# Installation and Operation

# CBS ArcSafe®

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A Group CBS Company

# RSA-105B

**For LA/LAF 600-800 Amp (Yellow Zinc or Gray Plastic Face, Manual Operated**
Includes LA/LAF-600, 600A, 600AF, 600B, 600F, 800, 800A, 800B

**WARNING**
RSA should not be used without first engaging applicable interlocks.
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### RRS-1 – *Universal Remote Racking System (Rotary)*

The CBS ArcSafe® RRS-1 is a universal remote racking system capable of remotely installing and removing rotary style draw out circuit breakers without requiring any modification to the existing switchgear. Operation of the simple to use RRS-1 is quite intuitive and requires only minimal setup. When used properly, the RRS-1 allows technicians to remain outside of the arc flash boundary during the potentially dangerous racking operation.

### RRS-2 – *Universal Remote Racking System (Non-Rotary)*

The CBS ArcSafe® RRS-2 is a universal remote racking system capable of remotely installing and removing non-rotary style draw out circuit breakers without requiring any modification to the existing switchgear. Operation of the simple to use RRS-2 is quite intuitive and requires only minimal setup. When used properly, the RRS-2 allows technicians to remain outside of the arc flash boundary during the potentially hazardous racking operation.

### RRS-3 – *Application Specific Remote Racking System (Rotary And Non-Rotary)*

The CBS ArcSafe® RRS-3 product line is made up of various application specific remote breaker racking devices. Each standalone system allows service personnel to remotely install and remove a particular type of circuit breaker safely while stationed safely outside of the arc flash boundary during the potentially dangerous operation. The lightweight and compact design of the RRS-3 systems makes them ideal for hard to access areas where space is at a premium.

### RRS-4 – *PLC Based Universal Remote Racking System (Rotary)*

The CBS ArcSafe® RRS-4 universal remote racking system is an updated PLC based version of the best selling RRS-1. The dual mode, source programmable, PLC based control system offers two different operating modes to choose from based on user preference or the application. The RRS-4 is capable of remotely installing and removing rotary style draw out circuit breakers without requiring any modification to the existing switchgear, allowing users to remain outside of the arc flash boundary during the potentially hazardous racking operation.

### RSA – *Remote Switch Actuator*

The CBS ArcSafe® Remote Switch Actuator (RSA) product line is made up of various application specific remote operating devices. These products allow service personnel to remotely perform all aspects of an operation for a particular type of electrical equipment from outside the arc flash boundary – reducing or eliminating the possibility of serious injury or death resulting from an arc flash.

### RSO – *Remote Switch Operator*

During a remote operation, the CBS ArcSafe® RSO functions as both the power supply and user interface for the device being remotely operated by the user. When paired with an applicable CBS ArcSafe® device, this portable standalone system allows service personnel to remotely perform a racking or switching procedure from outside the arc flash boundary – reducing or eliminating the possibility of injury or death resulting from an arc flash

# 1 Installation

1. Ensure that the breaker to be operated is free from obstructions that may interfere with proper installation of the RSA



2. Remove the breaker charging handle, then remove the lock pin and charging handle adapter from the RSA, and insert the charging handle adapter from the RSA into the breaker's charge mechanism. Be sure to replace the lock screw from the breaker to hold the cgarging adapter in place.

3. Pull out the closing lever on the RSA (below left), and carefully place the RSA on the front of the breaker. Ensure that the frame of the RSA is fully seated against the breaker face, and that the locator blocks on the RSA are resting on the top of the breaker escutcheon (below right).
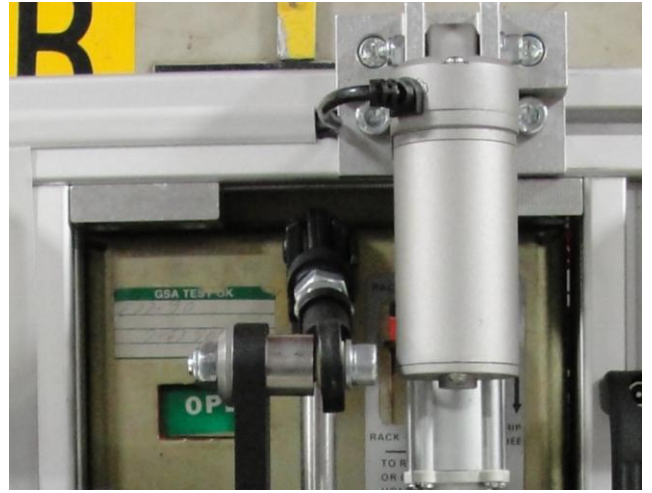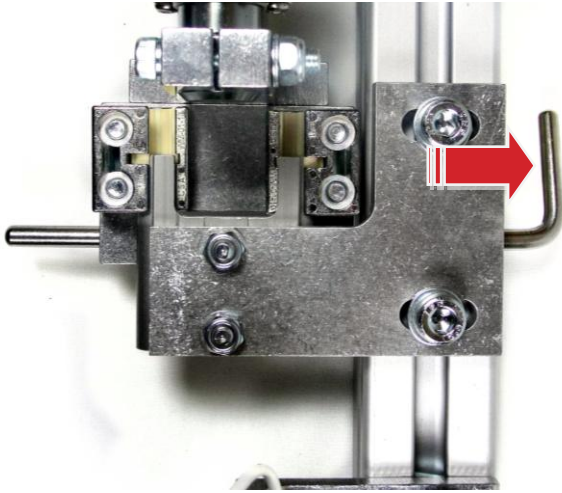


4. Ensure the Trip solenoid on the RSA is aligned over the trip button on the front of the switch (below left) and that the Close lever on the RSA is .aligned properly over the Close lever on the breaker (below right).
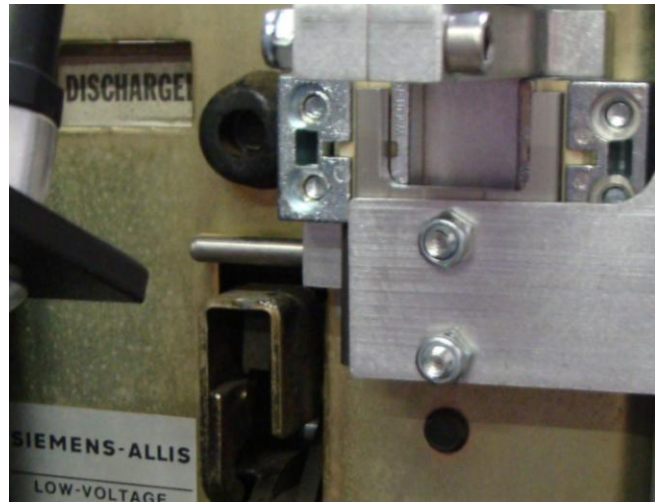


5. Ensure the magnets are fully seated against the switch cover and then turn the handles of the twist-lock magnets 180° to lock the RSA in place.
6. Re-attach the charging handle to the RSA using the lock pin removed earlier.

The RSA is now ready for operation.

# 2 Operation

1. Ensure that the RSA is properly installed.  See the Installation Section for detailed instructions.
2. Connect the cables from the RSO-IIID to the RSA.
3. Turn the power switch on the RSO-IIID to the ON position.
4. Program the settings for the RSA into the RSO-IIID. These settings can be found on the placard on the RSA.  For more information on programming the RSO-IIID please refer to the RSO-IIID Technical Manual.
5. Ensure that the Auto-Retract (AR) function is set according to the instructions on the setting placard on the RSA. For detailed information on the AR function see the RSO-IIID instruction manual
6. Exit the arc flash boundary
7. Press and hold the CHARGE/CLOSE button to actuate the charging arm and charge the mechanism, and then close the breaker.
8. Press the TRIP button to trip the breaker.

# 3 Adjustments

The RSA comes adjusted from the factory to fit most common configurations, and should not need to be adjusted in most cases. However, if adjustments do need to be performed, it is recommended that they be done on de-energized and isolated equipment to prevent possible damage or injury.

## 3.1 Switch Travel Limits
The RSA has travel stops on it to prevent over-travel and damage of the handle operator during operation.

### 3.1.1 CHARGE Travel Limit
1. Loosen the lock screw on the limit switch cam as shown.



2. Install the RSA on a de-energized, out of service breaker, as described in the Installation section.
3. Manually pull the RSA's actuator arm out, or jog using the RSA until the actuator arm has reached the end of travel.
4. Rotate the limit switch cam to the limit switch until a slight audible click is heard.
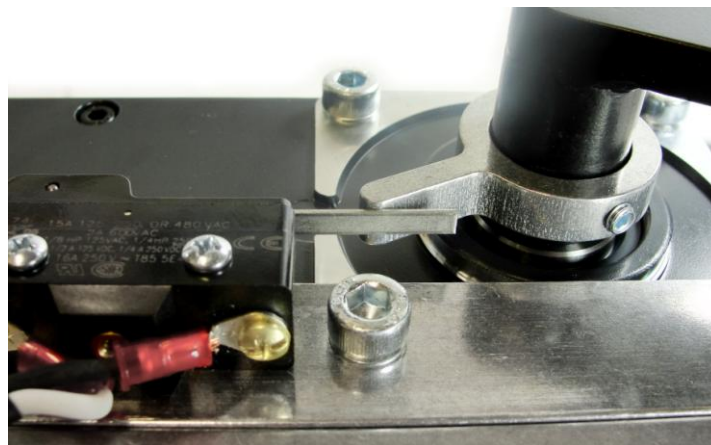


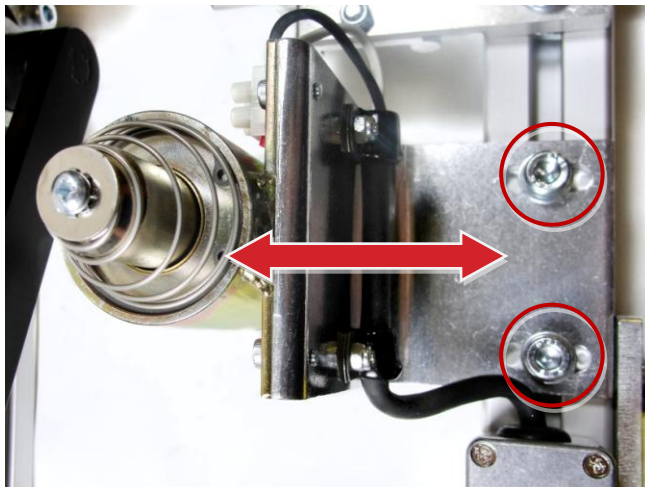5. Re-tighten the lock screw from Step 1.

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## 3.2 Trip Button Actuator Position Adjustment

The position of the trip button actuator can be adjusted as needed to properly align with the trip button on the breaker.

### 3.2.1 Horizonal Adjustment

To adjust the horizontal alignment of the trip switch:

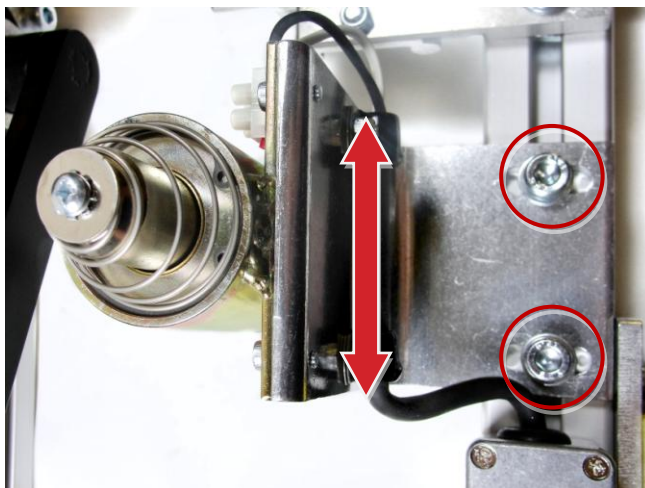1. Loosen the two bolts on the plate for the trip actuator, as shown.



2. Slide the actuator left or right to align the button actuator as needed in the slots.
3. Re-tighten any loosened bolts when finished.

### 3.2.2 Vertical Adjustment

To adjust the veritcal alignment of the trip switch:

1. Loosen the two bolts in the on the plate for the shunt trip linear actuator, as shown.



2. Slide the actuator up or down to align the button actuator as needed.
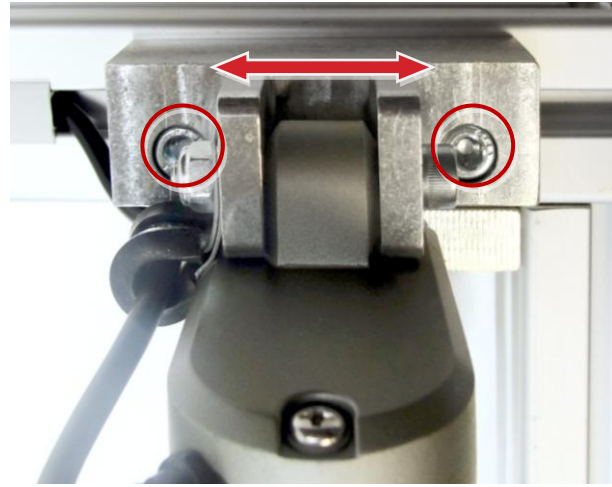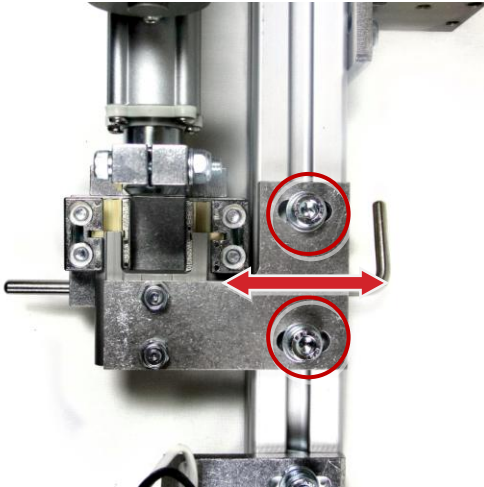3. Re-tighten any loosened bolts when finished.

## 3.3 Close Actuator Position Adjustment

The position of the close button actuator can be adjusted as needed to properly align with the close lever on the breaker.

### 3.3.1 Horizonal Adjustment

To adjust the horizontal alignment of the close switch:

1. Loosen the two bolts on the plate for the close switch, as well as the two bolts on the linear actuator, as shown.



2. Slide the actuator left or right to align the lever with the Close actuator on the breaker.
3. Re-tighten any loosened bolts when finished.

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## 3.4 Magnet Position Adjustment

The position of the mounting magnets on the RSA can be adjusted to accommodate obstructions on the breaker and cabinet door.

### 3.4.1 Horizonal Adjustment

To adjust the horizontal alignment of the magnets:

1. Loosen the two bolts on each magnet plate to be adjusted, as shown.



2. Slide the magnet left or right to avoid any obstructions as needed.
3. Re-tighten any loosened bolts when finished.

# Notes

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