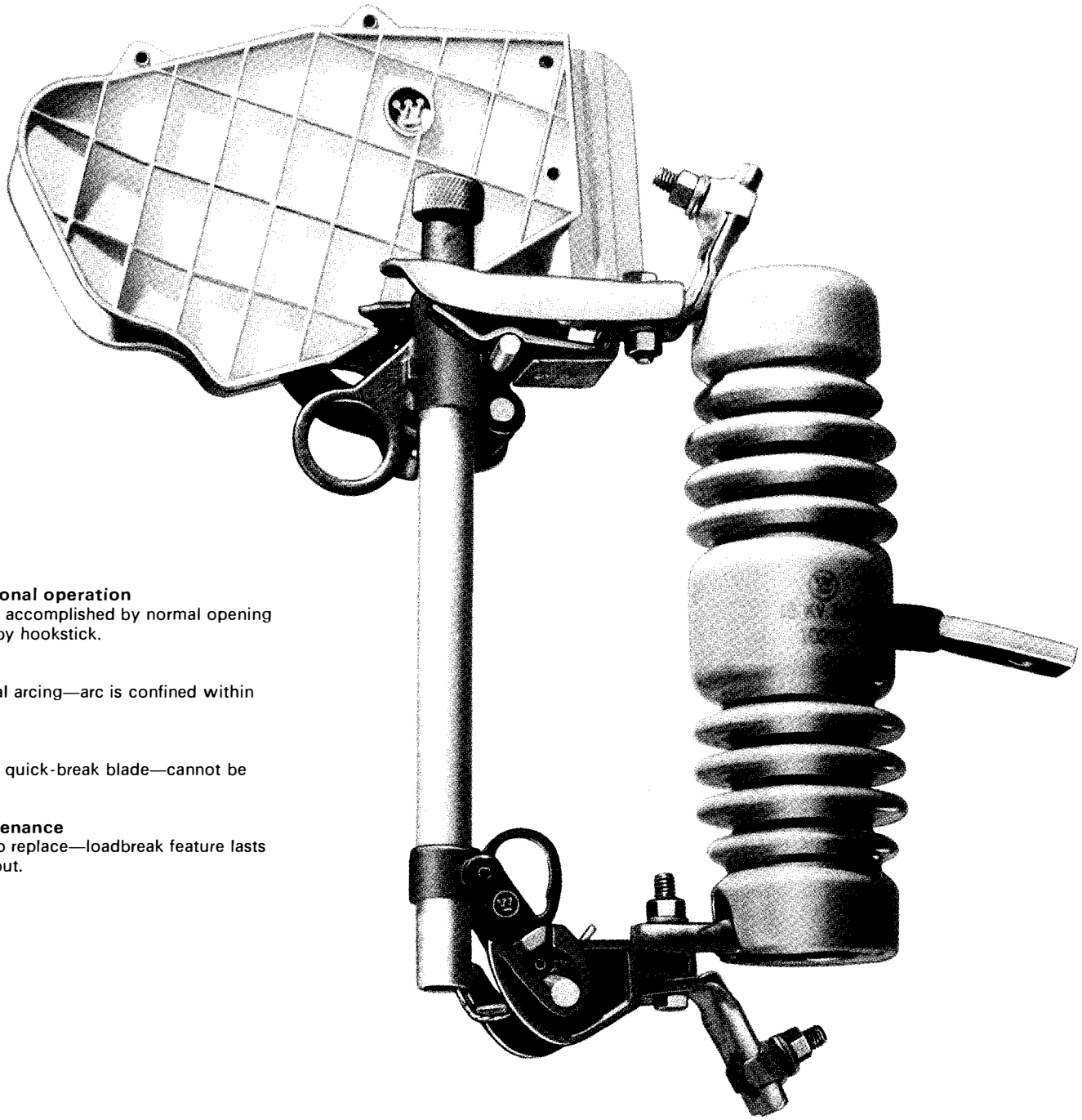
Loadbreak Open Fuse Cutouts Type LBU II



Conventional operation
Loadbreak accomplished by normal opening of cutout by hookstick.

Safe
No external arcing—arc is confined within chute.

Reliable
Loadbreak quick-break blade—cannot be teased.

No maintenance
No parts to replace—loadbreak feature lasts life of cutout.

Description

The LBU-II performs as an outdoor loadbreak switch as well as a fused cutout for distribution systems. Loadbreak interruption is accomplished by means of a self-contained loadbreak arc chute which confines the arc and provides a deionizing action.

The LBU-II can successfully switch currents as high as 300 amps at 15 KV and 50 amps at 20 KV. It has fault interrupting capacities as high as 20,000 amps RMS assymetrical.

The self-contained loadbreak concept enables the lineman to interrupt load current by means of a simple hookstick operation. Very little training is required to insure proper operating technique and no special tools are required.

Applications

Capacitor Banks

The LBU-II provides overcurrent protection for capacitor banks and gives visible indication that the equipment is energized. It also provides a convenient and inexpensive switch capable of interrupting capacitor currents.

Transformer Bank Switching

The LBU-II can be used for switching the magnetizing currents of transformer banks both single and three phase.

Sectionalizing

The LBU-II provides a convenient method of sectionalizing single and three phase, loop or lateral lines during maintenance or under contingency conditions.

Transition Pole

The LBU-II provides a way to switch the capacitive currents associated with the underground feeder cables at the transition pole.

Design Features

(1) Double Point Spring Latch

Double point spring latching assures that the LBU-II latches upon closing and stays latched. This high quality latch guards against the LBU-II being opened inadvertently by mechanical vibrations or high momentary currents.

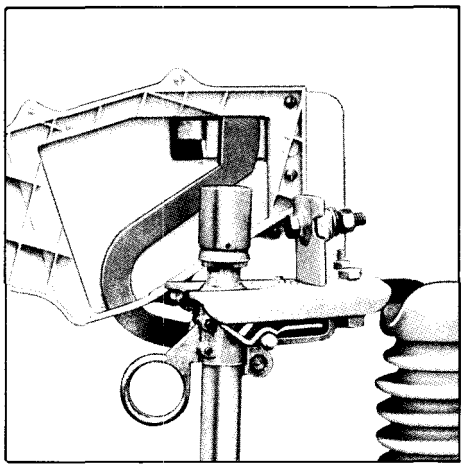
(2) Universal Contacts

All ratings have double point contacts at both top and bottom. Silver plating and high pressure springs at each contact point assure high conductivity and cool operation. The silver plating also aids in resistance to corrosion.

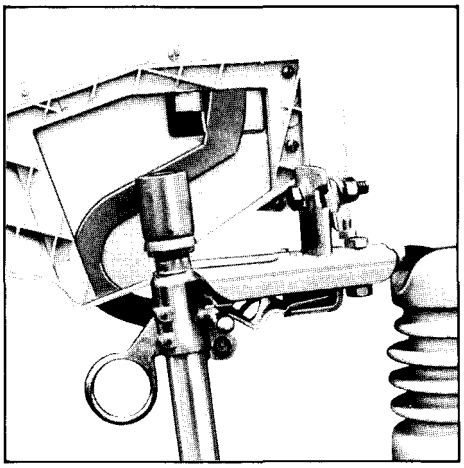
(3) Spring Loaded Flipper

The spring loaded flipper produces positive withdrawal action of the fuse link during low current faults or overloads. This results in a reduction of the arcing time on the horn fiber in the fuse tube.

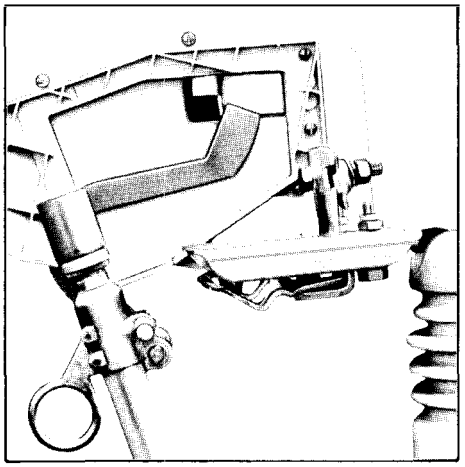
Loadbreak Operation Sequence



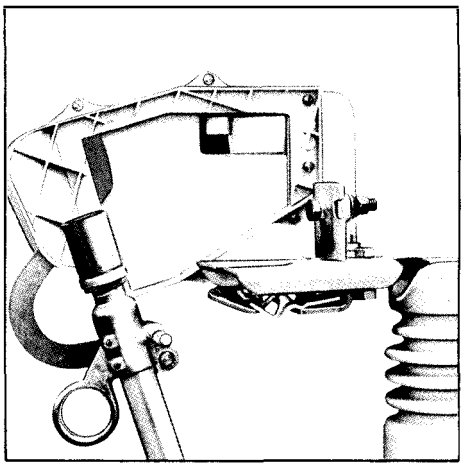
1. In the closed position, 100 percent of the current is carried through the main contacts of the cutout since the C-blade in the arc chute is isolated from the arc chute contacts.



2. As the cutout is pulled open, the C-blade becomes a current path before the main contacts part. This eliminates arcing and pitting of the main contacts.



3. After the main contacts part, the C-blade is deflected against its spring tension due to its engagement with the arc chute contact.



4. Further opening of the cutout releases the C-blade and it snaps the length of the arc chute elongating and deionizing the arc. This action insures safe loadbreak operation independent of the operating speed of the lineman.

(4) Aluminum Bronze Castings

The aluminum bronze (10.5% Al, 88.5% Cu, 1% iron) castings have the highest corrosion resistive and high strength properties available in aluminum bronze or yellow bronze alloys. This material was chosen to insure the long life of the cutout.

(5) Solid Porcelain Construction

The insulator is a solid piece of wet process porcelain coated with a compressive non-tracking glaze to provide strength and long life.

Cementing of the back strap, top assembly, and bottom assembly into the porcelain eliminates the need for special bird-proofing precautions.

(6) Reduced Weight

The streamlined porcelain design eliminates unnecessary porcelain bulk and thus minimizes the cutout weight.

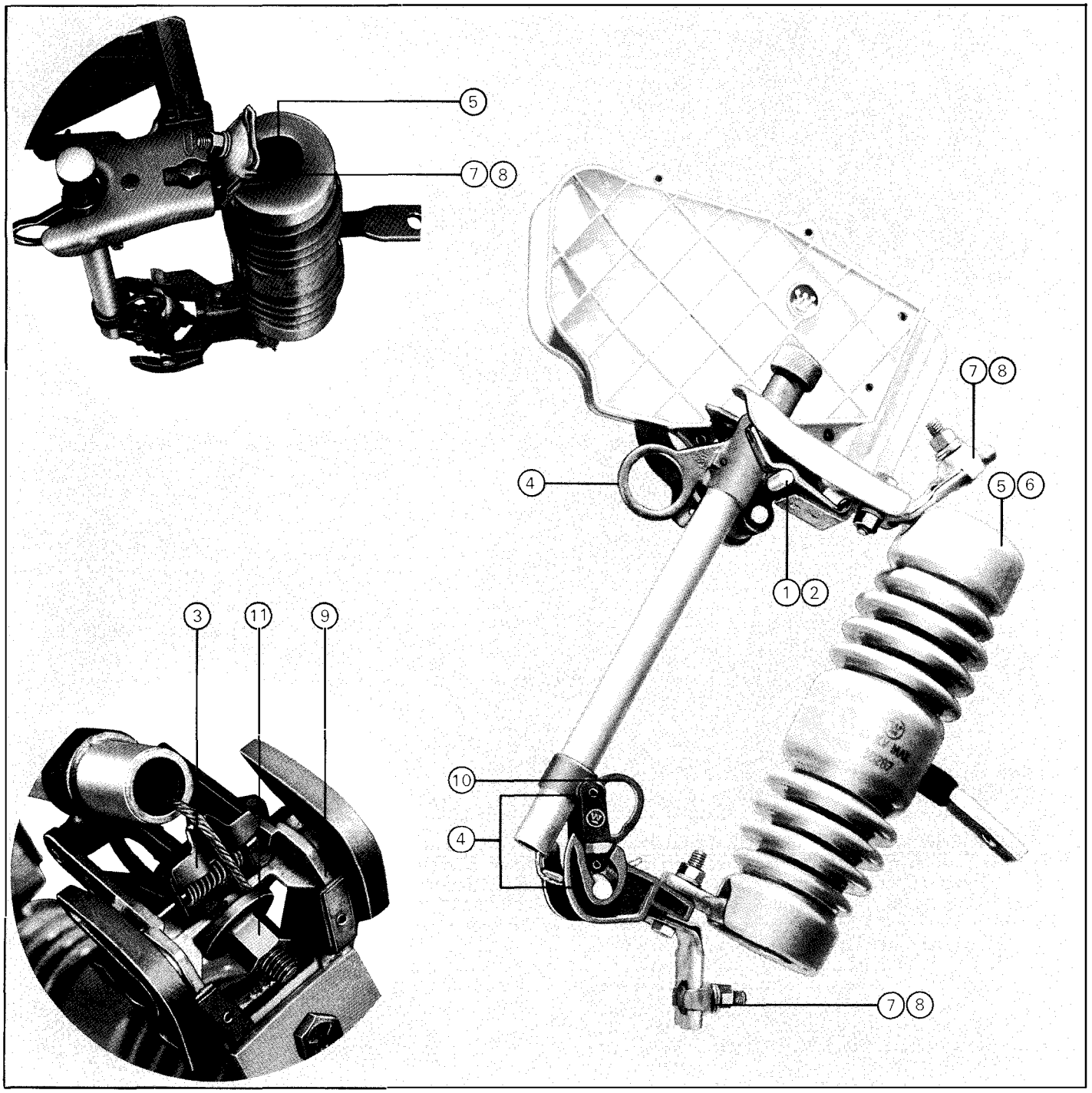
(7) Tin Plated Terminals

Bronze alloy terminals are tin plated to accept both copper and aluminum conductors. The parallel groove connector, standard on all ratings, will accept conductors ranging from No. 8 to 4/0 ACSR.

Eyebolts may be supplied as an option to accommodate conductors through 250 MCM.

(8) Centered Terminals/Single Wrench Operable

All terminals are mounted on the center line of the cutout to accommodate line leads



from either side. The parallel groove connectors have a "tongue-in-groove" feature which allows them to be tightened using only a single wrench.

(9) Locking Cams
The camming action of the bottom hinge provides assurance that the fuseholder will not bounce out of the cutout when it swings open. This same action insures that the fuseholder will remain engaged in the bottom hinge support during closing.

(10) Lifting Eye
The LBU-II has a large keyhole shaped lifting eye. A large opening is provided to make for easy insertion of the hookstick. The small end of the lifting eye is provided to insure that the fuseholder stays on the hookstick when it is being removed or installed.

(11) Fuse Link Tension Limiter
An extension of the flipper is designed such that it engages a surface on the bottom ferrule casting when the cutout is properly fused. This action limits the tension exerted on the fuse link during closing.

Further Information
PL 38-670
PL 38-650
DB 38-651

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