



CONDUCTOR'S GUIDE TO THE USE OF ZONE SWITCHES

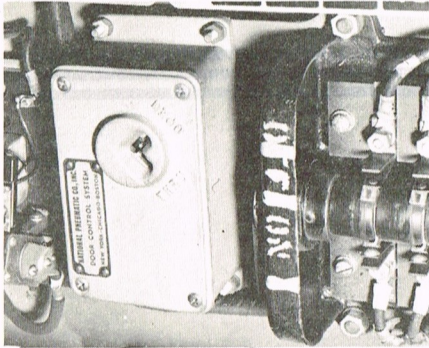


When trains of more than two cars are in operation and ticket agents are off duty, zone switches are used to allow the conductor to open only the doors in the unit in which he or she is operating. Zone switches are also used in certain trouble shooting situations where the individual door cut-outs are not effective.

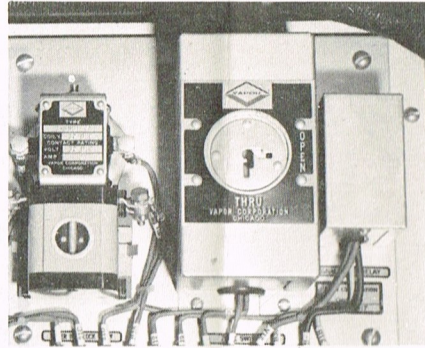


LOCATION OF ZONE SWITCHES

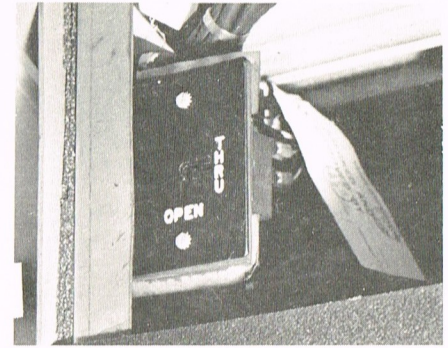
SERIES 6000



SERIES 2000



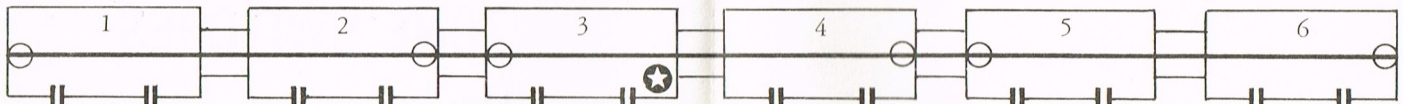
SERIES 2200



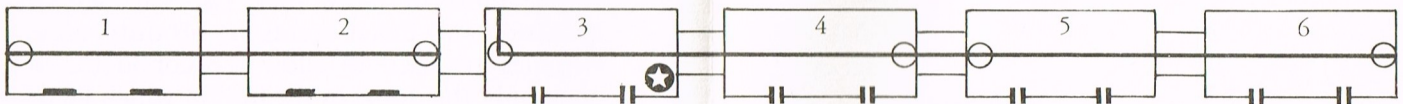
The zone switch on 6000 series and 2000 series cars is located in the switch cabinet above and to the rear of the motorman in every motor cab.

The zone switch on 2200 series cars is located in the door header compartment above the number one door in each car.

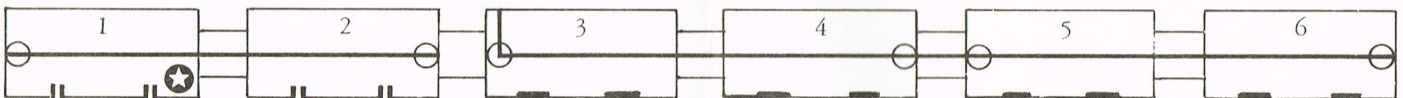
POSITIONS OF THE ZONE SWITCH



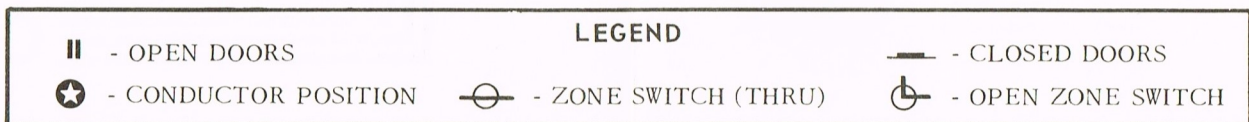
Zone switches are normally set in the "Thru" position. In the 6 car train above, for example, if all the zone switches are in the "Thru" position, the conductor can open all doors on the train from any operating position.



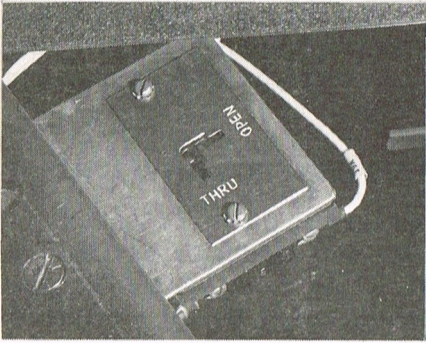
Zone switches may be set in the "Open" position. In the 6 car train above, for example, if the zone switch in either the #2 or #3 car is in the "Open" position, a conductor whose operating position is in the third or the fifth car will be able to open the doors in cars three through six, but not in the first two cars.



If the conductor changes his operating position to the first car, the doors in the first two cars will open, but not in cars three through six (see diagram above).



SERIES 2400



The zone switch on 2400 series cars is located in the forward door header compartment adjacent to the number one door in each car.

DETERMINING THE POSITION OF A ZONE SWITCH

To determine the position of a zone switch, insert MUDC key in "Thru" position:

1. If MUDC key fits, zone switch is in "Thru" position.
2. If MUDC key does not fit, zone switch is in "Open" position.

INTERRUPTING CONTROL OF DOORS

To interrupt control of doors, go to the first car in which you want the doors to remain closed. Then:

1. Insert MUDC key in "Thru" position of zone switch.
2. Turn MUDC key to "Open" position of zone switch.
3. Remove MUDC key from zone switch.

The control of doors is now interrupted.

NOTE: The control of doors can be interrupted from either the last car in which you want the doors to open or the first car in which you want the doors to remain closed.

RESTORING CONTROL OF DOORS

At a terminal, if all doors in a section of the train fail to open, the conductor should immediately suspect an "Open" zone switch. To restore control of doors, start at the car in which the interruption occurs. Check the position of the zone switch as outlined in DETERMINING THE POSITION OF A ZONE SWITCH. If the zone switch is in the "Open" position, follow the steps outlined below. If the zone switch is in the "Thru" position, move to the next car at the point of interruption. This zone switch is in the "Open" position. Then:

1. Insert MUDC key in "Open" position of zone switch.
2. Turn MUDC key to "Thru" position of zone switch.
3. Remove MUDC key from zone switch.

Control of all doors from any conductor position is now restored.



1. The first step in the process is to identify the components of the switch. This includes the contact points, the spring mechanism, and the housing.

2. Once the components are identified, the next step is to determine the electrical characteristics of the switch. This includes the voltage rating, the current rating, and the contact resistance.

3. The third step is to select the appropriate materials for the switch components. This includes the contact material, the spring material, and the housing material.



4. The fourth step is to design the switch housing. This includes determining the housing shape, the housing material, and the housing dimensions.

