

CBS ArcSafe®

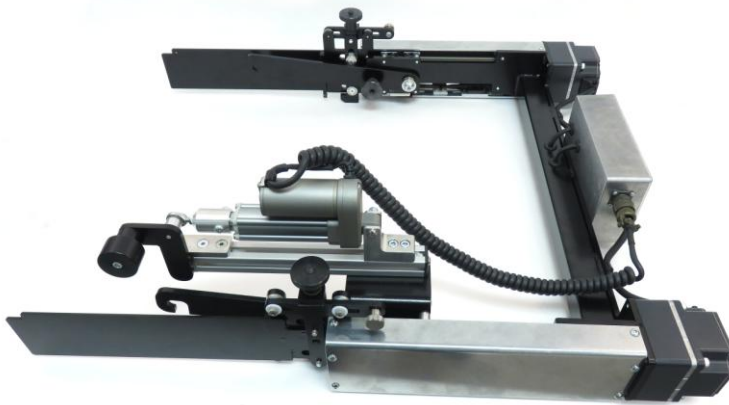
Distance Is Safety®

A Group CBS Company

RRS-3 DB-50

For type DB-50 & DBL-50

240-600V, 200-1600A



Installation and Operation

1)

Distance is Safety®

WHAT STANDS
BETWEEN YOU AND
ARC-FLASH DANGER?

**WE
DO.**

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Rev. 7/22/2016

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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About the User's Guide

This user's guide describes the functions and features of the CBS ArcSafe® Single Application Remote Racking System (RRS-3). This technical document is intended to act as a simplified reference for users of the equipment; allowing for safe, quick, and efficient use of the RRS-3 features.

DANGER!

This is a red hazard alert warning box; red hazard alert boxes contain information pointing out potential hazards to personnel and equipment.

ATTENTION!

This is a green information box; green information boxes are used to place emphasis on valuable information the user will want to pay particular attention to.



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).

DANGER!

Ensure that switchgear is properly maintained and in good working order before using the RRS-3 on your switchgear. Contact your local group CBS service provider at www.gCBS.com to assist in proper care and maintenance for your switchgear.

1 Installation

DANGER!

Ensure that the equipment to be remotely operated matches the equipment shown and described on the cover page. If the equipment does not match, please contact CBS ArcSafe® for more information regarding remote operating applications for the equipment in question.

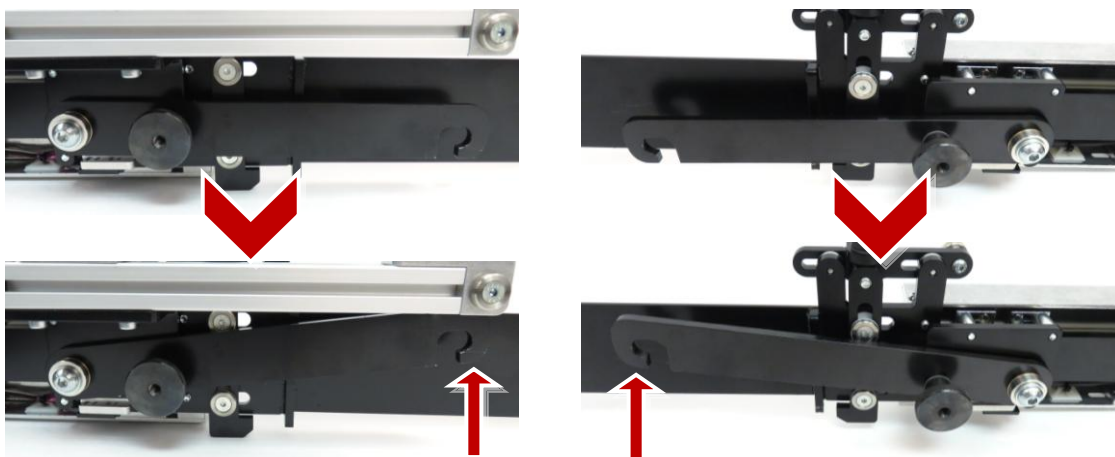
ATTENTION!

The location of certain items such as mimic bus, stickers, and/or placards may interfere with the installation of the remote operating equipment. These items may need to be removed or repositioned for proper installation.

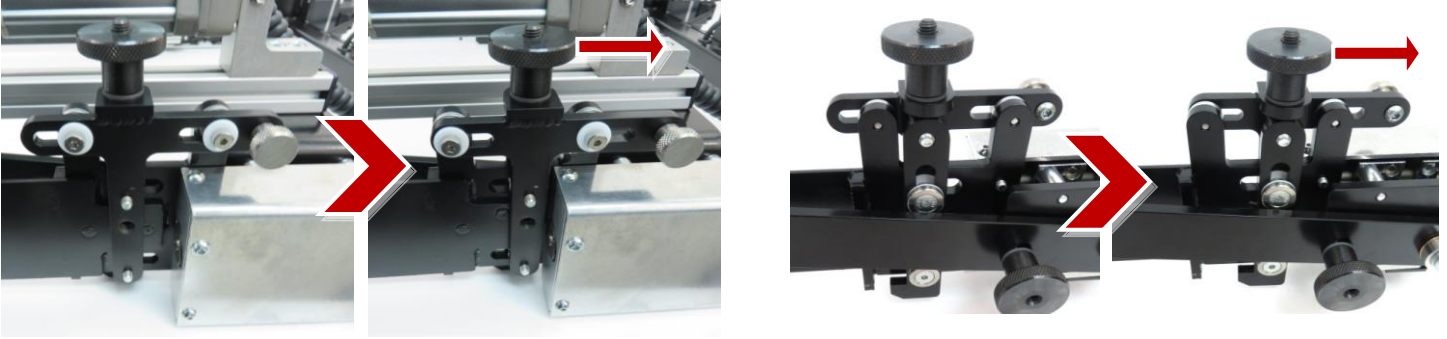
1. With the switchgear door open, ensure that the breaker is free from any obstruction that may interfere with the proper installation of the RRS-3.



2. Check that the circuit breaker is OPEN, according to manufacturer procedures and specifications.
3. Ensure that the racking arms on the RRS-3 are locked in their upmost position by loosening the inner knurled knob on each racking arm (shown below), lifting the arm upward, and then re-tightening the knurled knob.



4. Also ensure that that the locking T-handles on each side of the RRS-3 are loose, and pulled back so they do not interfere with installation.



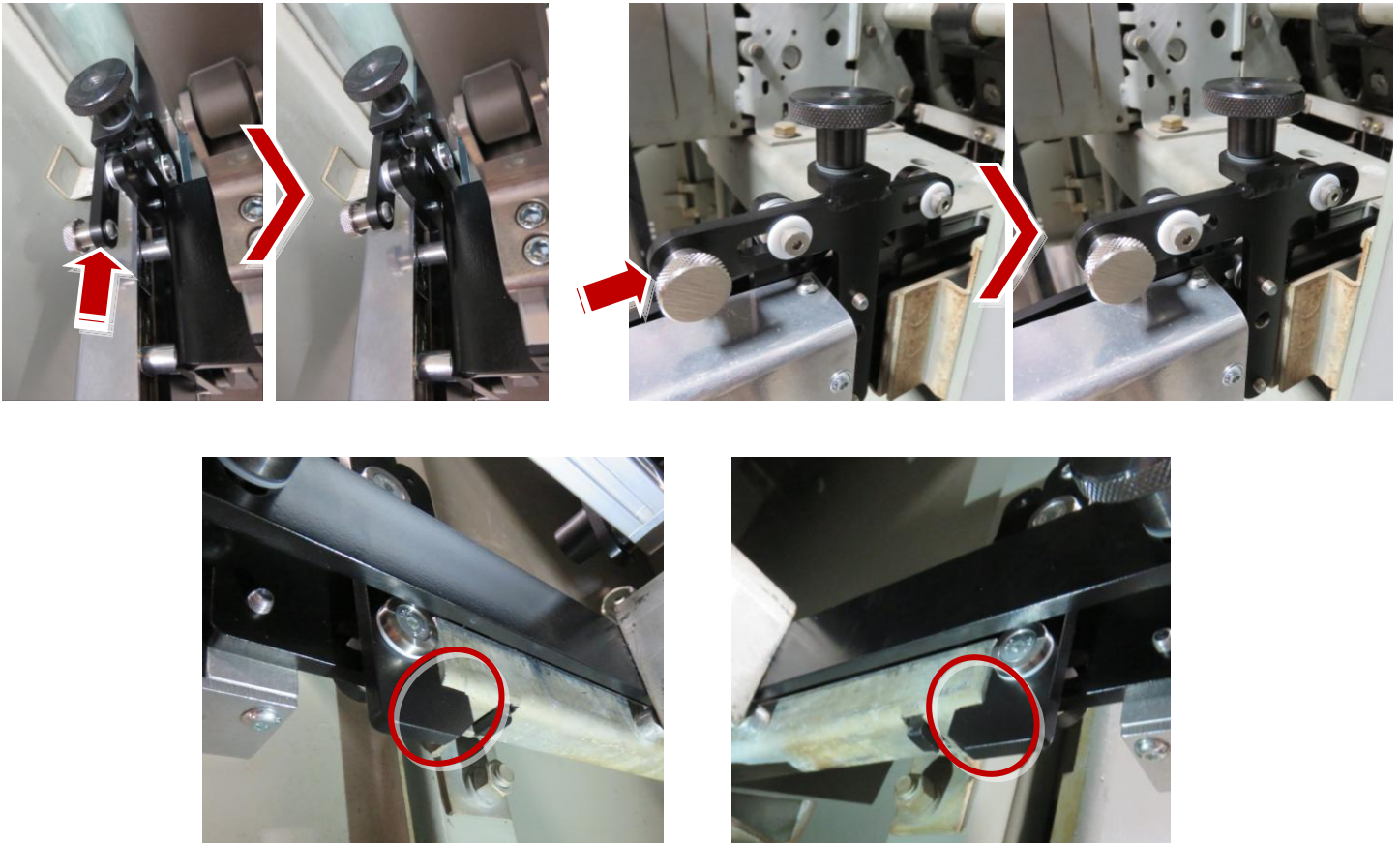
5. Slide the arms of the RRS-3 into the rail extension slots for the breaker cabinet, while tilting the RRS-3 forward (with the back of the RRS-3 raised slightly relative to the front). Ensure that the notch on the top of each arm on the RRS-3 fits into the matching cutout in the rails of the breaker carrier in the switchgear, as indicated below



6. With the arms of the RRS-3 fitted into the rail extension slots of the cabinet, lower the RRS-3 gently until the rails come down and sit approximately parallel with the rails inside the cabinet. Also check that the pegs on the bottom of each arm have dropped into the matching slots on the cabinet rails, as indicated below.



- Secure RRS-3 to the breaker by sliding forward the T-shaped locking handles on each side of RRS-3 (indicated below, top images). Tighten the knurled knob on top of each handle to lock the RRS-3 in place. Ensure that the hook on the bottom of each of these handles has gripped onto the bottom of the switchgear rail (below, bottom images).



- Loosen the knurled knobs on the racking arms and drop them down over the pegs on each side of the breaker, as indicated below (Only right side illustrated). Once each arm is in place, re-tighten the knurled knobs.

NOTE:

If the arms do not drop over the pegs, the racking mechanism may need to be jogged for alignment. See Section 2: Operation of this manual for information on operating the RRS-3, and see the RSO-IV manual for information regarding setting the RSO into JOG mode.



The RRS-3 is now ready for operation



2 Operation

ATTENTION!

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

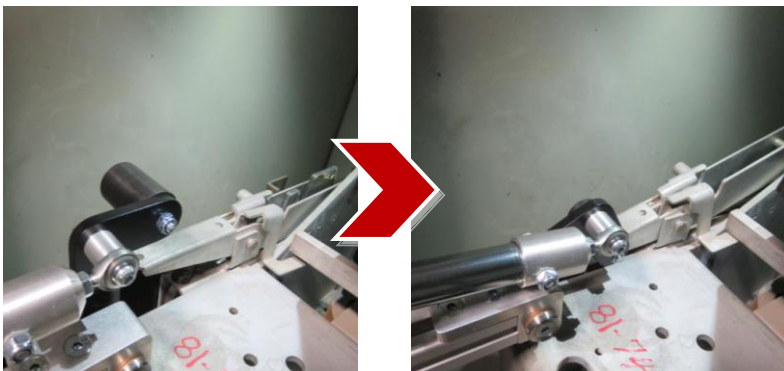
For detailed instructions on the operation of the RSO-IV please see the RSO-IV Manual.

1. Ensure that the RRS-3 is properly installed. See the Installation section of this manual for detailed instructions.
2. Connect the cable from the RSO-IV to the motor control box on the RRS-3
3. Turn the power switch on the RSO-IV to the ON position.
4. Program the settings for the RRS-3 into the RSO-IV. These settings can be found on the placard on the RRS-3. For more information on programming the RSO-IV please refer to the RSO-IV Technical Manual.
5. Exit the arc flash boundary.



2.1 Removing a Breaker

1. Press and hold the "Extend" button until the interlock lever is fully depressed.



2. To rack the breaker in, press and release the REMOVE button on the RSO, or optional radio pendant. The breaker will rack from CONNECTED to REMOVED position.
3. Press and hold the "Retract" button to release the interlock lever when racking is complete.

2.2 Installing a Breaker

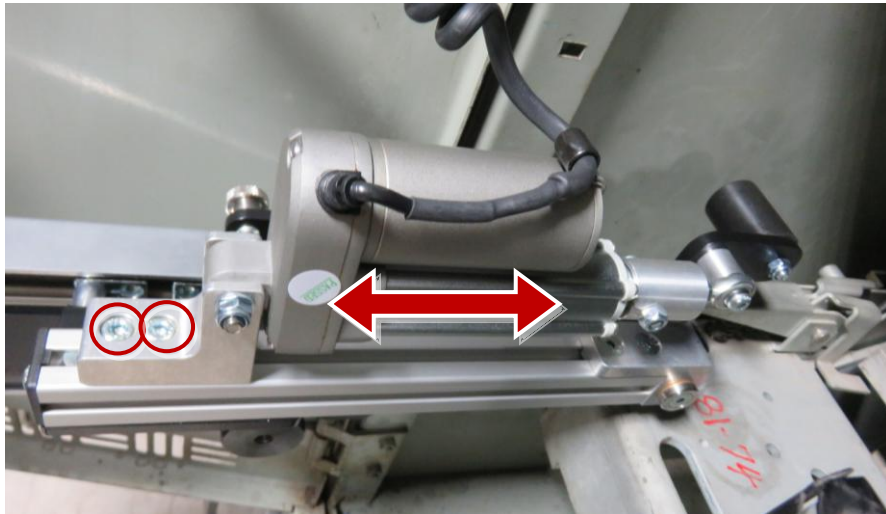
To rack the breaker out, press and release the INSTALL button on the RSO, or optional radio pendant. The breaker will rack from REMOVED to CONNECTED position.

3 Adjustments

3.1 Actuator Adjustment

The interlock actuator on the RRS-3 may be adjusted to accommodate slight differences between breakers.

1. Loosen the two bolts on the actuator mounting plate, as indicated below.

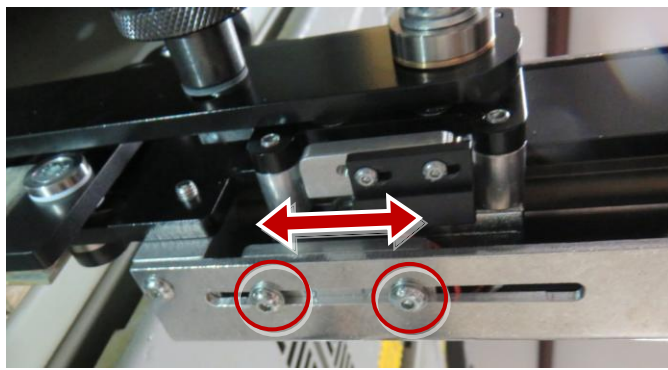
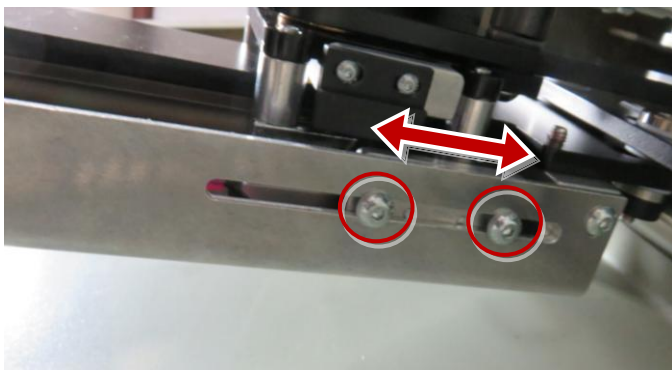


2. Install the RRS-3 as described in the Installation section of this manual.
3. Connect and turn on the RSO-IV, and press the “Extend” button to actuate the interlock lever.
4. Adjust the position of the actuator as required so the actuator is fully depressing the interlock lever.
5. Re-tighten the bolts loosened in step 1.

3.2 Travel Adjustment

The Installed-position limit switches can be adjusted to change the depth at which the racking actuators stop their operation. Note: This adjustment requires racking a breaker into its cubicle repeatedly to achieve proper.

1. Install the RRS-3 as described in the Installation section of this manual.
2. Loosen the two bolts holding each limit switch in place, as indicated below, and slide them in their adjustment slot to increase or decrease travel.
 - a. Slide the limit switch toward the breaker to increase travel on the RRS-3.
 - b. Slide the limit switch away from the breaker to decrease travel on the RRS-3.



3. With the breaker in the Removed position, begin racking the breaker in. Once the operation completes, verify that the breaker has been fully racked by checking that the interlock bar on the breaker has dropped down fully. If so, then the breaker is fully installed in the cubicle.
 - a. If the RRS-3 does not shut off automatically, then shorten the travel, and re-test.
 - b. If the RRS-3 shuts off too early, lengthen the travel a bit, and re-test.
4. Tighten the bolts on the limit switches that were loosened in step 1.



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RRS-3 DB-50
Installation and Operation

2616 Sirius Road
Denton, TX 76208
Tel: 877-4-SAFETY
Fax: 940-382-9435
Website: www.CBSArcSafe.com
Email: info@CBSArcSafe.com

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