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IMPORTANT
Safety Instructions

ATTENTION
To ensure the safety of people, it is important that you read all 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 beginning to install the product;

• Make sure that the barrier is in the raised position
• Switch off mains supply to the barrier
• Isolate the battery supply by unplugging the battery connector on the controller
• Installation of the SECTOR Breakaway Coupler must be carried out by a suitably qualified person
• Prior to installing the SECTOR Breakaway Coupler, please ensure that the area where the boom pole will swing away, in the event that it is dislodged, is clear of people and property, and that a stop is fitted to prevent the boom pole swinging further than 90°
• Do not in any way modify the components
• Do not leave packing materials (plastic, polystyrene, etc.) within reach of children as such materials are potential sources of danger
• Centurion Systems does not accept any liability caused by improper use of the product, or for use other than that for which it 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
• The installer must explain the operation of the SECTOR Breakaway Coupler and any safety hazards to the end user – refer to section “Installation Handover”
• Anything not expressly specified in these instructions is not permitted.
WARNING

Keep fingers and loose clothing clear of the SECTOR Breakaway Coupler
The SECTOR Breakaway Coupler has been designed to allow the boom pole to swing away to the side if struck by a vehicle and reduce the damage that can be caused to the pole.

The SECTOR Breakaway Coupler consists of two main parts, the main body which couples to the output shaft of the barrier and the breakaway coupler sleeve, which hinges to the main body at the back. It uses an effective clipping mechanism to lock the coupler sleeve to the main body. Applying a sideways force unclips the coupler allowing the pole to swing to the side away from the roadway, in the direction of normal traffic flow.

The SECTOR Breakaway Coupler incorporates a micro-switch which activates the moment the coupler unclips and the pole swings to the side. The switch is connected to the emergency stop input on the controller to prevent the SECTOR barrier from being operated.

Having hinged to the side, the pole can be re-engaged for operation by simply swinging it back and pressing it into the coupler.

The SECTOR Breakaway Coupler is retro-fittable on the SECTOR range of barriers. The SECTOR Breakaway Coupler is manufactured from mild steel with ultra-seal corrosion protection.

2. 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.
3. Product identification

1. Profiled nut
2. Boom support plate welded assembly
3. M8 heavy duty flat washer HDG
4. M6 nyloc nut
5. Spring clip
6. M4 nyloc nut
7. Limit actuator
8. Omron D4D-1120N
9. Hinge pin
10. Cap screw M8 x 90
11. Washer spring galvanised M8
12. M6 heavy duty flat washer HDG
13. Boom sleeve
14. Cheese head screw M4 x 30
15. Washer flat head galvanised M8 x 25 x 2
16. Hex socket button head M8 x 25

4. Required tools

- Drilling equipment
- 8.5mm drill bit
- Allen key – 6 mm, 8mm
- Spanner – 17mm
- Centre punch
- Ball-peen hammer
- Marking pencil
5. Site considerations

When installing a traffic barrier, which will utilise a SECTOR Breakaway Coupler, it is important to consider the direction in which the boom pole will swing in the event of a breakaway.

**Boom in lowered position**

The SECTOR Breakaway Coupler is designed to open 90° only, in the direction of normal traffic flow. Depending on the speed at which the breakaway coupler is forced open, the boom pole may extend beyond 90°, in which case it will be necessary for a stop to be installed to ensure that the boom pole will not go beyond the 90° angle.

![Boom in lowered position](FIGURE 3)

A stop must be installed.

**Boom in raised position**

Should the boom pole be knocked out of its coupling while the pole is being raised or in the raised position, the boom pole will fall uncontrolled from the raised position.

![Boom in raised position](FIGURE 4)

It is advisable to keep this area free from obstacles that may be damaged, or personnel that could sustain serious injury.
1. Before mounting the SECTOR Breakaway Coupler to barrier, wire limit switch to controller.

2. Unscrew limit switch cover. Terminate two core cable onto terminals marked NC (normally closed). A cable gland must be used to seal cable entry.

3. Route cable into housing. Use cable gland to seal entry. Slide SECTOR Breakaway Coupler onto barrier shaft ensuring that it is perfectly vertical.
4. Leave a loop in the cable between the limit switch and the barrier housing.

5. Secure the SECTOR Breakaway Coupler with the cap screw provided and tighten (use 8mm allen key).

6. Slide the boom pole onto the SECTOR Breakaway Coupler sleeve until it reaches the end.
7. Use the hole in the SECTOR Breakaway Coupler as a template for marking the coupler pin mounting hole – refer to image.

8. Mark pole on both sides making sure that the pole is not twisted in the process.

9. Slide the pole out so that the mark is away from the SECTOR Breakaway Coupler and the hole can be drilled.
10. Use an 8.5mm drill bit, drill holes as prepared.

11. Slide pole fully back onto coupler sleeve and twist pole through 90° so that hole lines up with coupler pin hole in the SECTOR Breakaway Coupler sleeve.

12. Insert the coupler pin (cap screw) as shown.
13. Fit the spring washer and profiled nut provided and tighten using 6mm allen key and 17mm spanner.

14. Hinge the boom pole back into the main body of the SECTOR Breakaway Coupler and clip into position.

15. The boom pole must be securely held by the locking clip as shown.
7. Boom pole replacement

Should it be necessary to remove the boom pole for whatever reason, follow these instructions.

**WARNING!**
Ensure that the boom pole is in the raised position and the counterbalance spring de-energised

1. Push the pole away from the SECTOR Breakaway Coupler until it unclips.

   ![FIGURE 21](image1)

   **FIGURE 21**

2. Loosen the profile nut using a 17mm spanner and 8mm allen key as shown.

   ![FIGURE 22](image2)

   **FIGURE 22**

3. Remove the hinge pin.

   ![FIGURE 23](image3)

   **FIGURE 23**
4. Slide the pole off the coupler sleeve.

5. To fit the new boom pole, refer to the installation section points 8 to 17.
- Wire the normally closed contacts of the limit to the Lck/Stp and Com inputs on the controller
- Configure the control card so that the Lck/Stp input behaves as an Emergency Stop
  - Setup menu level two, sub-level four
  - Select Lck input as ESTOP (Emergency Stop)
9. Installation handover

Once the SECTOR Breakaway Coupler 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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