

THE BASICS FOR APPLYING AND USING CUTOUTS

ACHIEVING DESIRED SYSTEM PROTECTION

Skillful operating practices and efficient design are the keys to ensuring the open-type cutout will be an effective, inexpensive protective device for your system. Enhance working conditions for your linemen and increase the durability of cutouts by following the simple procedures outlined here.

Provide personnel with essential training and equipment.

The operating personnel who service cutouts must be trained in proper safety practices. Provide them with appropriate equipment such as safety glasses, hotsticks, hard hats and rubber gloves.

Never mount a cutout in an enclosed area (such as a vault) or directly above apparatus such as transformers and capacitors.

Both situations can cause flashovers! Hot gases and high-velocity particles are expelled during interruptions. Limiting the flow of the gases and particles can cause insulator flashover and serious injury or property damage.

Make sure ratings match.

The cutout fuseholder ratings must match with those of the fuse link. A 100-amp fuseholder should be used with fuse links rated 100 amps or less. A 200-amp fuseholder should be used with fuse links rated above 100 amps and up to 200 amps.

In some cases, special fuse links rated more than 100 amps may physically fit in the 100-amp fuseholder bore, but too tightly to properly operate. Also, while some 100-amp and lower-rated fuse links may fit 200-amp fuseholders, there is a fault-current window within the cutout rating in which the cutout won't clear.

Choose the appropriate cutout and link for the specific application.

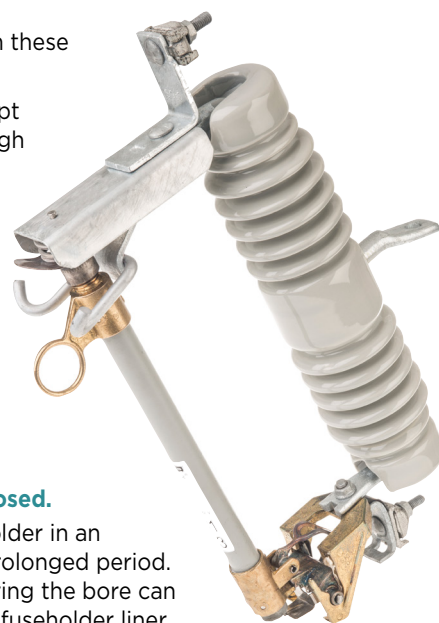
When you are selecting cutout ratings, you must consider maximum recovery voltage, system operating voltage, continuous current, basic-insulation level (BIL) and fault-current levels. Verify system coordination before specifying fuse links.

Examine cutouts for build-up of contaminants.

Periodic examination is essential, particularly in areas of severe contamination. To assure dropout, the pivot points must swing freely. Be sure the silver-plated contact surfaces are free of pitting and contaminants (other than silver oxide). Never remove

the silver plating from these surfaces.

Insulators must be kept clean to help avoid high leakage currents and flashovers. Be sure not to scratch the insulators while cleaning them mechanically or chemically. Replace broken, chipped or cracked porcelain.



Leave fuseholders closed.

Do not leave a fuseholder in an open position for a prolonged period. Excessive water entering the bore can cause damage to the fuseholder liner causing it to swell, which could cause the cutout to fail to interrupt.

Therefore, always remove the fuseholder when the tap is left open at the cutout. Although it is best to store the fuseholder in a dry place, it may be hung in an upright position on the pole.

Before reclosing the cutout, clean and inspect all contacts for excessive pitting or burning and replace as necessary.

Latch link ejector.

Rotate the link ejector about its pivot until the tab engages the latch on the lower fuseholder ferrule. This latch helps prevent overstressing the fuse link when the fuseholder is in the closed position.

Wind fuse link cable carefully and cut off excess.

Wind cable once around the threaded stud in a clockwise direction. Make sure all smaller cables are wound close to the stud base so they are not severed when the nut is tightened. Never tighten the nut more than approximately 175 in.-lb.

Always cut off any excess cable. Excess cable is hazardous because it can prevent the fuseholder from swinging open or cause a flashover.

Check fuse tube when re-fusing.

Always replace the fuseholder if the fiber liner wall of the fuse tube is cracked or shows excessive erosion. Follow manufacturer's guidelines to replace the fuse tube as necessary.

Use manufacturer's approved parts to replace damaged fuseholder caps.

The cutout's interrupting rating will change if you use a different cap. For example, replacing a cap that has an arc-shortening rod with a cap that does not have an arc-shortening rod will reduce the cutout's interrupting capability.

Always check the expendable caps on dual-vent cutouts. If there is any sign of venting or cracking, replace the cap. For the cutout to clear all levels of its fault-current rating, the pressure-responsive section of the cap must be intact.

Always open an energized cutout with a loadbreak device.

Do not attempt to open a non-loadbreak cutout to interrupt load current. An arc started by opening a non-loadbreak cutout under load could cause injury or damage to equipment. Either use cutouts designed to break load current or use loadbreak tools.

For linkbreak cutouts, you must use fuse links which require less than 1 inch elongation before breaking. These special cutouts operate by breaking the fuse-link element in the fuseholder. Use of fuse links requiring more than 1 inch elongation before breaking may cause the fuseholder to drop partially with the fuse link still carrying the load current. This may result in dangerous arcing which could cause flashovers, personal injury or property damage.

Follow the manufacturer's instructions for using a loadbreak device.

Be sure loadbreak tools are properly maintained per manufacturer's recommendations.

Exercise caution while closing a cutout.

Hot gases and high-velocity particles are expelled from a fuseholder during interruption. This expulsion can cause serious injury. Stay away from conical areas below and in-line with the fuseholder.

To properly close a cutout, the operator must position himself well clear from the vented end and exhaust path of the cutout. The operator should then place the disconnect stick in the ring on the upper ferrule of the fuseholder. Rotate the fuseholder to an intermediate position as shown here. Look away from the cutout. Quickly and firmly drive the fuseholder into the closed position. Then remove the disconnect stick from the ring carefully to avoid opening the fuseholder.

Exercise caution while installing a fuse link.

Be careful when making pigtail (leader) connection! Any pulling force in excess of 10 pounds on fuse links may damage the element (especially on small links). Fuse links are designed according to ANSI specifications to withstand 10 pounds of tension.

The small tube on the fuse link is not part of the packaging! Do not remove or damage it! This auxiliary fuse tube is provided to clear low fault currents.

Removable buttonhead fuse links must make good connections at the top of the adapter. Be sure the adapter is screwed tightly into the buttonhead. A loose connection between the buttonhead and the fuse link can cause them to overheat. This will cause nuisance trips and damage to the fuse tube.

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Hubbell has a policy of continuous product improvement. We reserve the right to change design and specifications without notice.