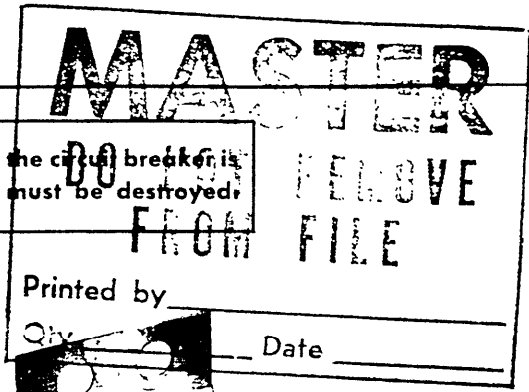




FIELD MOUNTING OF AUXILIARY SWITCH ACCESSORIES TO TYPE TKM CIRCUIT BREAKERS

IMPORTANT NOTE: — UL listing is voided when the circuit breaker is modified to add an accessory. The UL label must be destroyed.



DESCRIPTION

Auxiliary switch accessories are installed in circuit breakers to operate relay, control or indicating light circuits simultaneously with the operation of the breaker.

The position of the circuit breaker main contacts is indicated by closed or open auxiliary switch contacts as follows:

Normally-open, "A" contacts — open when the breaker is open or tripped, closed when the breaker is closed.

Normally-closed, "B" contacts—closed when the breaker is open or tripped, open when the breaker is closed.

Auxiliary switches for the Type TKM circuit breaker consist of one to four "AB" elements (Fig. 1). Each "AB" element is one 3-terminal, single-pole, double-throw switch with 3 color-coded wire leads connected to the switch terminals and brought out through the circuit breaker case, extending a minimum of 24 inches outside the breaker. An "AB" switch element can be used in an auxiliary circuit as a single "A" contact, using only the red and white leads, or a single "B" contact, using only the green and white leads. It can also be used as both an "A" contact and a "B" contact, using all three leads, provided there is a common connection in the auxiliary circuit wiring between the "A" and "B" contacts.

The auxiliary switch assembly is left-pole mounted only, occupying the space above the trip unit to the left of the centered breaker operating mechanism inside the breaker case. It is attached to the trip unit case and is operated by an actuator which is fastened to the circuit breaker movable contact arm (Fig. 2). The auxiliary switch will not interfere with the automatic operation of the breaker trip unit or operating mechanism under overcurrent conditions.

AUXILIARY SWITCH ACCESSORY KITS FOR TYPE TKM BREAKERS *

Catalog Number	Number of "AB" Switch Elements	Maximum Electrical Ratings of Switch Element Contacts
TKMAS2AB1L	1	10 amps at 120 or 240V AC ¼ amp at 250V DC ½ amp at 125V DC
TKMAS2AB2L	2	
TKMAS2AB3L	3	
TKMAS2AB4L	4	

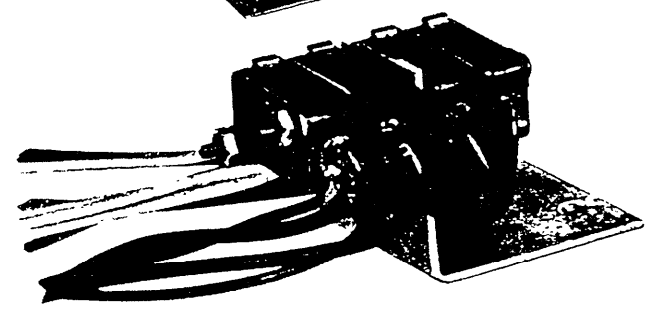
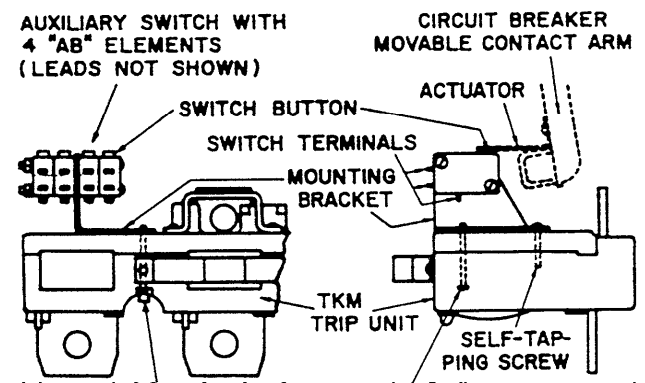


Fig. 1. Actuator and auxiliary switch with four "AB" elements for Type TKM circuit breaker



INSTALLATION

Precaution: The circuit breaker should be in the open position, and de-energized before installing accessories. If the supply cannot be de-energized, use all possible safety precautions, including insulated handle tools, rubber gloves, and a rubber floor mat. Circuit breakers and components should be handled, inspected, installed or removed only by qualified personnel and in accordance with accepted safety precautions.

1. Move breaker handle to OFF. Remove the breaker cover by unscrewing the four cover screws. Cover screws are those closest to breaker handle.
2. Remove trip unit as follows:
 - a. Trip mechanism by pushing trip button (Fig. 2).
 - b. Remove lugs on other load-side connectors.
 - c. Loosen screws securing line side of trip unit conductors.
 - d. While pressing the trip button, lift out trip unit.

Note: For more detailed instructions covering removal of trip unit, refer to Instruction Sheet GEH-2953 or GEH-2954 packed with each circuit breaker frame or complete breaker.

3. Attach auxiliary switch actuator to the left-hand movable contact arm of the circuit breaker mechanism. Secure with the two drive rivets provided, using the punched holes closest to the cross bar (Fig. 3).
4. Secure the auxiliary switch assembly to the left top of the trip unit case (Fig. 2). The self-tapping screw fastens through the rear mounting bracket hole into the pilot hole in the trip unit case, and the machine screw fastens from below through the eyelet into the threaded hole in the mounting bracket.
5. Bring accessory leads out the side or rear of the circuit breaker as follows:
 - a. To bring accessory leads out the side of the circuit breaker, file an opening to fit the leads at the indentation in the left top edge of the circuit breaker frame

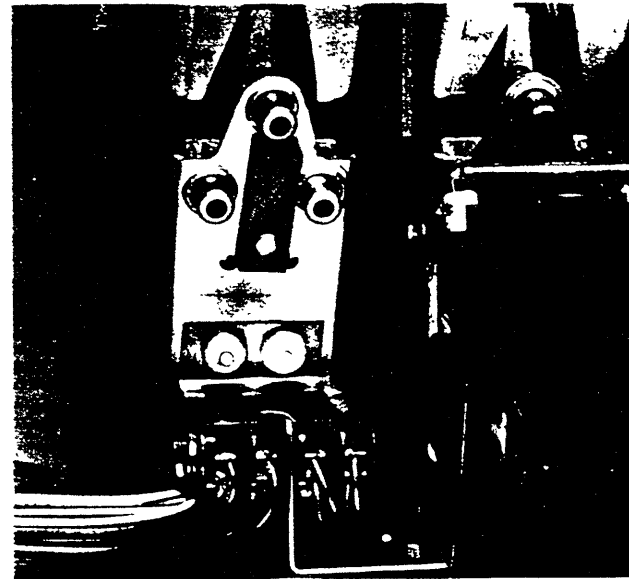
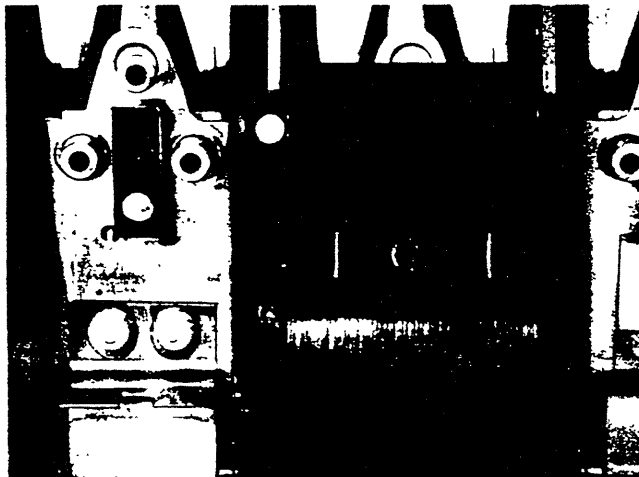


Fig. 4. Auxiliary switch operated by actuator when circuit breaker main contacts are open

- approximately $4\frac{1}{2}$ inches from the load end. Clean filings from the circuit breaker.
 - b. To bring the accessory leads out the rear of the circuit breaker, drill holes through, using the pilot indentations provided for this purpose underneath the trip unit inside the circuit breaker base. Clean chips from the circuit breaker. Insert accessory leads through these holes before replacing trip unit.
6. Replace trip unit as follows:
 - a. Make sure trip unit mounting screws, lock washers and flat washers are in line side conductor holes.
 - b. While pressing the trip button, insert the trip unit in the frame. Be sure the actuator slides across and rests on top of all switch buttons (Fig. 4). Carefully engage to locating hooks of the trip unit in the slots of the mechanism frame.
 7. To check for proper operation of accessory after assembly, make the following mechanical and electrical checks:

Mechanical

With the breaker open, check that the switch actuator depresses the switch buttons to actuate all switch elements.

Electrical

Check for continuity to see that:

"A" contacts (red and white leads) are open when the breaker is open or tripped, and closed when the breaker is closed; "B" contacts (green and white leads) are closed when the breaker is open or tripped, and open when the breaker is closed. For future identification of the respective "AB" elements after the breaker cover is replaced, the leads associated with each "AB" switch element should be marked or