

CBS ArcSafe®

Distance Is Safety®

A Group CBS Company

Installation and Operation

RSA-105A

For LA/LAF 3000-4000 Amp
Yellow Zinc Face, Manual Operated, Includes LA/LAF-3000,
3000A, 3200, 3200A, 4000, 4000A, 4000B, 4000F



Distance is Safety®

WHAT STANDS
BETWEEN YOU AND
ARC-FLASH DANGER?

**WE
DO.**

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Rev. 1/13/2016

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.

This RSA consists of two parts: a Charge Assembly and a Close/Trip Sssembly. These two componenets cannot be installed simultaneously, and one must be removed before installing the other.

1.1 Charge Assembly

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 charging adapter in place.



- 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 upper support of the Charge Assembly is resting on the top of the breaker escutcheon.



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

The Charge Assembly of the RSA is now ready for operation.

1.2 Close/Trip Assembly Installation

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



2. 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 upper locator of the Close/Trip Assembly is resting on the top of the breaker escutcheon.



3. 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).



4. Ensure the magnets are fully seated against the switchgear door and then turn the handles of the twist-lock magnets 180° to lock the RSA in place.

The Close/Trip Assembly of the RSA is now ready for 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.

1. Ensure that the RSA is properly installed. See the appropriate Installation Section for detailed instructions.
2. Connect the cables from the RSO-IIID to the installed RSA component.
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 for the RSA. For detailed information on the AR function see the RSO-IIID instruction manual
6. Exit the arc flash boundary
7. For the Charge Assembly:
 - a. Press and hold the CHARGE/CLOSE button to actuate the charging arm and charge the mechanism
 - b. After the mechanism is charged, remove the Charge Assembly, and then install the Close/Trip Assembly as described in the applicable Installation section.
8. For the Close/Trip Assembly:
 - a. Press and hold the CLOSE button to close the breaker.
 - b. 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.

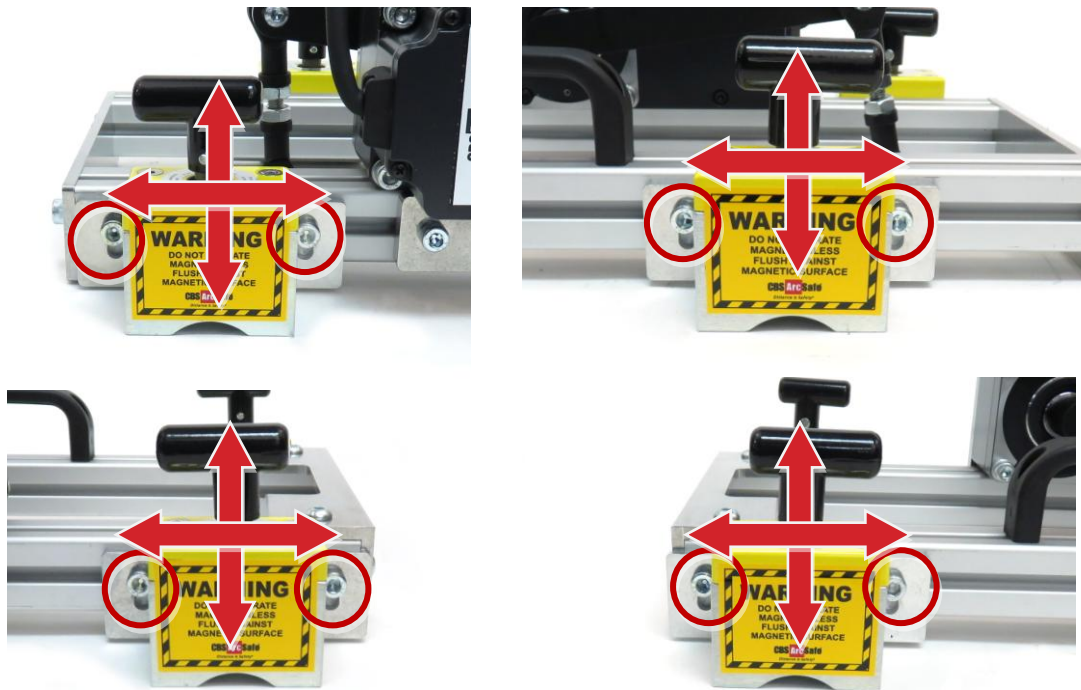
3.1 Charge Assembly Adjustments

This section illustrates the various operational adjustments possible with the Charge Assembly. Be sure to remove the Close/Trip Assembly and install the Charge Assembly before attempting any of these adjustments.

3.1.1 Magnet Depth Adjustment

The depth of each magnet on the RSA can be adjusted in order to avoid interference from items mounted to the breaker door.

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



2. Slide the loosened magnets as necessary to position each one so they adequately account for any depth differences. Ensure the magnets sit flush against the gear door.
3. To adjust the position of a magnet, unlock the twist-lock magnet to be adjusted, slide it along the rail on the RSA to a new position, and re-set depth and re-lock the magnet.
4. Re-tighten any loosened bolts.

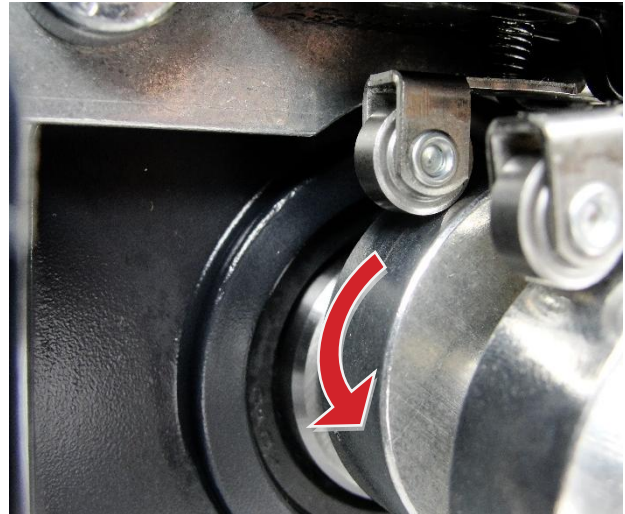
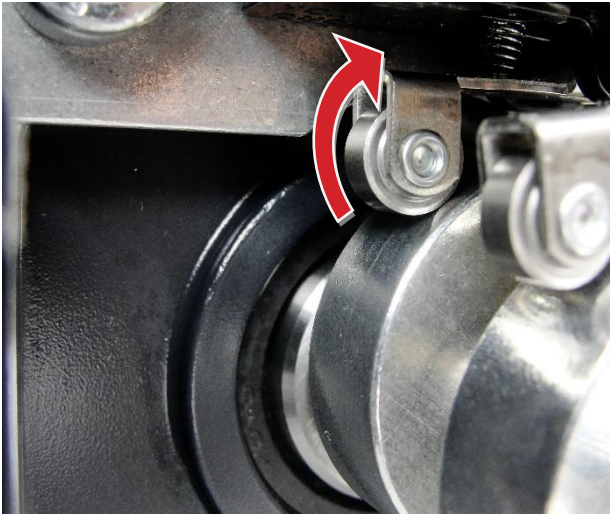
3.1.2 Travel Adjustment

The travel length for the motor arm may be adjusted to avoid damage to the switch.

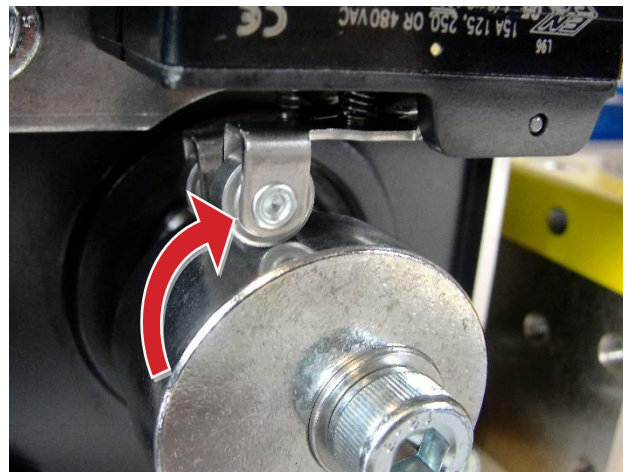
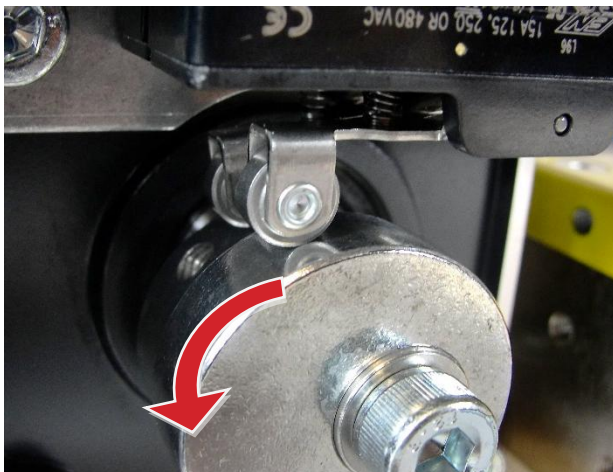
1. Loosen the lock screws on the backs of the two switch cams.



2. With the RSA charging arm in the UP 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. With the RSA charging arm in the DOWN position, rotate the outer limit switch cam in the direction of travel for the arm, until a slight click is heard. Re-tighten the lock screw.



3.2 Close/Trip Assembly Adjustments

This section illustrates the various operational adjustments possible with the Close/Trip Assembly. Be sure to remove the Charge Assembly and install the Close/Trip Assembly before attempting any of these adjustments.

3.2.1 Magnet Adjustment

The depth of each magnet on the RSA can be adjusted in order to avoid interference from items mounted to the breaker door.

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

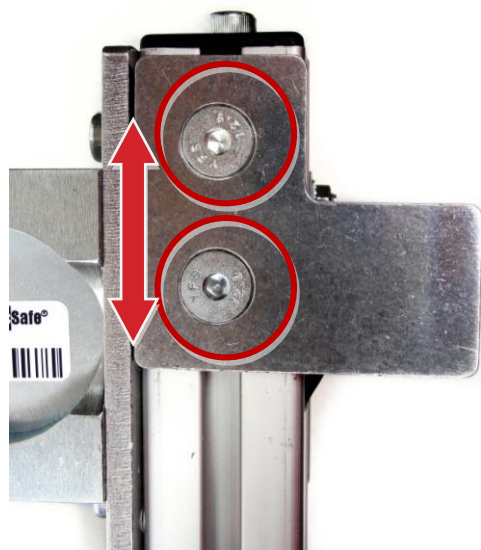


2. Slide the loosened magnets up or down as necessary to position each one so they adequately account for any depth differences. Ensure the magnets sit flush against the gear door.
3. To adjust the position of a magnet, unlock the twist-lock magnet to be adjusted, slide it along the rail on the RSA to a new position, and re-set depth and re-lock the magnet.
4. Re-tighten any loosened bolts.

3.2.2 Locator Position

The locator on this RSA can be adjusted to accommodate minor equipment differences.

1. Loosen the two bolts on the locator plate.



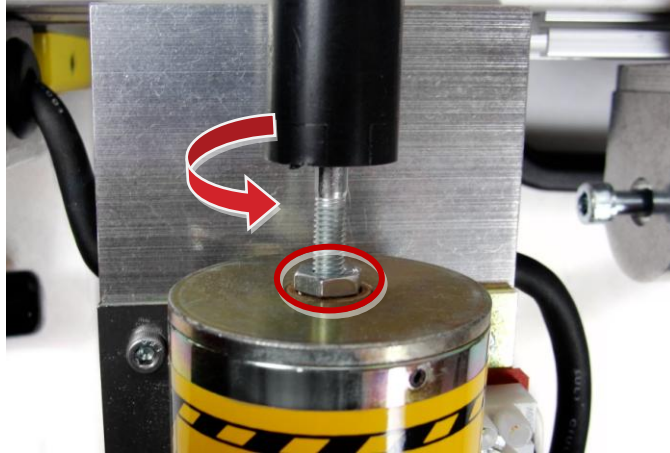
2. Slide the locator during installation to adequately adjust its position so the RSA aligns properly on the breaker.

3. Remove the RSA and re-tighten the bolts on the locator plate to lock it in place.

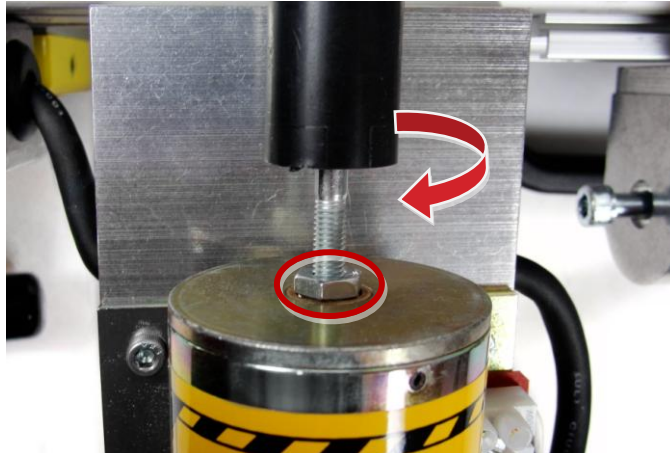
3.2.3 Plunger Depth Adjustment

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 plunger with the RSO, and re-tighten the nut.



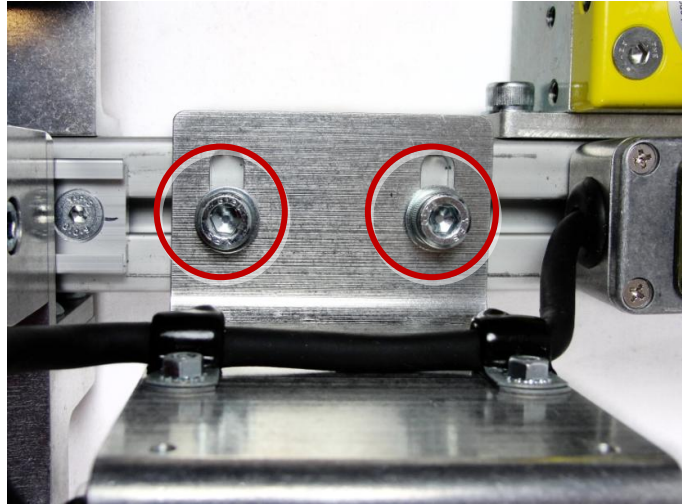
2. To decrease the solenoid plunger depth, loosen the nut on the solenoid plunger, and turn the black end clockwise. Test the depth by operating the plunger with the RSO, and re-tighten the nut.



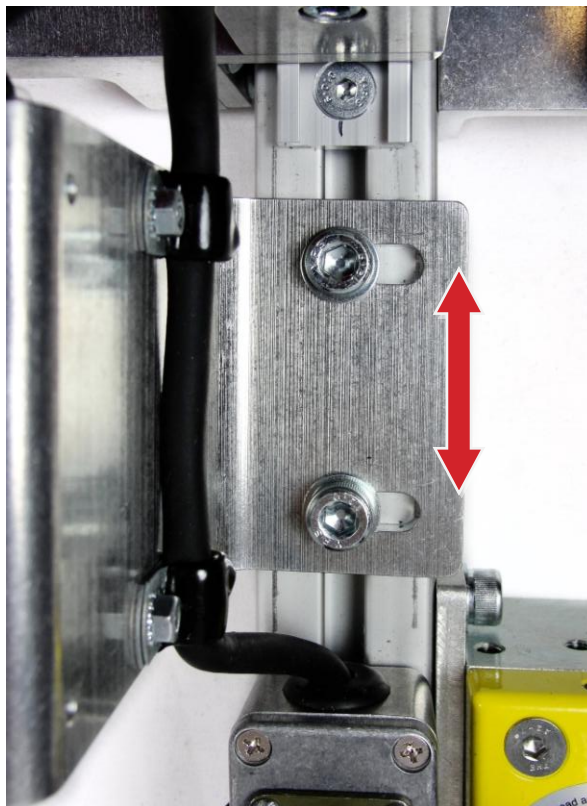
3.2.4 Solenoid Position Adjustment

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

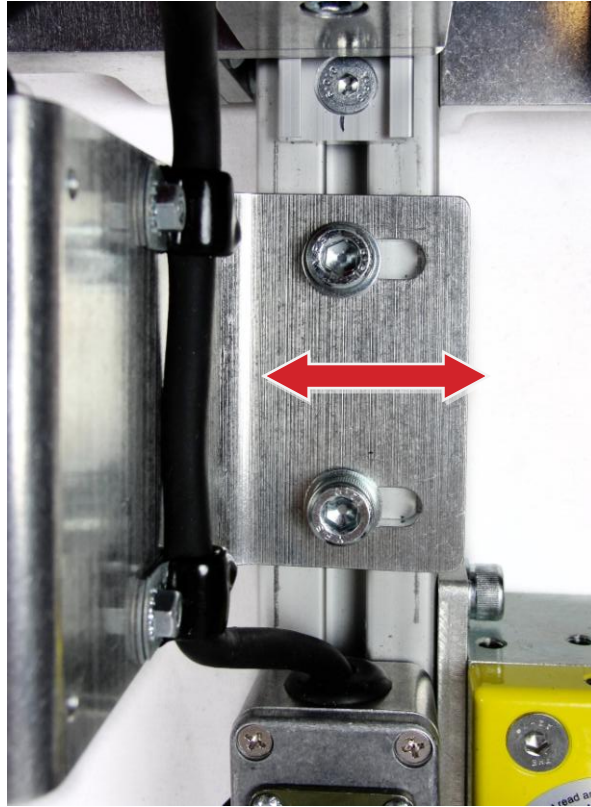
1. Loosen the bolts holding the solenoid mount in place, as shown.



2. Slide the solenoid assembly up or down as required to properly align the solenoid with the center of the trip button.



3. Slide the solenoid assembly left or right as required to properly align the V-notch on the solenoid plunger with the breaker trip button, as described in the Installation section.



4. Re-tighten any loosened bolts.

Notes



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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).