

Reclosers

Types H, 4H, and V4H Recloser Non-Reclosing Head Assembly Kits KA729H and KA710H4 Installation Instructions

Service Information
S280-10-2

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PRODUCT INFORMATION

Introduction

Service Information S280-10-2 provides installation instructions for KA729H and KA710H4 non-reclosing head assembly kits for Kyle® Types H, 4H, and V4H reclosers. Non-Reclosing head assembly kits are available for Type H reclosers above serial number 142625 and all Type 4H and V4H 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.

Additional Information

These instructions cannot cover all details or variations in the equipment, procedures, or process described, nor provide directions for meeting every possible contingency during installation, operation, or maintenance. When additional information is desired to satisfy a problem not covered sufficiently for the user's purpose, contact your Cooper Power Systems representative.

Acceptance and Initial Inspection

Each kit is in good condition at the factory and 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

ISO 9001:2000-Certified Quality Management System

Description

A Kyle® Types H, 4H, and V4H single-phase recloser non-reclosing head assembly includes a non-reclosing lever. This lever is normally in the UP position when the recloser is set for normal reclosing service. Pulling the non-reclosing lever to the DOWN position locks out the recloser in one operation. Then, the recloser will not reclose on a fault.

Refer to Table 1 for non-reclosing head assembly kits and applications.

TABLE 1
Non-Reclosing Head Assembly Kits

Catalog Number	Application
KA729H	Type H reclosers above Serial Number 142625
KA710H4	All Type 4H and V4H reclosers



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

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

CAUTION: Equipment damage. Refer to the specific switchgear unit maintenance manual for tanking/untanking procedures and related instructions. Failure to follow these instructions could result in equipment damage or personal injury. T238.0

CAUTION: Follow all locally approved safety practices when lifting and mounting the equipment. Use the tapped lifting provisions provided. Lift the load smoothly and do not allow the load to shift. Improper lifting can result in equipment damage. G126.0

CAUTION: Equipment damage. Recloser must be open (yellow operating handle, under sleethood, down) before untanking. Tripping the mechanism out of oil will cause excessive mechanical shock to the operating mechanism, which will cause accelerated wear and/or damage to the mechanism. T202.0

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

IMPORTANT: When installing this kit, use a clean, lint free cloth to prevent contamination of the hydraulic mechanism.

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 4H reclosers serial number 69276 and above; Type V4H reclosers serial number 7543 and above; and Type H reclosers serial number 246405 and above; refer to *Service Information S280-10-9: Types H, 4H, and V4H Maintenance Instructions*.

For Type 4H reclosers below serial number 69276 and Type V4H reclosers below serial number 7543; refer to *Service Information S280-10-3: Types 4H and V4H Maintenance Instructions*.

For Type H reclosers above serial number 142625 and below serial number 246405, refer to *Service Information S280-10-1: Type H Single-Phase Maintenance Instructions*.

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

This kit should be installed under the cleanest conditions possible. The kit installation process will be simplified if the workbench is arranged so the mechanism/head assembly can be inverted (bushings down).

1. Bypass, trip, and de-energize the recloser.
2. Carefully transport the unit to a suitable service facility.
3. With the recloser in the open position, untank the recloser by loosening the head bolts and washers on the head casting.

Carefully lift the head assembly out of the tank as appropriate for the recloser:

- Type H recloser – Use the lifting strap.
- Type 4H and V4H reclosers – Use the lifting lug.

4. Detach the bushing leads at the interrupting structure.
5. If unit is due for its scheduled maintenance, change the oil and perform any other required maintenance.

Refer to the appropriate manual referenced at the beginning of this **Installation** section for step-by-step maintenance procedures.

6. Remove bushing clamps. Lift out the bushings
7. Remove the four hex head nuts and lockwashers that fasten the solenoid frame to the support stringers.
8. Pull the solenoid frame and mechanism off of the insulating support stringers.

The solenoid plunger and the hydraulic pump piston will be withdrawn from their cylinders.

Note: The plunger, plunger linkage, pump piston, and stringers will be reused with the new non-reclosing head assembly that includes its own new pump linkage.

9. Connect pump piston to the new linkage.
10. Install the plunger assembly with the chamfered edge of the link toward the pump piston link to allow clearance between the two links.

Fasten with the plunger link pin and secure the pin with a new retaining ring.

(continued on next page)

11. Verify the plunger lever is lodged behind the slide rod (Figure 1).
12. Guide plunger and pump piston into chambers.
13. Fasten new head assembly to the support stringers.
14. Verify the plunger lever has remained lodged behind the slide rod (Figure 1).

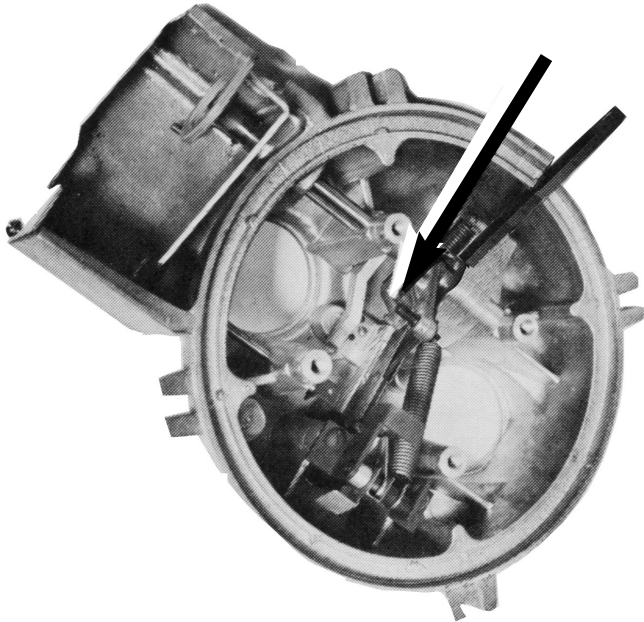


Figure 1.
Plunger lever lodged behind slide rod.

15. Replace bushings into the new head assembly.
16. Return the bushing leads to the contact box as removed.
17. Install counter from old head assembly into new head assembly.
18. Install a new user-supplied head gasket.
Note: This is recommended, but not required.
19. Lower the mechanism into the oil until the pump and trip pistons are completely immersed.
20. Operate the recloser manually with the yellow operating lever approximately eight times to expel all air from the hydraulic system.
21. Retank the recloser.
22. Test the recloser as applicable.

Refer to the appropriate manual referenced at the beginning of this **Installation** section for test procedures.

The recloser can be returned to service.

