

**KA717L1 Type L recloser one-shot kit installation instructions  
(consists of KA717L2 and KA717L3)**



*Powering Business Worldwide*

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## Safety for life



Eaton meets or exceeds all applicable industry standards relating to product safety in its Cooper Power™ series products. 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 Eaton 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 arc flash clothing, safety glasses, face shield, hard hat, rubber gloves, clampstick, 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 and transmission 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 and transmission equipment can result in death, severe personal injury, and equipment damage.**

G122.3

## Product information

### Introduction

*Service Information MN280019EN* provides installation instructions for Eaton's Cooper Power™ series Type L recloser one-shot kit. This kit literature is divided into two sections, the first section describes the modification to the head casting of the recloser, while the second section describes modification of the mechanism. Carefully read and understand the contents of this manual before installing this kit.

### 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 Eaton representative.

### Acceptance and initial inspection

Each Kit is completely inspected at the factory. It 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 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. If storage is in a humid atmosphere, make provisions to keep the kit dry.

### ANSI® standards

Eaton's reclosers are designed and tested in accordance with ANSI® standards C37.60 and C37.85 and ANSI® guideline C37.61.

### Quality standards

ISO 9001 Certified Quality Management System

### Description

The KA717L1 Kit contains both KA717L2 and KA717L3 upgrades for Type L reclosers to perform the "One-Shot To Lockout" operation. Reclosers manufactured before November 6, 1967 (S/N 72,000), need various modifications to the recloser head and mechanism assemblies.

**Note:** Reclosers manufactured from 1967 through 1978 can have the kit installed without modification of internal parts.

**Note:** This kit is sold ONLY to authorized service centers, as special tools are needed.

Refer to *Service Information S280-15-1 Type L Maintenance Instructions* for head and mechanism removal instructions.

## Installation of KA717L1 head components

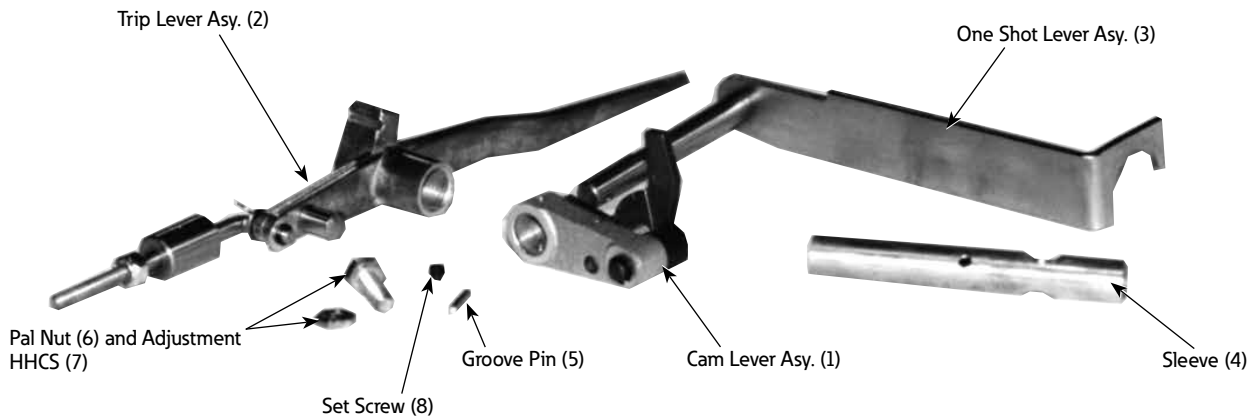


Figure 1. "One-shot" kit parts (head portion)

Table 1. Head Portion Kit Contents.

Item	Quantity	Part Number	Description
1	1	LA98	Cam Lever Assembly
2	1	LA72	Trip Lever Assembly
3	1	LA71	One Shot Lever Assembly
4	1	L243	Sleeve
5	1	KA2001-13	Groove Pin
6	1	8811-01-120025Z	1/4-20 UNC-2B Palnut, Steel - P/L Code Z
7	1	7301-15-125075A	1/4-20 UNC-2A x 3/4 long HHCS
8	1	KA2023-6	Set Screw
9	1	KA2048-469	Kit Instructions
10	1	LA717002	Copy of Kit Drawing

### 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.**

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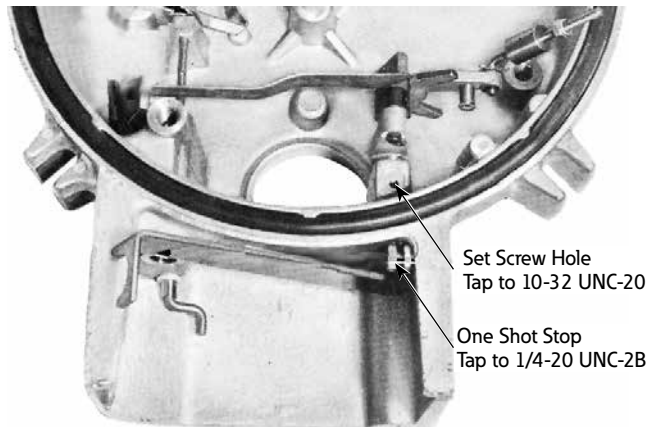
**Note:** The existing 8-32 hole for the set screw (see Figure 4), MUST be drilled out to .157 diameter (no. 21 drill) and tapped 10-32 UNC-2B. Reclosers in the range built after S/N 50,000 must have the existing hole in the side of the sleet hood for the "one-shot" stop tapped 1/4-20 UNC-2B.

### Head casting modification

**Note:** It is recommended that the LA714L counter spring replacement kit be installed with this kit.

This kit is intended for installation on the following reclosers (serial number breaks and dates are approximate).

- L Reclosers built after November 6, 1967. S/N 72000 (no modification required).
- L Reclosers built December 14, 1962 through November 6, 1967 S/N 40,500-72,000.

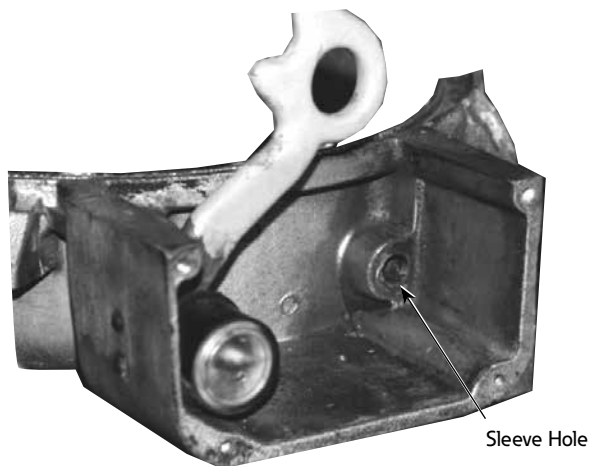


**Figure 2. Location of set-screw in head casting.**

Type L reclosers built June 25, 1962 through December 14, 1962 (S/N 38,700 - 40,500) same as above with the exception of drilling and tapping the 1/4-20 UNC hole in the sleet hood. (See drawing LA717002).

Type L reclosers built before June 25, 1962 (S/N 38,700). It is necessary to modify the head assembly in the following manner.

1. Open the .375 diameter hole to  $.500 \pm .001$  diameter for the sleeve (See Figure 5).



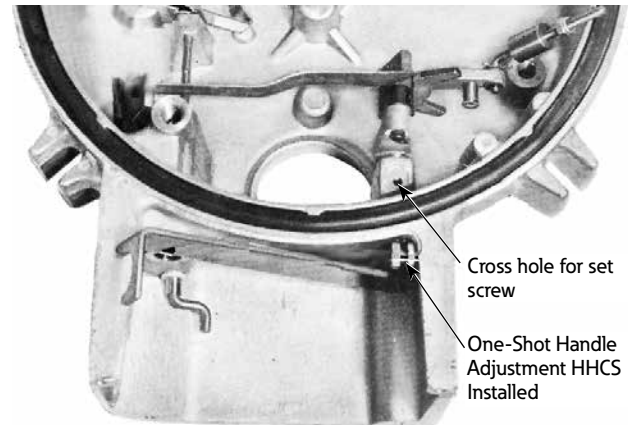
**Figure 3. Location of sleeve-hole in head casting.**

**Note:** It is critical to follow the specified sequence for drilling and reaming.

The drilling/reaming sequence is as follows;

1. Drill hole to .406 dia.
2. Drill hole to .437 dia.
3. Drill hole to .484 dia.
4. Ream hole to  $.500 \pm .001$  dia.

2. Add a 10-32 UNC-2B cross hole on the boss for a set screw to retain the sleeve (See Figure 6).
3. Add 1/4-20 UNC-2B hole to sleet hood for one-shot handle adjustment HHCS.



**Figure 4. Location of adjustment screw in head casting.**

### Installation procedure

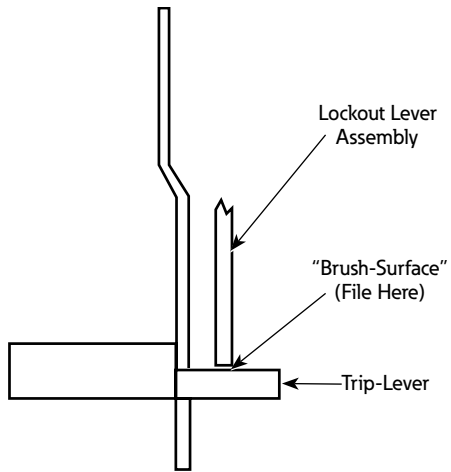
(Refer to *Service Information S280-15-1* Head Mechanism Section).

1. Insert L243 sleeve into sleeve hole (See Figure 3).
2. Install KA2023-6 set screw to secure sleeve.
3. Install one-shot lever assembly, and pin the cam lever assembly with provided groove pin (item 5).
4. Install trip lever assembly (protruding end goes under manual trip lever cam on lockout lever assembly, see Figure 4).
5. Operate the yellow handle to check engagement of trip lever.

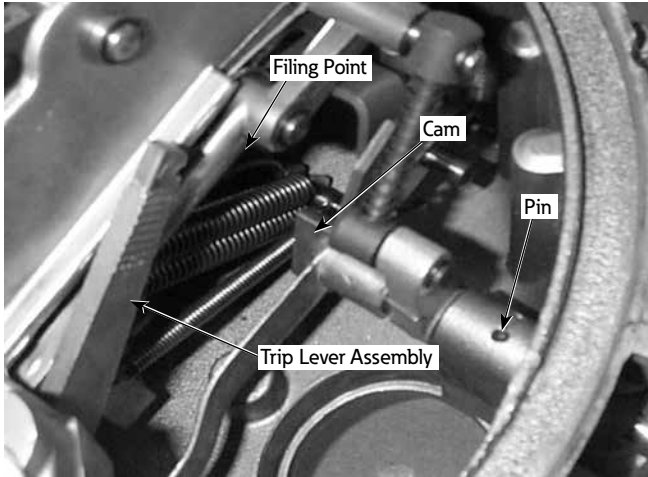
**Note:** It may be necessary to file the top of the latch surface on the LA44 lockout lever assembly if excessive latch engagement or failure of latch to open is experienced (See Figures 5 and 6).

6. Install HHCS in head casting (See Figure 4).

**Note:** Make proper adjustment to be made during testing procedures.



**Figure 5. Check latch clearance.**



**Figure 6. Location of lockout lever assembly.**



## Installation of KA717L3 mechanism components

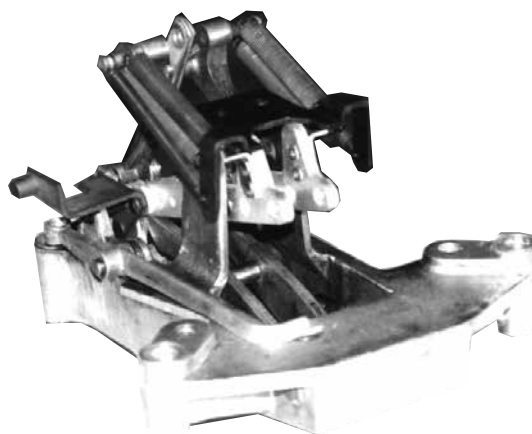


Figure 7. Mechanism assembly.

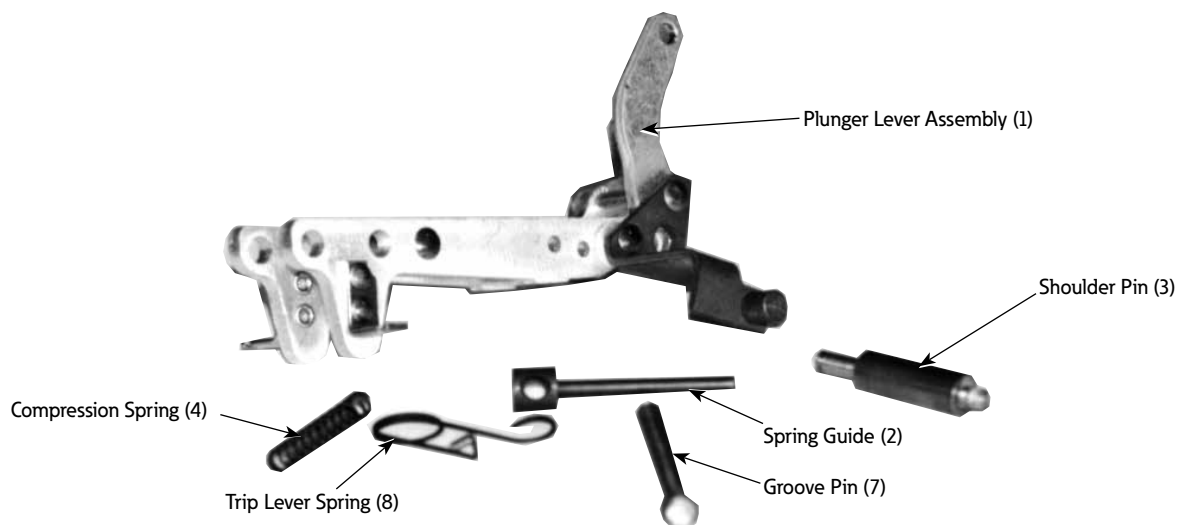


Figure 8. Mechanism kit parts.

Table 2. Mechanism Portion Kit Contents.

Item	Quantity	Part Number	Description
1	1	LA76B	Plunger Lever Assembly
2	1	L238	Spring Guide
3	1	L248	Shoulder Pin
4	1	L246	Compression Spring
5	1	9709-01-250000M	WA514 Retaining Ring (not pictured)
6	4	9709-01-312000M	WA516 Retaining Ring (not pictured)
7	1	KA3125-16	Groove Pin
8	1	L242	Trip Lever Spring
9	1		Copy of Drawing LA717003
10	1		Copy of Drawing LA78

## Mechanism disassembly

With mechanism removed from the head portion of the recloser, proceed as follows (Refer to drawing LA78C).

1. Remove the four main springs (item 7) and four main spring yokes (item 5 on drawing number LA78C).
2. Disconnect straight line motion link from pivot pin by removing two retaining rings that connect pivot pin (item 15) to mechanism casting.
3. Remove groove pin (item 28) to allow clearance for disassembly and reassembly. Replace with groove new pin from kit.

**Note:** Casting may need to be drilled if unit was originally a riveted unit.

4. Remove retaining ring (item 12 on drawing LA78C) from pivot pin (item 16) connecting the straight-line motion link, and remove pivot pin.
5. Remove wire spring clip (item 9) on drawing LA78C, and remove pivot pin (item 10) pivot pin.
6. Remove #12 retaining ring, and #17 pivot pin (drawing number LA-78C).
7. Remove old plunger lever assembly (See Figure 8).

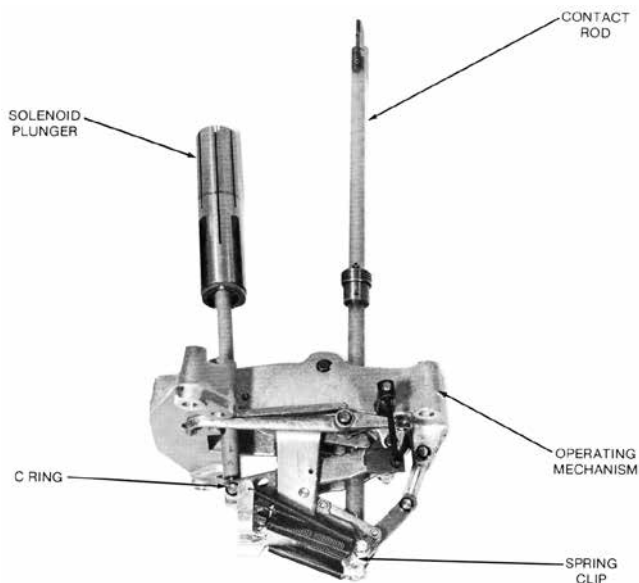


Figure 9. Description of mechanism components.

## Mechanism modification

This kit can be installed on units manufactured after April 5, 1962 without modification. For such applications, use only items 1-5 and discard items 7 and 8 from the kit.

Type L reclosers manufactured prior to April 5, 1962 utilize ALL kit items, and modification to the mechanism is necessary.

**Note:** On the post April 5 1962 reclosers, install ONLY items 1-5 from kit and discard items 7-8. Remove C-ring (one-each) from items 16, and 28 as shown on drawing LA78C to facilitate replacement of LA76 (Item 8). Replace C-rings with two (2) of item 6 from this kit.

For Type L reclosers built prior to April 5 1962, use ALL items in kit and modify the mechanism frame as follows: (See Drawing L380D-2).

1. Drill out rivet in "E" hole and discard rivet and long spacer on rivet. Drill open "E" hole (both sides) to .312 +.005-.001 diameter.
2. Locate F hole (1/4 and 1-1/32 dimensions per print) and drill to .201 diameter. Perform Step 3 BEFORE tapping hole to 1/4-20 UNC-2B.
3. Spotface F hole 9/16 diameter approximately .065 deep using Kyle T1317 Spotface Tool.

## Mechanism reassembly

1. Remove old plunger lever assembly, (See Figure 6).
  2. Install new plunger lever assembly. Reinstall the four main springs onto mechanism.
  3. Install shoulder pin and tighten.
- Note:** It is recommended to use Loctite® on threads of shoulder pin before installation.
4. Install spring guide.
  5. Install trip lever.
  6. Reinstall mechanism into head casting.

**Note:** Refer to *Service Information S280-15-1* for additional information .

## 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.**

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## Return unit to service

Reference *Service Information S280-10-8 Single Phase Installation and Operation Instructions* manual before returning unit to service.

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**Eaton**  
1000 Eaton Boulevard  
Cleveland, OH 44122  
United States  
Eaton.com

**Eaton's Cooper Power Systems  
Division**  
2300 Badger Drive  
Waukesha, WI 53188  
United States  
Eaton.com/cooperpowerseries

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