

# Reclosers

Service Information

# S280-17-4

## NOVA<sup>1</sup> Ball-Target Replacement Kit Instructions



**Figure 1.**  
NOVA<sup>1</sup> Recloser Control with close-up view of cable receptacles and ball-target lockout indicator.

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**TABLE 1**  
Kit Parts for KA359S

Item	Description	Quantity
1	Hole plug	1
2	Screws	2
3	Ball-target lockout indicator	1
4	Control/Indicator cable	1
5	Indicator/Power cable	1

## PRODUCT INFORMATION

### Introduction

Service Information S280-17-4 contains instructions for the NOVA<sup>1</sup> Ball Target Replacement Kit KA359S. For information on the NOVA<sup>1</sup> Recloser, refer to *Service Information S280-17-1, NOVA<sup>1</sup>-15 and NOVA<sup>1</sup>-27 Single-Phase, Electronically Controlled Recloser Installation and Operation Instructions*.

### 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.

### Additional Information

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

This kit 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

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 this equipment to minimize the possibility of damage. If the kit is to be stored prior to installation, provide a clean, dry storage area.

### ANSI Standards

Kyle<sup>®</sup> Type NOVA<sup>1</sup> single-phase, electronically controlled reclosers are designed and tested in accordance with: ANSI/IEEE<sup>®</sup> C37.60–1981; ANSI/IEEE C37.6–1973; ANSI/IEEE C37.85–1989; and ANSI/IEEE C37.90–1978.

### Quality Standards

ISO 9001:2000 Certified Quality Management System

### Description

The NOVA<sup>1</sup> Ball Target Replacement Kit is used to replace the drum-type, rectangular lockout indicator with the larger, ball-target lockout indicator on the NOVA<sup>1</sup>-15 and NOVA<sup>1</sup>-27 Single-Phase Recloser Control.



## 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.

### 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

### 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.

# INSTALLATION

**CAUTION:** Recloser misoperation. The control must be removed from service prior to performing any maintenance, testing, or programming changes. Failure to comply can result in misoperation (unintentional operation) of the recloser. T216.2

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

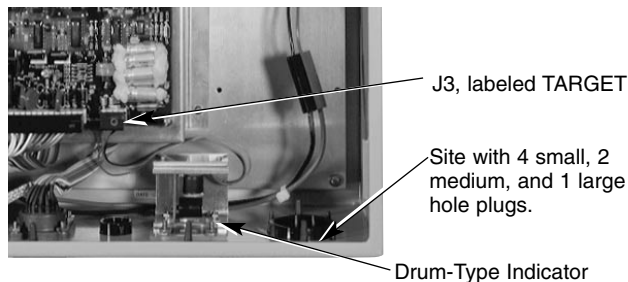
## Remove the NOVA<sup>1</sup> Control from Service

**WARNING:** Hazardous voltage. If the recloser is energized while the control cable is disconnected, the CT secondaries can generate high voltages. Contact with high voltage can cause severe personal injury or death. T204.2

Before installing the replacement target, the NOVA<sup>1</sup> Control must be removed from service. Refer to *Service Information S280-17-1, NOVA<sup>1</sup>-15 and NOVA<sup>1</sup>-27 Single-Phase, Electronically Controlled Recloser Installation and Operation Instructions*, the **Remove the Control from Service** section, for the step-by-step procedures to remove the control from service.

## Remove the Drum-Type Indicator

1. Disconnect the drum-type lockout indicator connector, located at J3 (labeled TARGET) on control board. Refer to Figure 2.



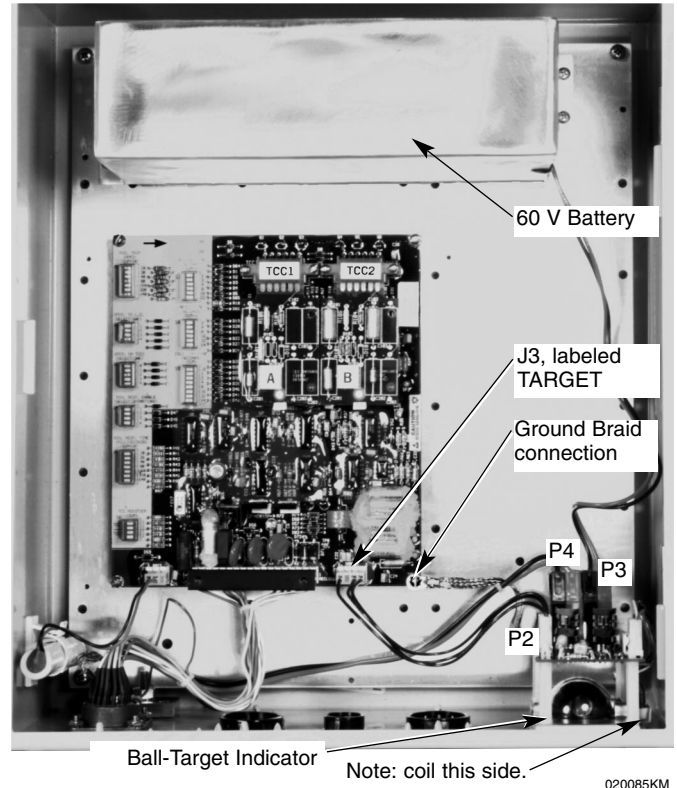
**Figure 2.**  
Drum-type indicator and hole plug placement.

2. Remove the four screws that secure the drum-type lockout indicator, then remove indicator.

## Install the Ball-Target Indicator

1. Relocate the four small hole plugs to where the screws securing the drum lockout indicator were located. Refer to Figure 2.
2. Discard two medium hole plugs and one large hole plug.

3. Insert new hole plug, Item 1, into hole where drum lockout indicator was located.
4. Install ball lockout indicator, Item 3, with two screws, Item 2, with orientation shown. Refer to Figure 3.



**Figure 3.**  
Ball-target indicator installation.

5. Remove screw and washer from lower right-hand corner of control board and secure ground braid from ball lockout indicator, Item 3.
6. Connect control/indicator cable, Item 4, between connector J3 (labeled TARGET) of control board and connector P2 of ball lockout indicator, Item 3.
7. Connect battery connector from control cable to connector P4 of ball lockout indicator, Item 3.
8. Connect one end of indicator/power cable, Item 5, to connector P3 of ball lockout indicator, Item 3. Connect the other end to the 60 V battery connector.

## Return Control to Service

After installing the replacement ball-target indicator, the NOVA<sup>1</sup> Recloser and Control must be returned to service. Refer to *Service Information S280-17-1, NOVA<sup>1</sup>-15 and NOVA<sup>1</sup>-27 Single-Phase, Electronically Controlled Recloser Installation and Operation Instructions*, the **Installation Procedure** and the **Place the Recloser in Service** sections for the step-by-step procedures to return the control to service.

