



TROUBLE SHOOTING PROCEDURES

**RAPID TRANSIT CARS
SERIES 2001 -
2180**

TRAIN WILL MOVE

As soon as trouble is indicated, notify the Line Supervisor. Then, locate column which gives the panel indication you now have. Follow actions suggested in that column until trouble is corrected or by-passed. If you have more than one panel indication, treat each one separately.

YELLOW panel light COMES "ON" IMMEDIATELY when cineston handle is moved to a service braking position and train is moving in excess of 5 MPH*

TROUBLE: Loss of dynamic braking on one or more cars

CODE for reporting trouble:
Yellow Dynamic

PROCEDURE for shooting trouble:

- LOCATE DEFECTIVE CAR OR CARS
- CUT OUT 7 PT. SWITCH ON DEFECTIVE CAR

TO LOCATE DEFECTIVE CAR OR CARS: Move train in excess of 5 MPH. Apply brakes. Outside parking brake light on defective car will come "on" immediately.

- If outside parking brake lights are on sides of cars, you can see them from cab window
- If outside parking brake lights are on ends of cars, have Conductor watch lights while you move train

*You may have received this indication if the wheels on one or more cars were sliding. If you suspect this, test for indication again before starting to shoot trouble.

YELLOW panel light REMAINS "ON" regardless of position of cineston handle

TROUBLE: Parking brakes on one or more cars have not released

CODE for reporting trouble:
Yellow Parking

PROCEDURE for shooting trouble:

LOCATE DEFECTIVE CAR OR CARS*

- If only one car of train has outside parking brake light "on," MANUALLY CUT OUT ALL FOUR ACTUATORS ON THAT CAR

NOTE: Outside parking brake light remains "on" when actuators are cut out. Yellow panel light goes out.

- If all cars of train have outside parking brake lights "on"
 1. RESET P5 SWITCH IN HEAD CAB
 2. RESET BRAKES
 3. If yellow panel light still does not go out, CHANGE CAB (See "Procedure to Change Cabs")

*TO LOCATE DEFECTIVE CAR OR CARS: Reset brakes. Hold cineston handle depressed in "Coast" position. Defective car will have outside parking brake light "on."

- If outside parking brake lights are on sides of cars, you can see them from cab window
- If outside parking brake lights are on ends of cars
 1. Turn off control positive switch
 2. Reset brakes
 3. Have Conductor hold cineston handle depressed in "Coast" position. (Caution Conductor to release handle if train begins to move)
 4. Walk through or alongside train and observe parking brake lights

CIRCUIT BREAKER BUZZER sounds
buzzer can sound with cineston handle in any position

TROUBLE: Blown circuit breaker

CODE for reporting trouble: Blue

PROCEDURE for shooting trouble:

- Stop train
- After train is stopped, place cineston handle in B4 (Emergency) position, then operate power reset switch

NOTE: Power reset switch will not operate unless train has been brought to a complete stop and cineston handle placed in B4 position

- Reset brakes by moving cineston handle to B3 position
- If buzzer sounds again, MOVE CINE-STON HANDLE BACK TO B4 (EMERGENCY) POSITION AND OPERATE POWER RESET SWITCH AGAIN
- Reset brakes by moving cineston handle to B3 position again
- If buzzer sounds again, LOCATE DEFECTIVE CAR (Defective car is one which has blue circuit breaker light "on")
- CUT OUT 7 PT. SWITCH ON DEFECTIVE CAR

WHITE light is "OFF" for prolonged period

TROUBLE: Converter on that unit not charging

CODE for reporting trouble: Converter

PROCEDURE for shooting trouble:

- If at terminal, REPORT DEFECT TO TERMINAL SUPERVISOR OR YARD FOREMAN IMMEDIATELY
- If on line of road, REPORT DEFECT TO LINE SUPERVISOR IMMEDIATELY

TRAIN WILL NOT MOVE

As soon as trouble is indicated, notify the Line Supervisor. Then, locate column which gives the panel indication you now have. Follow actions suggested in that column until trouble is corrected or by-passed. If you have more than one panel indication, treat each one separately.

YELLOW panel light REMAINS "ON"	GREEN panel light is "OFF"	NORMAL panel indications	YELLOW signal light "OFF" when parking brakes are applied and green signal lights "OFF" when doors are closed
TROUBLE: Defective emergency relay circuit	TROUBLE: Defective door or door circuit	TROUBLE: Defective power control relay or power control circuit	TROUBLE: Blown P6 switch in operating cab (two cinestons in train open at same time)
CODE for reporting trouble: Yellow, Emergency	CODE for reporting trouble: Green	CODE for reporting trouble: Normal	CODE for reporting trouble: P6
<p>PROCEDURE for shooting trouble:</p> <p>If the reason for the train being in emergency has been determined and IF THE CAUSE OF THE TROUBLE HAS BEEN CORRECTED, RESET THE BRAKES AND PROCEED.</p> <p>If the cause of the trouble is not known, CHECK P5 SWITCH IN HEAD CAB AND RESET IF BLOWN.</p> <p>If this does not correct the trouble, then walk the length of the train and, CHECK ALL SIDE TRIPS, JUMPER SWITCHES, WHEELS ON TRACK AND CONDUCTOR'S EMERGENCY SWITCHES. If any defects are found correct them, if possible.</p> <p>When visual inspection is completed, REPORT YOUR FINDINGS AND ANY CORRECTIVE ACTIONS TO THE LINE SUPERVISOR, who will decide if additional corrective actions are necessary.</p> <p>If instructed to use the Emergency By-Pass</p> <ul style="list-style-type: none"> • RESET P5 SWITCH IN HEAD CAB • DEPRESS AND HOLD EMERGENCY RELAY BY-PASS BUTTON (Releasing button will cause brakes to reapply) • PROCEED WITH CAUTION (When the emergency relay by-pass button is depressed, overrunning a track trip, opening a Conductor's emergency switch or releasing cineston handle will not stop the train. To obtain emergency braking, move the cineston handle to the 4th point of braking) 	<p>PROCEDURE for shooting trouble:</p> <ol style="list-style-type: none"> 1. Have Conductor OPERATE DOOR SWITCHES SEVERAL TIMES 2. Have Conductor CHECK FOR OPEN DOOR <p>If a door is open</p> <ul style="list-style-type: none"> • RESET PASSENGER'S EMERGENCY. If this does not close door . . . • TURN DOOR CUT-OUT SWITCH TO "OFF" POSITION (If door remains open, push it closed) • PROCEED <p>If no door is open, report findings to Line Supervisor and request permission to by-pass power control relay circuit. If permission is given</p> <ul style="list-style-type: none"> • MOVE FLAG SWITCH TO BY-PASS POSITION • OPERATE ON BUZZER SIGNALS <p>If a door arm is broken</p> <ul style="list-style-type: none"> • TURN DOOR CUT-OUT SWITCH TO "OFF" POSITION • CLOSE DOOR. SECURE IT WITH A ROPE OR TROLLEY SLIPPER OR HAVE IT GUARDED • PROCEED 	<p>PROCEDURE for shooting trouble:</p> <ul style="list-style-type: none"> • MAKE CERTAIN CONTROL POSITIVE SWITCH IS "ON" • RESET P3 AND P11 SWITCHES IN HEAD CAB <p>If this does not correct trouble, contact Line Supervisor and request permission to by-pass power control relay circuit. If permission is given</p> <ul style="list-style-type: none"> • MOVE FLAG SWITCH TO BY-PASS POSITION OPERATE ON BUZZER SIGNALS 	<ul style="list-style-type: none"> • Reset P6 switch in head cab • If P6 blows again, check for a second open cineston somewhere in train. If found, close it, then reset P6 switch in head cab and proceed
If train still will not move, see PROCEDURE TO CHANGE CABS			

PROCEDURE TO CHANGE CABS

If, after all Trouble Shooting steps are completed, the train still cannot be moved from the head cab, take the following steps:

ONE UNIT TRAIN

1. Lock up cineston in head cab
2. Move back to rear cab (left side of train)
3. Operate train

If train will not operate, see folder PROCEDURE FOR COUPLING AND UNCOUPLING ALL-ELECTRIC CARS, "Coupling to a Train with Equipment Trouble."

ALL TRAINS EXCEPT ONE UNIT TRAINS

1. Lock up cineston in head cab
2. Move back to next cab on right side of train
3. Test the cab for response

If train will not operate from this cab, move to the next cab on the right side of the train and repeat steps 2 and 3 above until you find a cab from which you can operate the train.

If you reach the last cab on the right side of the train and the train still will not operate, trouble is probably in the last unit

1. Move both jumper switches at this point in the "Uncoupled" position.
2. Return to head cab and attempt to operate.

If train will not operate from any cab, see folder PROCEDURE FOR COUPLING AND UNCOUPLING ALL-ELECTRIC CARS, "Coupling to a Train with Equipment Trouble."