

Fig 16a—Initial Conditions For 1 Train Operation — Completely Depowered (Like a Straight Track)

In this mode, the automatic switching block is completely turned off, and operates like a piece of straight track.

- Push toggle switches K1 and K2 to the DOWN (off) position.
- Push arm of motor M2 on the control unit to LEFT (power connection to mainline).
- Set control unit to GREEN by pushing arm of motor M3 to FRONT.
- Adjust rheostat R1 to maximum clockwise FAST position.

- Set track switch S1 to STRAIGHT.
- Place 1 engine on the track in the position shown by Engine A in the above figure.
- Turn on the DC track power.

You will now have one train operation using engines A, which will run across the block as though it were a piece of straight track.

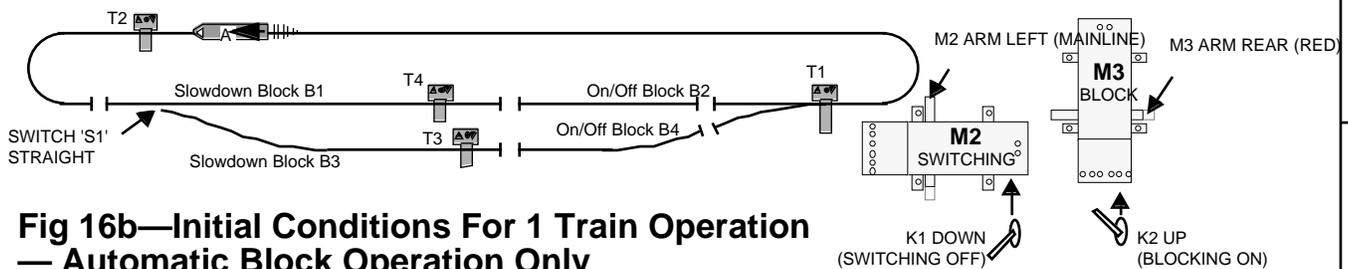


Fig 16b—Initial Conditions For 1 Train Operation — Automatic Block Operation Only

In this mode, the control unit performs automatic blocking functions.

- Verify the power-on indicator light is lighted.
- Set toggle switch K1 to the DOWN (switching off) position.
- Set toggle switch K2 to the UP (block on) position.
- Push arm of motor M2 on the control unit to LEFT (power connection to mainline).
- Initialize control unit to RED by pushing arm of motor M3 to rear.
- Adjust rheostat R1 to maximum clockwise FAST position.
- Set track switch S1 to STRAIGHT.

- Verify engines have type 17010 magnets on the bottoms.
- Place 1 engine on the track in the position shown by Engine A in the above figure. Note it must be "upstream" of track contract T2.
- Turn on the DC track power.

You will now have one train operation using engine A, which will activate the automatic block part (Motor M3) of the control unit.

Engine A should change the block to GREEN as it passes over track contact T2, and change it back to RED as it passes over track contact T1.

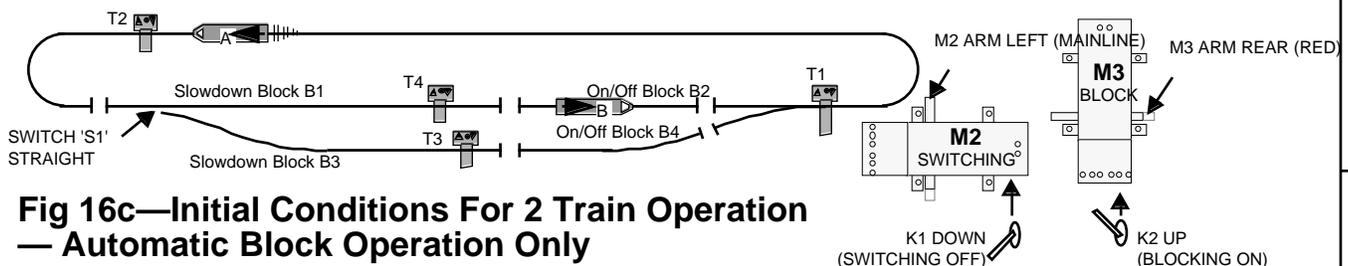


Fig 16c—Initial Conditions For 2 Train Operation — Automatic Block Operation Only

In this mode, the control unit performs the automatic blocking functions, but not the automatic switching functions.

- Verify the power-on indicator light is lighted.
- Set toggle switch K1 to the DOWN (switching off) position.
- Set toggle switch K2 to the UP (block on) position.
- Push arm of motor M2 on the control unit to LEFT (power connection to mainline).
- Initialize control unit to RED by pushing arm of motor M3 to rear.
- Adjust rheostat R1 to maximum clockwise FAST position.
- Set track switch S1 to STRAIGHT.
- Verify engines have type 17010 magnets on the bottoms.

- Place 2 engines on the track in the positions shown by Engines A and B in the above figure. Note Engine A must be "upstream" of track contract T2.
- Turn on the DC track power. The trains should operate as described in the Logic Diagram Figure 12a.

You will now have two train operation using engines A and B, controlled by the automatic block part (Motor M3) of the control unit.

Engine A will change the block to GREEN as it passes over track contact T2 which will start Engine B. Engine B will change the block back to RED as it passes over track contact T1. The control unit will continue to operate in the automatic block mode to keep the 2 engines spaced apart.

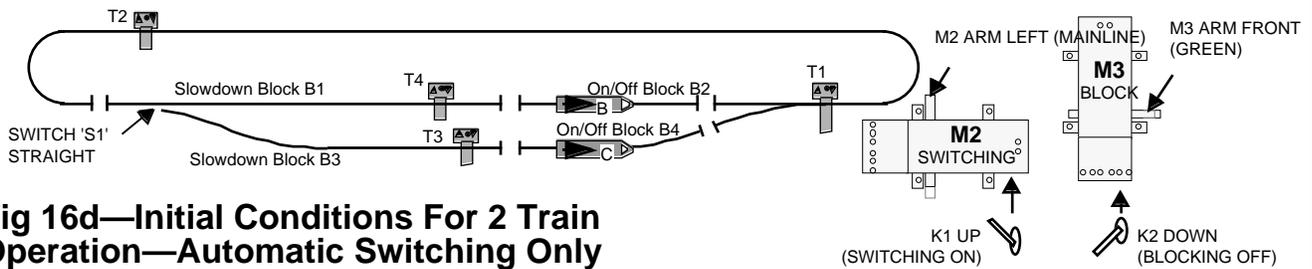


Fig 16d—Initial Conditions For 2 Train Operation—Automatic Switching Only

In this mode, the control unit performs the automatic switching functions, but not the automatic block functions.

- Verify the power-on indicator light is lighted.
- Set toggle switch K1 to the UP (switching on) position.
- Set toggle switch K2 to the DOWN (block off) position.
- Push arm of motor M2 on the control unit to LEFT (power connection to mainline).
- Initialize control unit to GREEN by pushing arm of motor M3 to FRONT.
- Adjust rheostat R1 to maximum clockwise FAST position.
- Set track switch S1 to STRAIGHT.
- Verify engines have type 17010 magnets on the bottoms.

- Place 2 engines on the track in the positions shown by Engines B, and C in the above figure.
- Turn on the DC track power. The trains should operate as described in the Logic Diagram Figure 12c.

You will now have two train operation using engines B and C, controlled by the automatic switching part (Motor M2) of the control unit.

Engine B will leave block B2, travel around the loop, re-enter and stop on block B2. Engine C will leave block B4, travel around the loop, re-enter and stop on block B4.

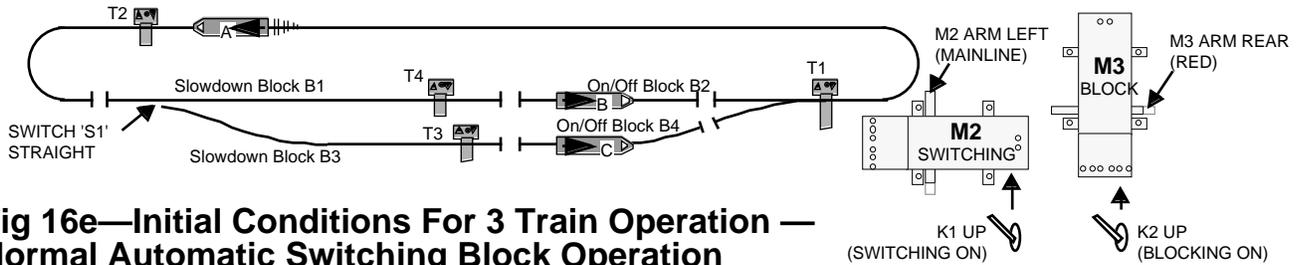


Fig 16e—Initial Conditions For 3 Train Operation — Normal Automatic Switching Block Operation

This is the normal automatic switching block mode.

- Verify the power-on indicator light is lighted.
- Set toggle switch K1 to the UP (switching on) position.
- Set toggle switch K2 to the UP (block on) position.
- Push arm of motor M2 on the control unit to LEFT (power connection to mainline).
- Initialize control unit to RED by pushing arm of motor M3 to rear.
- Adjust rheostat R1 to maximum clockwise FAST position.
- Set track switch S1 to STRAIGHT.
- Verify engines have type 17010 magnets on the bottoms.

- Place 3 engines on the track in the positions shown by Engines A, B, and C in the above figure.
- Turn on the DC track power. The trains should operate as described in the Logic Diagram Figure 12e.
- Once the system has settled to a steady state operation, adjust the rheostat R1 for optimum speeds in the slowdown blocks.
- Adjust the position of track contract T2. Moving it further counter-clockwise around the loop will result in the engines "parked" on the on/off blocks sitting for a longer amount of time.

Notes:

- Mount the magnets on the REAR of the engines. If engines are double-headed, mount the magnet on the rear of the rear engine.
- If engines are double-headed, you should electrically connect them together with wires so they will move completely onto the stop (on/off) block as one electrical unit. Without the wire to electrically connect them, often the forward unit stops on the dead on/off block while the rear unit sits on the slowdown block spinning its wheels.

Summary: This sheet shows how to position the trains and relay switches to start the system up.

Note that Fig. 16e is the normal 3-train operation. The other figures show special "reduced-function" modes of operation for 2 trains and 1 train.