and adjusting it.

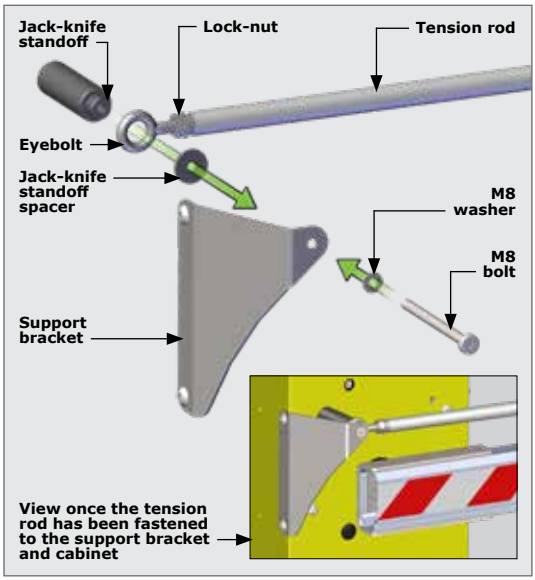


FIGURE 24

32. Replace the end caps, silicon plugs and plastic bumpers.

The plastic bumper needs to be cut to accomodate the lengths of both the Jack-knife boom poles.

Use a loose hacksaw blade and carefully cut the plastic bumper by hand (not with a hacksaw), to prevent the plastic bumper from cracking.

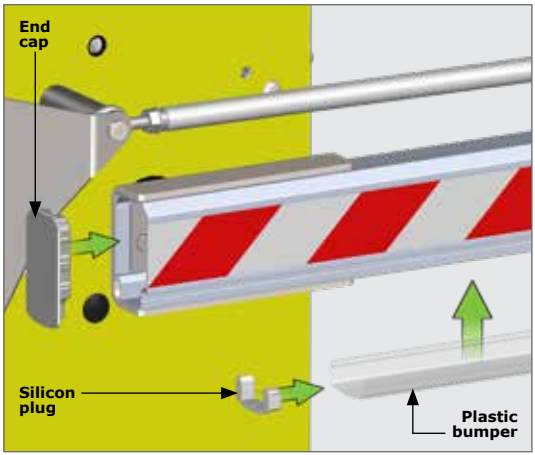


FIGURE 25

Refer to the **SECTOR II** installation manual for instructions on how to level the boom pole attached to the coupler and how to adjust the spring tension.

To level the Jack-knife boom pole, loosen the lock-nut on the eyebolt and adjust it until both the boom poles are horizontally aligned.

# 5. Installation Handover

Once the **SECTOR II Jack-knife boom pole** has been successfully installed and its operation tested, it is important for the operation and safety considerations to be explained to the end-user of the system.

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