

# Installation and Operation

# CBS ArcSafe®

*Distance Is Safety®*

A Group CBS Company

## RSA-91M

For GE Power Break Circuit Breaker  
Manually Operated, 800-2000A (No Trip Unit Visible On Panel)



## Distance *is* Safety®

WHAT STANDS  
BETWEEN YOU AND  
ARC-FLASH DANGER?

**WE  
DO.**

2616 Sirius Road | Denton, TX 76208 | (877) 4-SAFETY | [www.cbsarcsafe.com](http://www.cbsarcsafe.com)

Rev. 10/13/2014

## More Products by CBS ArcSafe®

### **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

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# 1 Installation

## DANGER!

Before servicing any breaker, make sure that it matches the breaker discussed. If the breaker does not match the breaker described above, please call CBS ArcSafe® for more information.

## ATTENTION!

The location of certain items such as mimic bus, stickers, and/or placards may interfere with the proper installation of the RSA. Please remove or reposition these items before installing the RSA.

1. Ensure that the breaker is free from any obstruction that may interfere with the proper installation of the RSA.



2. Manually rotate the handle adapter to match to position of the breaker handle.
3. Place the RSA on the face of the breaker ensuring that the handle actuator is properly seated around the operating handle, as shown.



4. Ensure the locators on the RSA are properly positioned, and seated flush against the operating handle housing, as shown.



5. To attach the RSA to the breaker turn the handles of the twist-lock magnets 180° clockwise.
6. Ensure that both solenoids are correctly aligned over the breaker pushbuttons as shown. If the solenoid positions need to be adjusted, see the Adjustments section.



The RSA is now ready for remote operation



## 2 Operation

### ATTENTION!

Please ensure that all cables are clear of moving parts. Failure to do so may result in damage to cables and/or actuator.

### ATTENTION!

Please ensure that the batteries to the RSO-IIID are fully charged or that the unit is plugged into AC power.

For detailed instructions on the operation of the RSO-IIID please see the RSO-IIID Manual.

7. Ensure that the RSA is properly installed. See the Installation Section for detailed instructions.
8. Connect the cables from the RSO-IIID to the RSA.
9. The three pin twist type cable will attach to the motor control box on the RSA.
10. Turn the power switch on the RSO-IIID to the ON position.
11. Ensure that the Auto-Retract (AR) function is set according to the placard on the RSA. For detailed instructions on the AR function see the RSO-IIID manual
12. 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.
13. Exit the arc flash boundary
14. Once the timers have been properly set press the CHARGE/CLOSE button to actuate the motor arm and charge the breaker.
15. Press CLOSE to close the breaker.
16. Press TRIP 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.

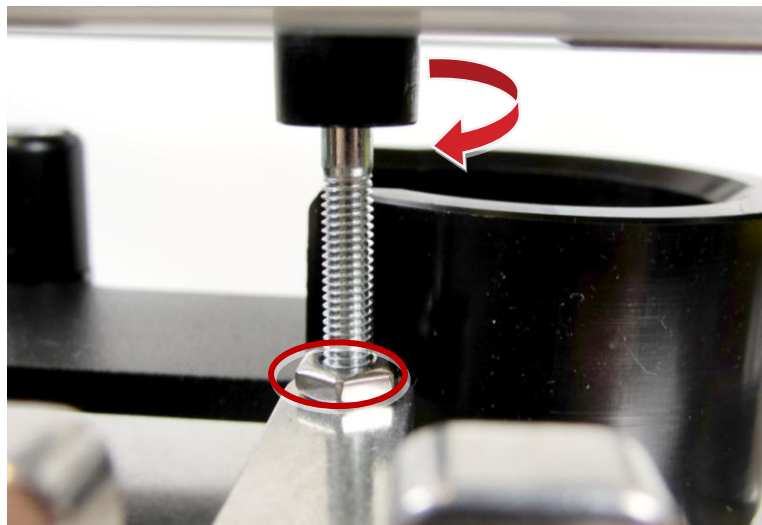
### 3.1 Plunger Depth Adjustment

The operation depth of the solenoids on this RSA can be adjusted to accommodate differences in the button-press depth requirements.

1. To increase the solenoid plunger depth, loosen the nut on the solenoid plunger, and turn the black end counter-clockwise. Test the depth by operating the appropriate plunger with the RSO, and re-tighten the nut.



2. To decrease the solenoid plunger depth, loosen the nut on the solenoid plunger, and turn the black end clockwise. Test the depth by operating the appropriate plunger with the RSO, and re-tighten the nut.

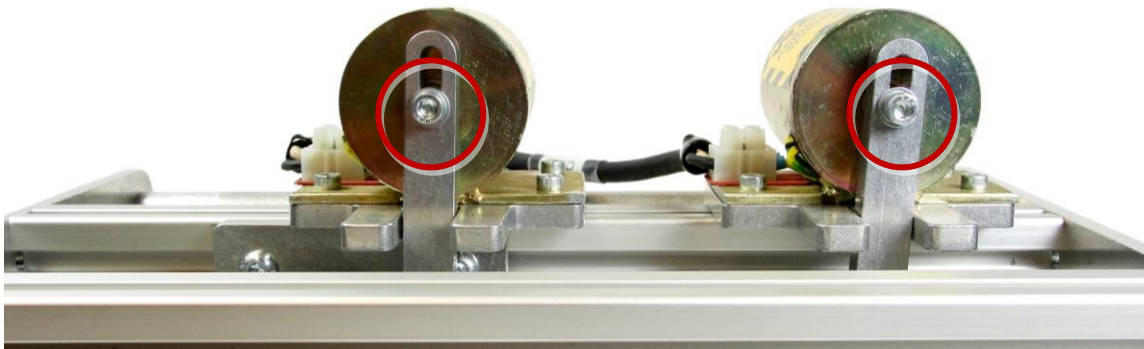


## 3.2 Solenoid Position Adjustment

The location of the solenoids on the RSA can be adjusted in order to ensure they make optimum contact with the breaker pushbuttons.

### 3.2.1 Horizontal Adjustment

1. Loosen the two bolts holding the solenoid arms in place, as shown.



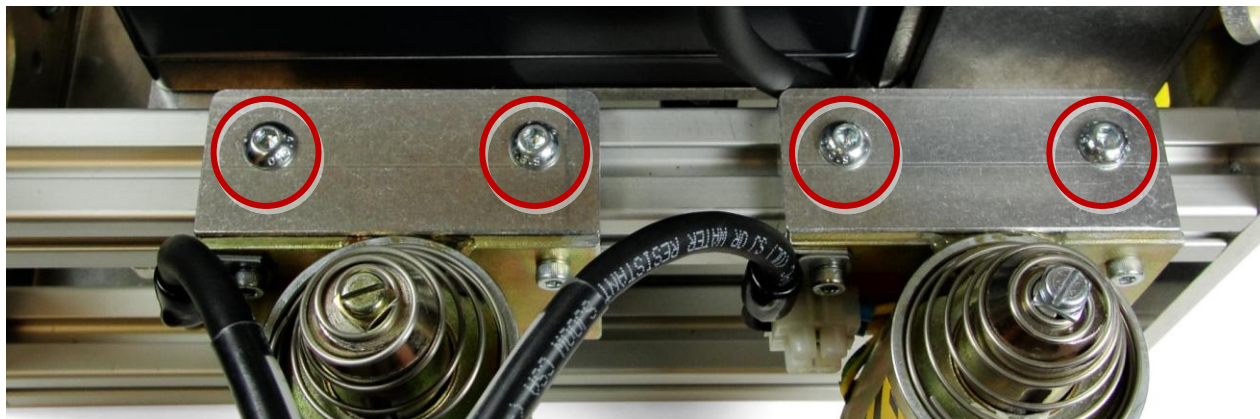
2. Slide the solenoid arms out or in as required to properly align the solenoids with the breaker pushbuttons, as described in the Installation section.



3. Re-tighten any loosened bolts.

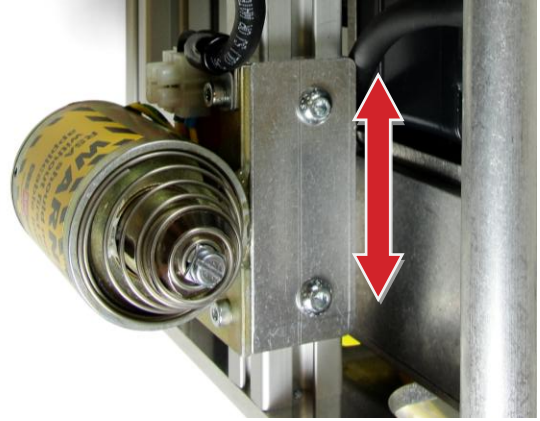
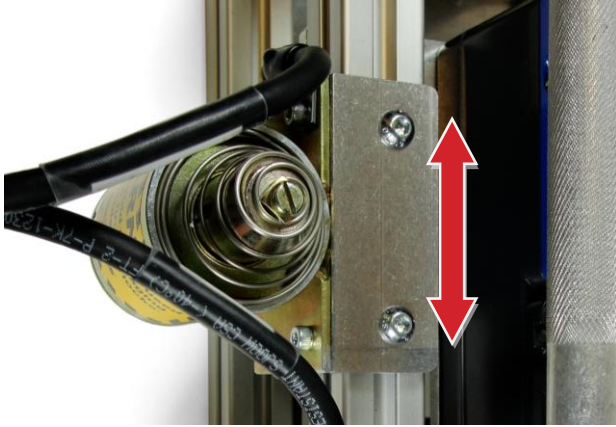
### 3.2.2 Vertical Adjustment

1. Loosen the two bolts on each solenoid that needs to be adjusted.





- Slide the solenoid assembly as required to properly align the solenoids with the breaker pushbuttons, as described in the Installation section.

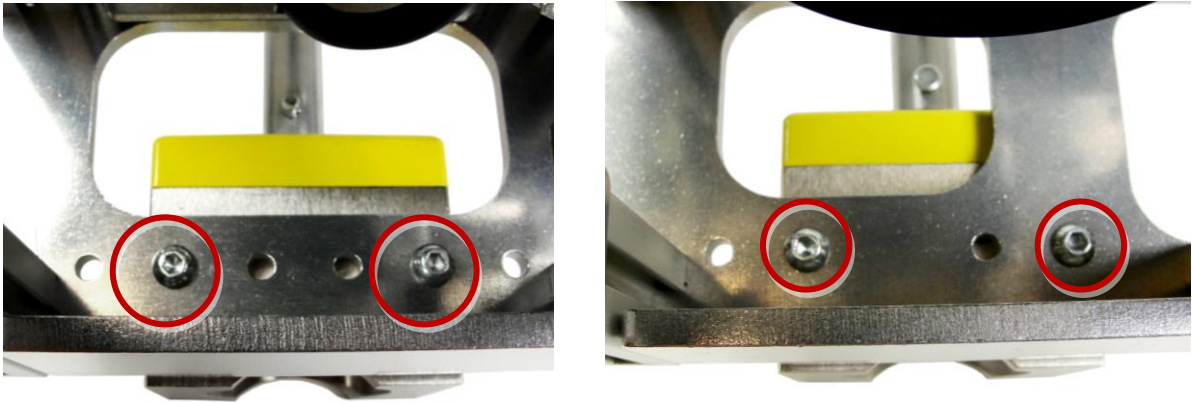


- Re-tighten any loosened bolts.

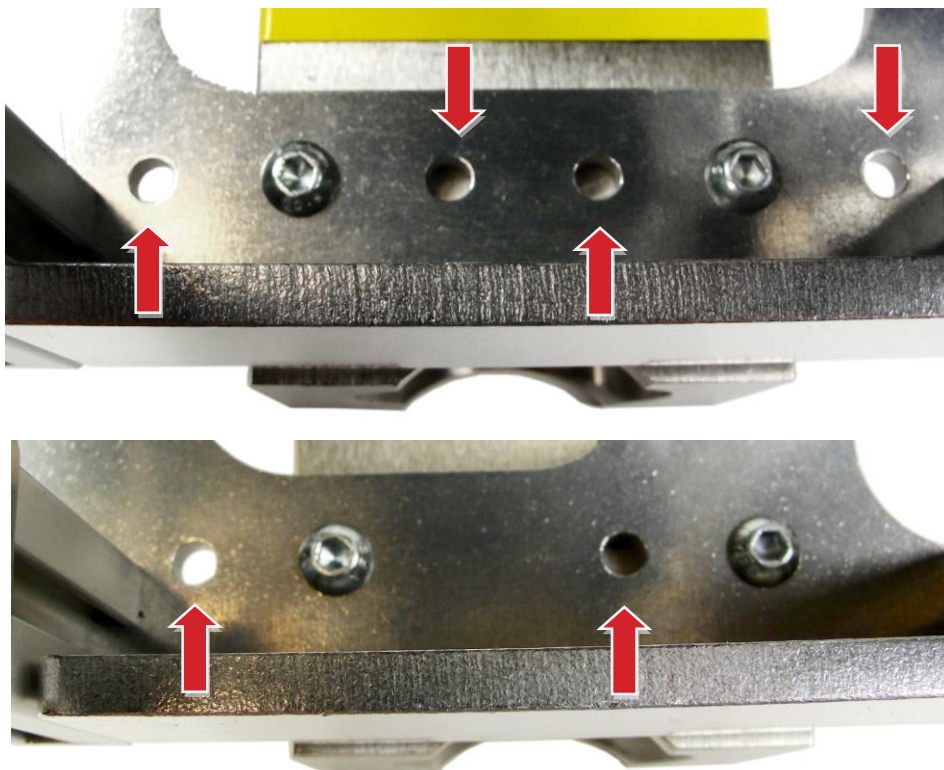
### 3.3 Magnet Adjustment

The position of the magnets on the RSA can be adjusted in order to avoid interference from items mounted to the switch door.

1. Loosen and remove the two bolts on each magnet, as shown below.



2. Move the magnet to the next set of holes that will permit the RSA to be installed without interference.

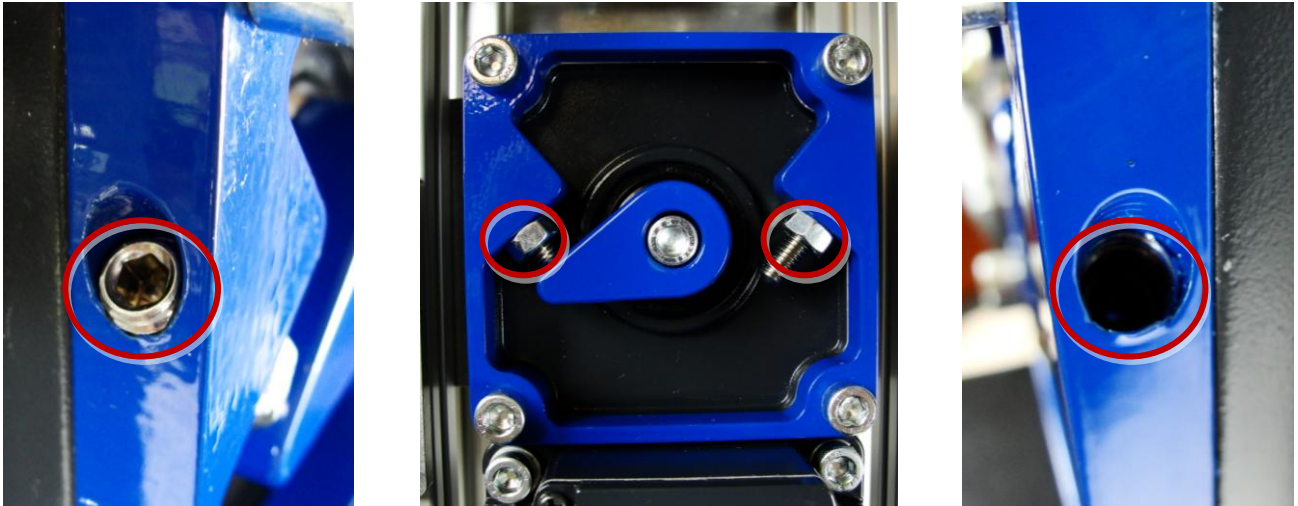


3. Re-insert and tighten the bolts.

### 3.4 Travel Adjustment

The travel length for the motor may be adjusted to avoid damage to the operator handle.

1. Install the RSA on the operator handle as described in the Installation section.
2. Loosen the nut on each of the two travel stops, then back out each stop screw.



3. With the charging handle and RSA operator arm fully at rest, screw in the resting travel stop towards the stop cam until it contacts as shown. Tighten the lock nut afterwards to hold it in place.



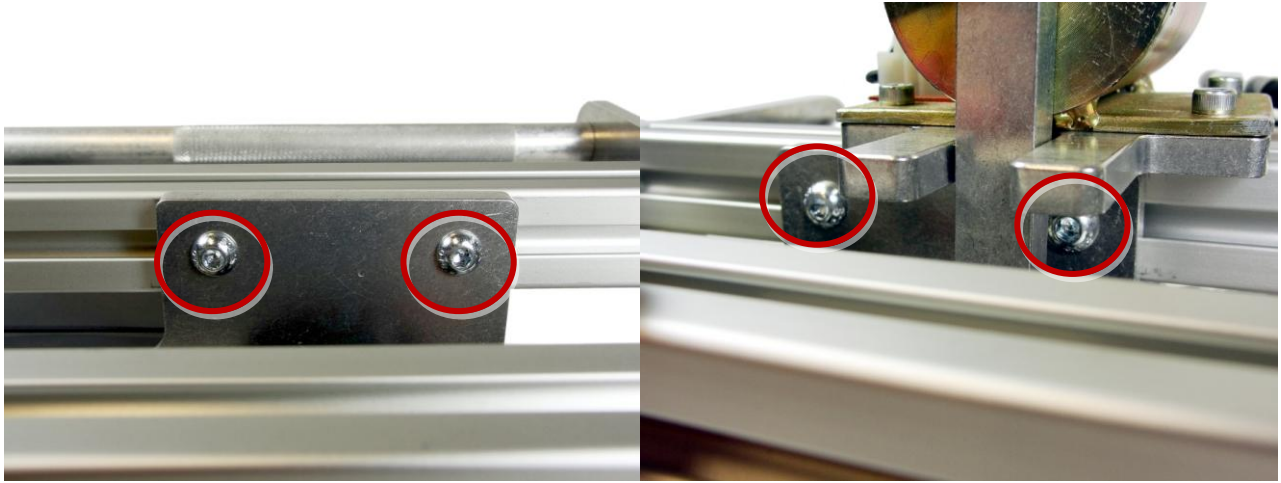
4. Move the charging handle and RSA operator arm fully to the CHARGED position, then screw in the travel stop until the stop contacts the cam as shown. Tighten the lock nut afterwards to hold it in place



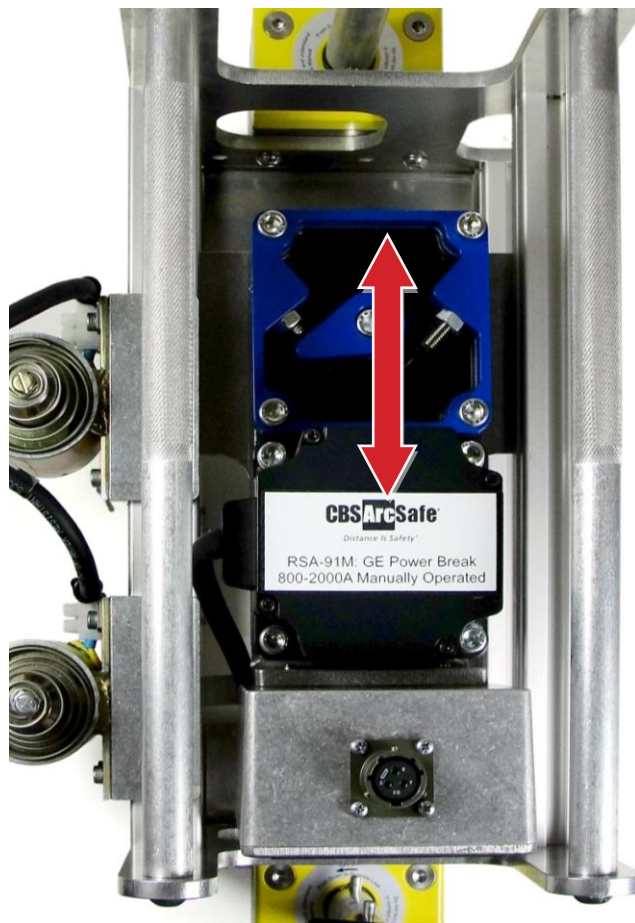
### 3.5 Operator Position Adjustment

The position of the handle operator on the RSA can be adjusted slightly to accommodate differences in handle layout.

1. Loosen the four bolts on the operator plate.



2. Slide the operator up or down as required to achieve proper alignment.



3. Install the RSA as described in the Installation section to ensure that the parts align as desired.
4. Re-tighten the bolts loosened in Step 1.







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RSA-91M  
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2616 Sirius Road  
Denton, TX 76208  
Tel: 877-4-SAFETY  
Fax: 940-382-9435  
Website: [www.CBSArcSafe.com](http://www.CBSArcSafe.com)  
Email: [info@CBSArcSafe.com](mailto:info@CBSArcSafe.com)

**DANGER!**

Ensure that personnel using this equipment are adequately trained in the operation of the switchgear they are planning to work with; that they are correctly stationed outside the arc flash boundary; and that they comply with all applicable Federal, State, Local, and In-house safety regulations and procedures. Attention should be given to distance, angle, and personal protective equipment (PPE).