

# CBS ArcSafe®

Distance Is Safety®

A Group CBS Company

Installation and Operation

## RSA-80

For Westinghouse DB-15/25 225-600A

3 Position Drawout, Rectangular Trip Button  
Above Charging Handle



Distance *is* Safety®

WHAT STANDS  
BETWEEN YOU AND  
ARC-FLASH DANGER?

WE  
DO.

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Rev. 12/9/2016

## 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.

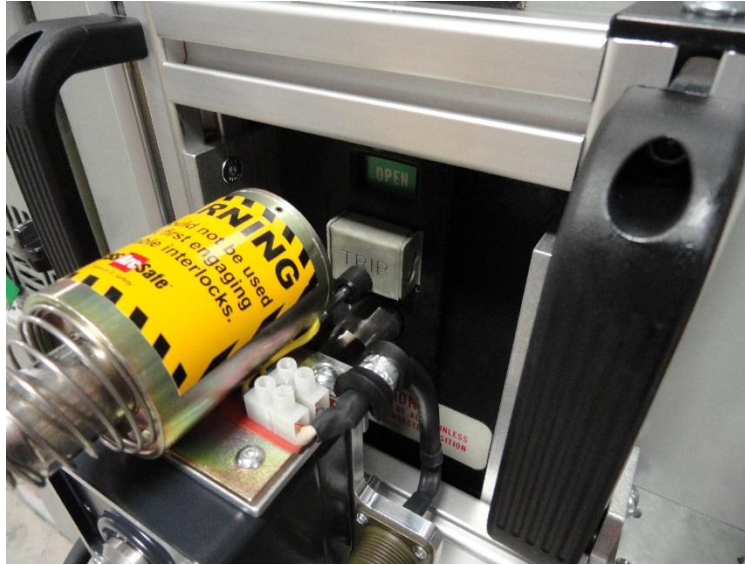
1. Remove the charging handle from the breaker and ensure that the breaker is free from any obstruction that may interfere with the proper installation of the RSA.



2. Place the RSA on the face of the breaker ensuring that the operating adapter is fully seated on the drive head screw.



3. Ensure the locators on the RSA are properly positioned, and seated flush against the breaker housing and that the trip solenoid is properly aligned with the trip button.



### **DANGER**

If the RSA's operating adapter and locators are not properly seated, attempting to operate the breaker with the RSA may cause binding which can damage the RSA or the breaker mechanism.

4. Ensure the mounting magnets on the RSA are flush against their mounting surfaces, and then attach the RSA to the breaker by turning the handles of the twist-lock magnets 180° clockwise.



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 in to AC power.

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

Before attempting to operate this RSA for the first time, perform the procedure for “Closing the Breaker” with the RSA removed from the equipment to be operated, to ensure that the operator is properly in contact with its travel stops.

### 2.1 Tripping the Breaker

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. Exit the arc flash boundary
4. Turn the power switch on the RSO-IIID to the ON position.
5. Press the TRIP button to trip the breaker.

### 2.2 Closing the Breaker

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. Exit the arc flash boundary
4. Turn the power switch on the RSO-IIID to the ON position.
1. Program the settings for the RSA into the RSO-IIID, if applicable. These settings will be found on a placard on the RSA. For more information on programming the RSO-IIID please refer to the RSO-IIID Technical Manual.
2. 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
3. Exit the arc flash boundary
4. Once the timers have been properly set press the CHARGE/CLOSE button to actuate the switch arm and charge the breaker mechanism, and then close the breaker.
5. Remove the RSA from the breaker after operation.



## 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.

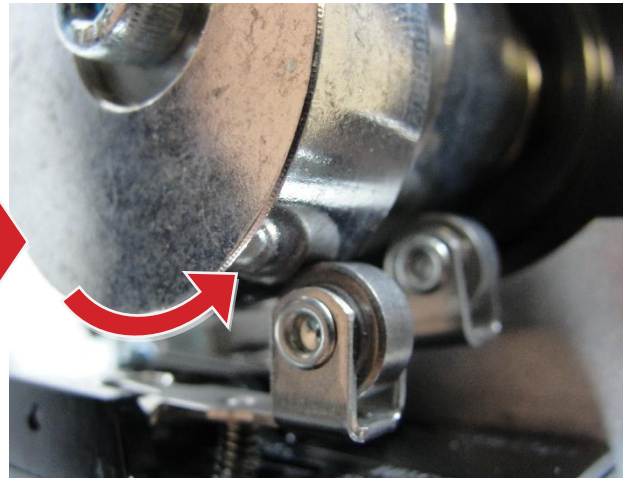
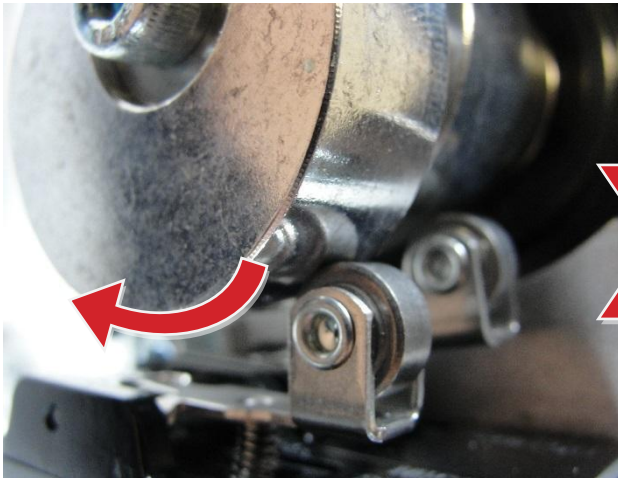
### 3.1 Travel Adjustment

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

1. Install the RSA on the face of the breaker as described in the Installation section.
2. Loosen the lock screws on the backs of the two switch cams.

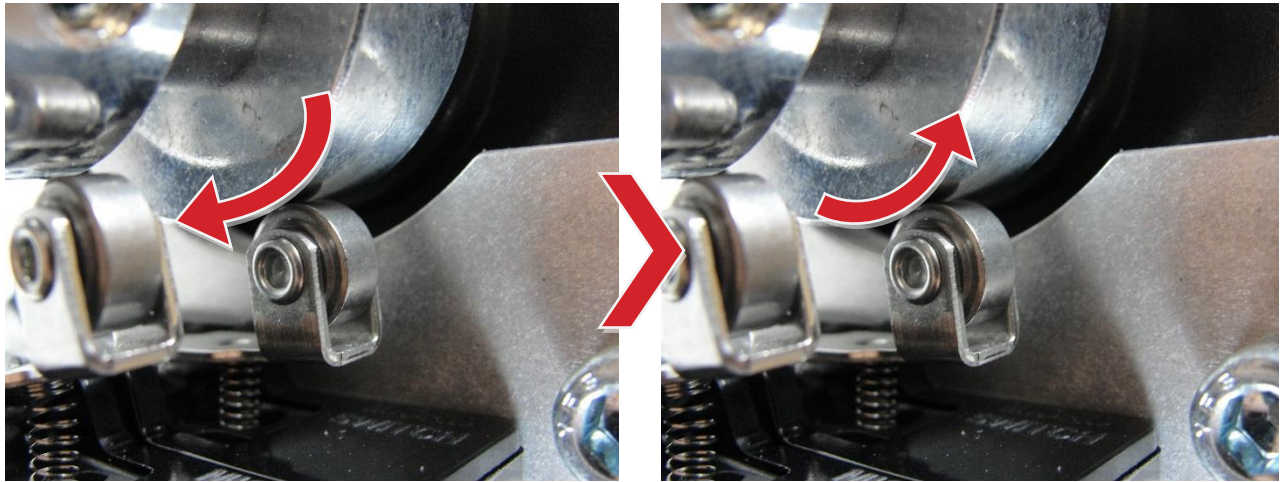


3. With the breaker charging arm rotated fully up to the highest point of its travel, rotate the outer limit switch cam until the limit switch is undepressed and clicks slightly, then rotate the cam back onto the switch until another slight click is heard, and the switch is depressed. Re-tighten the lock-screw on the cam.





4. With the breaker charging arm rotated fully down to its rest position, rotate the inner limit switch cam until the limit switch is undepressed and clicks slightly, then rotate the cam back onto the switch until another slight click is heard, and the switch is depressed. Re-tighten the lock-screw on the cam.



### **3.2 Plunger Depth Adjustment**

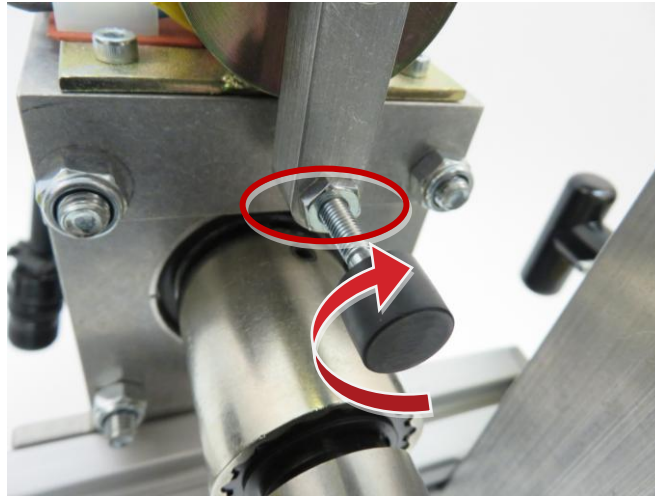
The operation depth of the solenoids on this RSA can be adjusted to accommodate differences in the button-press depth requirements.

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 if operation is satisfactory.



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 plunger with the RSO, and re-tighten the nut if operation is satisfactory.

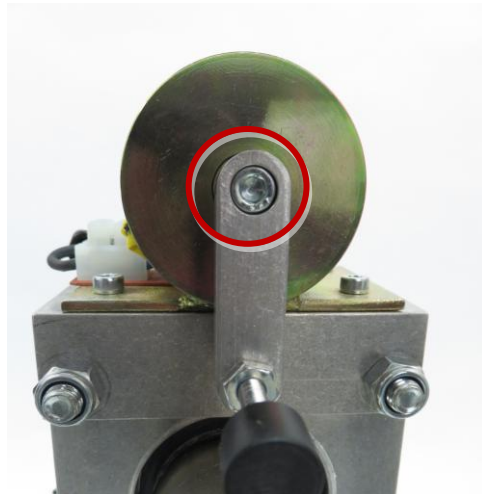




### **3.3 Solenoid Position Adjustment**

The position of the operating solenoids can be adjusted to accommodate minor equipment differences.

1. Loosen the bolts on the solenoid plunger arm, as shown.



2. Install the RSA as described in the Installation section of this manual.
3. Carefully rotate the plunger arm as required to properly position the plunger over the operating button on the breaker.

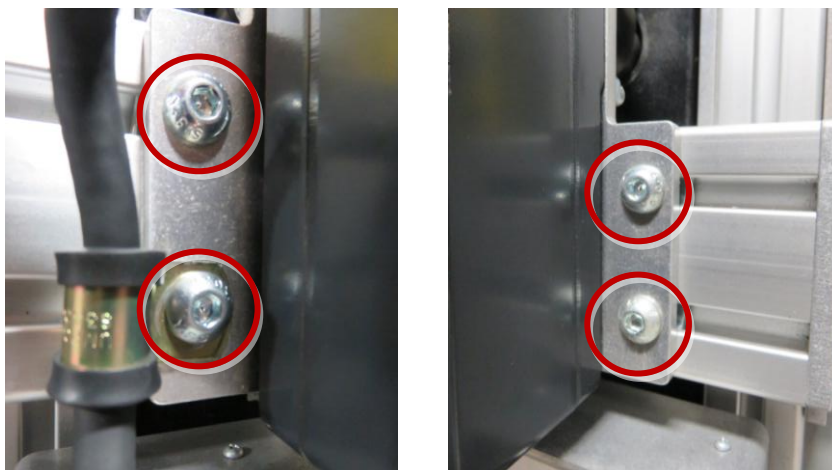


4. Re-tighten any bolts loosened in step 1.

## 3.4 Motor Adjustment

### 3.4.1 Horizontal Adjustment

1. Loosen the four bolts on the motor mounting plate, as shown.



2. Install the RSA as described in the Installation section.
3. Slide the motor mount left or right as required to properly align the motor actuator with the breaker operating handle shaft.
4. Re-tighten the bolts loosened during adjustment.

### 3.4.2 Vertical Adjustment

1. Loosen the four bolts on the motor mounting plate, as shown.



2. Install the RSA as described in the Installation section.
3. Slide the motor mount up or down as required to properly align the motor actuator with the breaker operating handle shaft.
4. Re-tighten the bolts loosened during adjustment.







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**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).