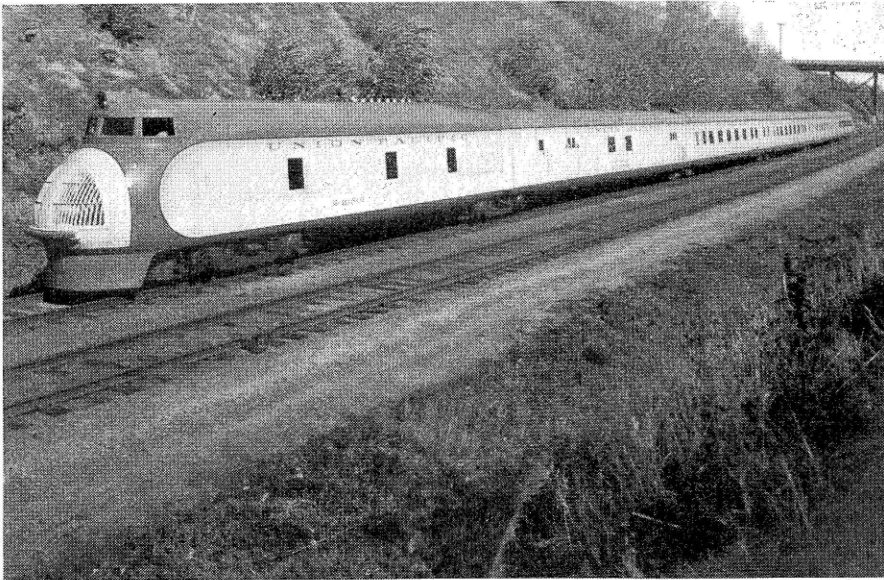


Cab Signals and A. T. C. on U. P. Streamliner

Control apparatus adapted to either type of system includes speed governor

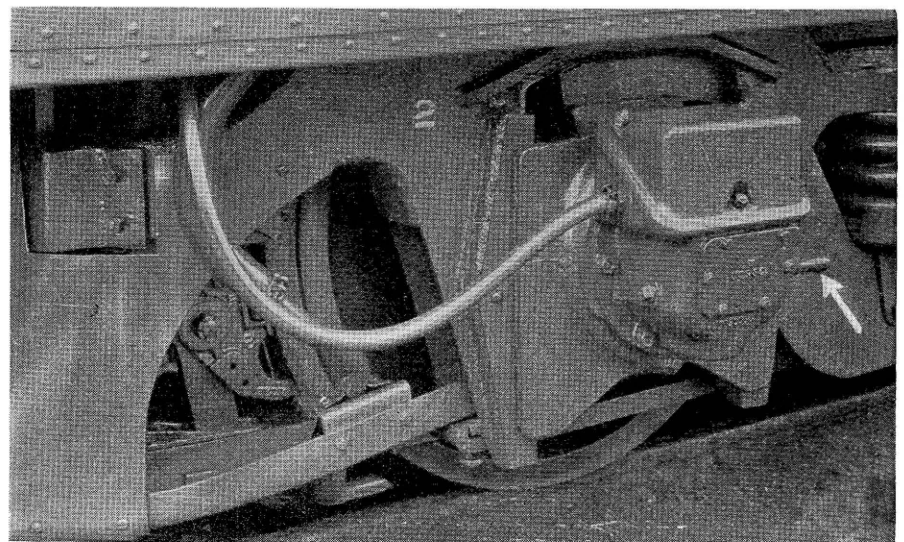


Union Pacific six-car light-weight, self-propelled train No. M-10001

THE M-10001, light-weight, high-speed, self-propelled train of the Union Pacific, which is to be used in transcontinental service, is equipped with automatic train control including cab signals, of the continuous-inductive type. On the A.T.C. territory of the Chicago & North Western between Chicago and Omaha, Nebr., and of the Oregon-Washington R.R. & Navigation Company between Portland, Ore., and The Dalles, the train-control equipment will be effective, as it is on the other trains, with speed control. However, on the territory of the Union Pacific west of Omaha, between North Platte, Nebr., and Cheyenne, Wyo., the locomotive train-control feature is cut out and the train is operated by cab signals only, thus conforming with the type of equipment used in that section. This is accomplished by the operation of a cut-out cock located in the engine room and a "token key." The equipment cannot be cut out without this key being in its lock. Also, the key cannot be withdrawn from the lock as long as the cut-out cock is in the "cut-out" position.

The accompanying illustration shows the speed governor mounted on the front truck. The mechanism is

driven by a bevel gear, which can be disengaged by operation of the hand lever, shown on the right. The purpose of the governor cut-out lever is



Speed governor on front truck of power unit

to save unnecessary wear of the gear mechanism when the train is running outside of train-control territory. Should the engineman neglect to cut in the governor mechanism before

moving the cut-out cock to the "cut-in" position, a brake application will result which cannot be released until the governor mechanism is cut in, or until the cut-out cock is moved to the "cut-out" position. This is to prevent all possibility of running in speed-control territory without having the governor cut in.

The top part of the governor housing contains the contacts, which are connected with the train-control circuits. Wires from these contacts are run through a flexible rubber conduit, which terminates at a plug-conductor fitting located on the body of the train. From this point the circuits are carried in conduit to the equipment box and the control panel in the engine room.

Operation of Cut-out and Key

Before starting on a run in train-control territory, the engineman of this train moves the cut-out cock to the "cut-in" position and removes the token key, which locks the cut-out cock in the "cut-in" position. He then gives the token key to the conductor who retains it in his possession during the run as his assurance and responsibility that the train-control equipment is in service.

Upon entry of the train into cab-signal territory the token key is replaced in the lock, the cut-out cock is operated to the "cut-out" position, and the governor driving gear is disengaged. The key must remain in its place in the cut-out cock whenever the A.T.C. equipment is not in serv-

ice. The cab-signaling and train-control equipment of the M-10001 train of the Union Pacific was furnished by the Union Switch & Signal Company.