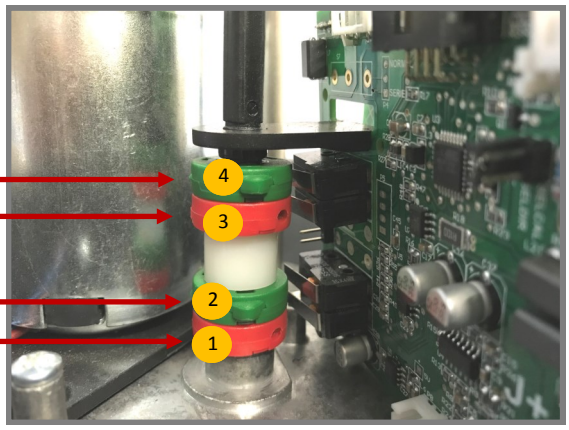
How to adjust the cams.

Actuator Models : J3C 140-300/J3C-S20-S85

Motor stop cam arrangement in J3C Models 140 & 300.
The arrangement is the same in Models J3C/J3CS 20-85.



WHAT EACH CAM IS FOR:

4 Green cam 4 confirms the OPEN position
3 Red cam 3 confirms the CLOSED position

2 Green cam 2 stops the motor in the OPEN position
1 Red cam 1 stops the motor in the CLOSED position

OVERVIEW/ FACTORY SETTINGS:

The cams are colour coded, red indicates the cam relates to the closed position, green relates to the open position. The two lower cam stop the motor in the open or closed position, the upper cams provide remote confirmation.

Due to hysteresis in the switches, and slight backlash in the gears, the upper confirmation cams are set around 3° ahead of the corresponding lower motor stop cams, to ensure that the confirmation is provided before the motor stops.

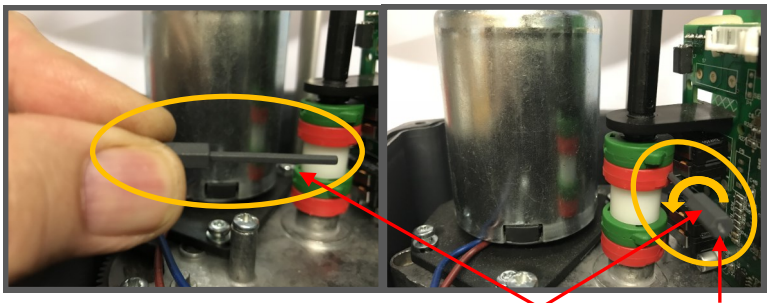
The lower motor stop cams are accurately set at the factory at 0° (closed) and 90° (open).

CAM ROTATION:

Red cams rotate clockwise into their corresponding micro-switches, green cams rotate counter-clockwise into their switches.

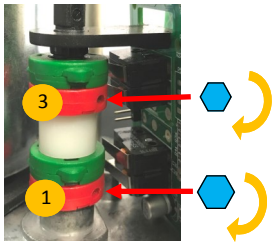
ADJUSTING MECHANISM AND SUPPLIED TOOL:

The cams are worm drive, driven by inserting a small adjusting tool. A plastic hexagonal hand adjusting tool is suppled with the actuator, either inside the manual override hand wheel (J3C-140/300)or held by a cable tie around the motor (S20/85).



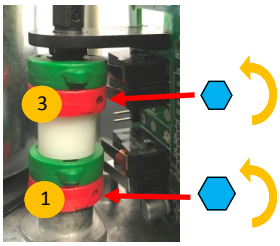
ADJUSTING ZERO (CLOSED POSITION) BEYOND 0°

Red cam 1 stops the motor in the CLOSED position. Turning the tool clockwise runs the motor longer so the stop position goes past 0°.
Red cam 3 confirms the CLOSED position so needs setting around 3° before the motor stops.

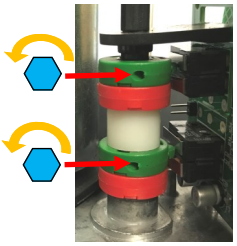


ADJUSTING ZERO (CLOSED POSITION) LESS THAN 0°

Red cam 1 stops the motor in the CLOSED position. Turning the tool counter-clockwise stops the motor sooner so the stop position falls short of 0°.
Red cam 3 confirms the CLOSED position so needs setting around 3° before the motor stops.

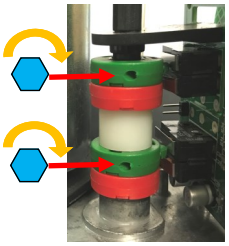


ADJUSTING THE SPAN (OPEN POSITION) BEYOND 90°



Green cam 2 stops the motor in the OPEN position. Turning the tool counter-clockwise runs the motor longer so the stop position goes past 90°.
Green cam 4 confirms the OPEN position so needs setting around 3° before the motor stops.

ADJUSTING THE SPAN (OPEN POSITION) LESS THAN 90°



Green cam 2 stops the motor in the CLOSED position. Turning the tool clockwise stops the motor sooner so the stop position falls short of 90°.
Green cam 4 confirms the OPEN position so needs setting around 3° before the motor stops.

CHECKING THE CAM SETTINGS

Method 1 - To be carried out by qualified electricians only:
Connect power within the range specified on the actuator's ID label, and power to the volt free end of travel confirmation plugs on the actuator's cover, whilst the cover is still removed. Send open and close commands and check the final motor stop positions, and ensure that the position confirmations are made ahead of the motor stop positions. Should positional errors remain, adjust the relevant cam accordingly, and re-test. Repeat this until the desired positions are confirmed.

Method 2 - Checking without connecting external power:
Place the actuator in 'manual' by switching the external lever from 'AUTO' to 'MAN'. Turning the hand wheel rotates the output shaft to which the cams are connected. When a switch is made by the cam, a positive click can be heard. When the click is heard, stop turning the hand wheel and check the position. Should positional errors remain, adjust the relevant cam accordingly, and re-test. Repeat this until the desired positions are confirmed.

NOTE ON REPLACING THE ACTUATOR'S COVER

A risk exists of trapping internal cables when replacing the actuator's cover, which can result in damage to the cables and/or malfunction of actuator operation. To reduce the risk, ensure that the internal cables are not crossed or twisted before attempting to replace the cover, and are clear of the motor when pushing the lid over the shaft that protrudes through the cover. Ensuring that no cables are trapped between the base and cover when pushing the cover to meet the base, the cover can be felt to sit comfortably on top of the base, and fitting tightly to the base. If this is not the case, a cable/ cables are trapped - lift the cover slightly, push the trapped cable inside the actuator and try to push the cover down again. When satisfied, replace the cover cap screws.

FINAL FUNCTION TEST TO CONFIRM SETTINGS

Once the cover is replaced, re-connect the power and position confirmation DIN plugs and send the actuator open and close commands, checking that (1) the position confirmation switch is made ahead of the motor stop position and (2) the open and closed motor stop positions are correct.
The actuator can now be put into service.