

Types R, RV, W, and WV Three-Phase Reclosers Installation of KA296R1S Lockout-Indicating Switch

S280-30-12

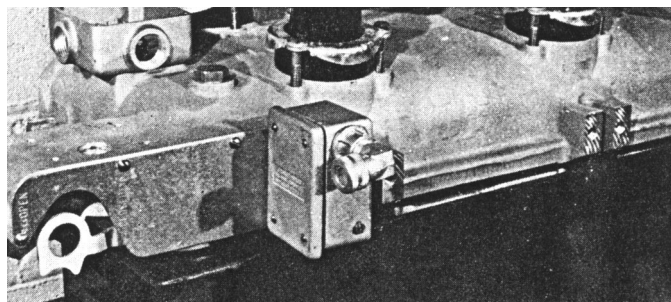


Figure 1.
Factory-installed lockout-indicating switch.

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PRODUCT INFORMATION

Introduction

Service Information S280-30-12 provides installation instructions for the KA296R1S Lockout-Indicating Switch for Kyle® Types R, RV, W, and WV three-phase reclosers.

Read This Manual First

Read and understand the contents of this manual and follow all locally approved procedures and safety practices before installing or operating this equipment. These instructions cannot cover all details or variations in the equipment, procedures, or process described nor to provide directions for meeting every possible contingency during installation, operation, or maintenance. For additional information, please contact your Cooper Power Systems representative.

Acceptance and Initial Inspection

Each Lockout-indicating Switch is inspected at the factory and is in good condition when accepted by the carrier for shipment. Upon receipt, inspect the carton for signs of damage. Unpack the kit(s) and inspect it thoroughly for damage incurred during shipment. If damage is discovered, file a claim with the carrier immediately.

Handling and Storage

Be careful during handling and storage of the kit to minimize the possibility of damage. If the kit is to be stored for any length of time prior to installation, provide a clean, dry storage area.

ANSI Standards

Kyle reclosers are designed and tested in accordance with ANSI standards C37.60 and C37.85 and ANSI guideline C37.61.

Quality Standards

The Quality System at the Cooper Power Systems, Kyle Distribution Switchgear plant is certified to the ISO 9001 standard.

Description

A KA296R1S lockout-indicating switch can be added to a Type R or W recloser for remote indication that the recloser has been locked out. The switch is particularly useful in load transfer schemes.

The switch is housed in a weatherproof conduit fitting attached to a special sleet hood cover. The switch utilizes two single-pole, double-throw contacts. Threaded openings for 1/2 inch IPS conduit or entrance bushings are provided.

The lockout-indicating switch accessory can be factory-installed as a complete unit (Figure 1) or field-installed with a new sleet hood cover (Figure 2).

For additional information on recloser disassembly, reassembly, and testing procedures, refer to the appropriate instruction manual.

- *Service Information S280-30-2 Type R Maintenance Instructions*
- *Service Information S280-30-3 Type W (below Serial No. 7333) or S280-30-8 (Serial No. 7334 and above) Maintenance Instructions*
- *Service Information S280-30-4 Types RV and WV or S280-30-9 Types RV (Serial No. 4111 and above) and Type WV (Serial No. 901 and above) Maintenance Instructions*



SAFETY FOR LIFE



Cooper Power Systems products meet or exceed all applicable industry standards relating to product safety. We actively promote safe practices in the use and maintenance of our products through our service literature, instructional training programs, and the continuous efforts of all Cooper Power Systems employees involved in product design, manufacture, marketing, and service.

We strongly urge that you always follow all locally approved safety procedures and safety instructions when working around high voltage lines and equipment and support our “Safety For Life” mission.

SAFETY INFORMATION

The instructions in this manual are not intended as a substitute for proper training or adequate experience in the safe operation of the equipment described. Only competent technicians who are familiar with this equipment should install, operate, and service it.


A competent technician has these qualifications:


- *Is thoroughly familiar with these instructions.*
- *Is trained in industry-accepted high- and low-voltage safe operating practices and procedures.*
- *Is trained and authorized to energize, de-energize, clear, and ground power distribution equipment.*
- *Is trained in the care and use of protective equipment such as flash clothing, safety glasses, face shield, hard hat, rubber gloves, hotstick, etc.*


Following is important safety information. For safe installation and operation of this equipment, be sure to read and understand all cautions and warnings.

Hazard Statement Definitions

This manual may contain four types of hazard statements:

 **DANGER:** Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.


 **WARNING:** Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.


 **CAUTION:** Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.


CAUTION: Indicates a potentially hazardous situation which, if not avoided, may result in equipment damage only.


Safety Instructions

Following are general caution and warning statements that apply to this equipment. Additional statements, related to specific tasks and procedures, are located throughout the manual.

 **DANGER:** Hazardous voltage. Contact with hazardous voltage will cause death or severe personal injury. Follow all locally approved safety procedures when working around high and low voltage lines and equipment. G103.3

 **WARNING:** Before installing, operating, maintaining, or testing this equipment, carefully read and understand the contents of this manual. Improper operation, handling or maintenance can result in death, severe personal injury, and equipment damage. G101.0

 **WARNING:** This equipment is not intended to protect human life. Follow all locally approved procedures and safety practices when installing or operating this equipment. Failure to comply can result in death, severe personal injury, and equipment damage. G102.1

 **WARNING:** Power distribution equipment must be properly selected for the intended application. It must be installed and serviced by competent personnel who have been trained and understand proper safety procedures. These instructions are written for such personnel and are not a substitute for adequate training and experience in safety procedures. Failure to properly select, install, or maintain power distribution equipment can result in death, severe personal injury, and equipment damage. G122.2

KIT INSTALLATION

CAUTION: Equipment damage. Keep work areas clean to prevent debris from accumulating on or in the hydraulic mechanism during disassembly and reassembly procedures. Failure to comply can result in hydraulic failure and recloser misoperation. T254.0

Refer to the appropriate maintenance manual for the step-by-step procedures to remove the recloser from service and for specific disassembly and reassembly procedures.

For Type R reclosers, refer to *Service Information S280-30-2 Maintenance Instructions*.

For Type W (below Serial No. 7333) reclosers, refer to *Service Information S280-30-3*, or for Type W (Serial No. 7334 and above), refer to *S280-30-8 Maintenance Instructions*.

For Types RV and WV reclosers, refer to *Service Information S280-30-4*, or for Type RV (Serial No. 4111 and above) and Type WV (Serial No. 901 and above) reclosers, refer to *Service Information S280-30-9 Maintenance Instructions*.

WARNING: Hazardous voltage. De-energize the switchgear before installing this kit. Follow all locally approved safety practices and procedures when working around high voltage lines and equipment. Failure to comply can result in contact with high voltage, which will cause death or severe personal injury. T232.3

The entire installation process should be conducted in a clean environment, such as a repair shop.

1. Bypass, trip, and de-energize the recloser.
2. Carefully transport the unit to a suitable service facility.
3. Remove sleet hood cover.

4. Be sure operating handle is down (Figure 2). Install lockout-indicating switch by positioning the switch arm to the right of operating handle lever as shown in Figure 2.
5. Remove switch box cover and install conduit or cable.
6. Connect switch as shown in Figure 3.
7. Transfer data plates to new sleet hood. Replace switch box cover. Recloser is ready for service.

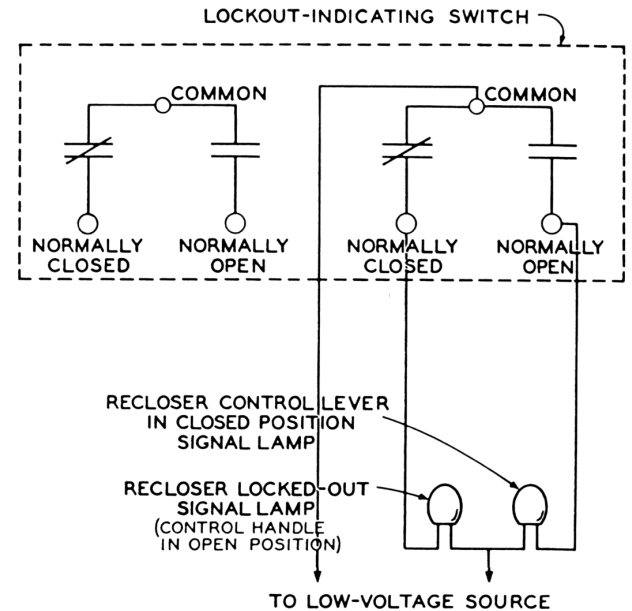


Figure 3.
Switch wiring diagram and connections.

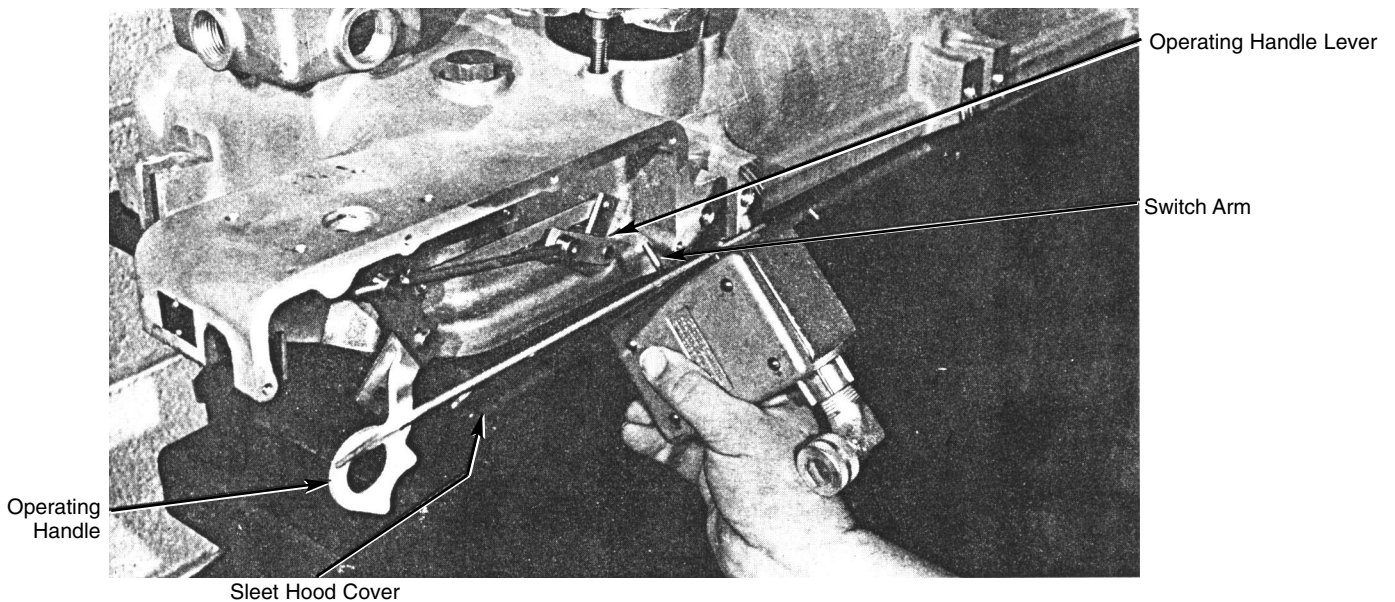


Figure 2.
Positioning lockout-indicating switch.

Ratings

Continuous current rating 10 A

Inrush current rating 15 A

Circuit Potential	Interrupting Rating (Amperes)
120 Vac	10
240 Vac	5
125 Vdc	0.5
250 Vdc	0.25

Wiring

Connections between the switch and the signalling device are made by a rubber-covered cable or conductors protected by 1/2 inch conduit. A weatherproof cable grip is provided to secure cables that are 5/8 – 3/4 inch in diameter. If conduit is used, discard the cable grip and install conduit into the fitting. See Figure 3 for a schematic diagram of a typical signal circuit employing the lockout-indicating switch. Connections can be easily made to the terminals marked “common”, “normally open”, and “normally closed”; refer to Figure 4.

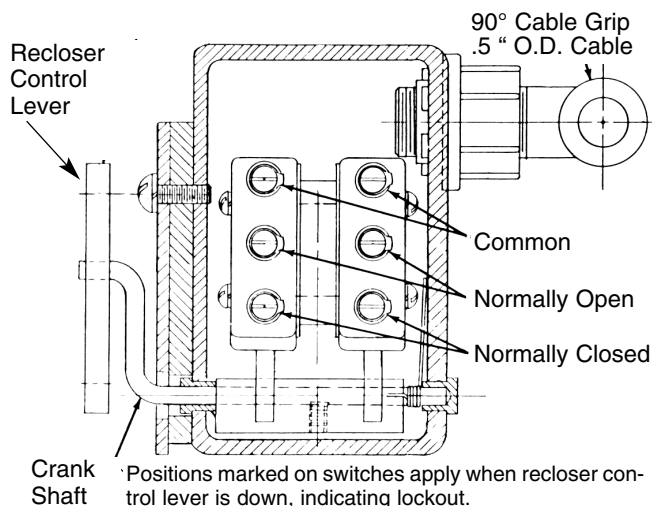


Figure 4.
Switch cross-section and connecting points.

TESTING

The lockout-indicating switch can be tested on or off the recloser.

Installed Switch Test

1. Raise the latch operating handle. Check continuity with a volt-ohmmeter between “Common” and “Normally Open” switch terminals. This reading should show continuity. Placing meter probes on all other pairs of terminals should show a no continuity.
2. Lower operating handle. Continuity must exist between “Common” and “Normally Closed” terminals. All other pairs should show no continuity.

Uninstalled Switch Test

1. Simulate the raised operating handle position by pushing the switch crank upward beyond vertical. Check continuity with a volt-ohmmeter between “Common” and “Normally Open” switch terminals. This reading should show continuity. Placing meter probes on all other pairs of terminals should show no continuity.
2. Relax the switch crank to simulate the “lowered operating handle” position. Continuity must exist between “Common” and “Normally Closed” terminals. All other pairs should show no continuity.

