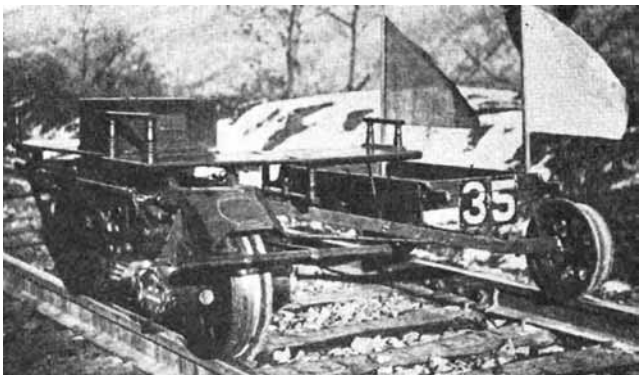
OPERATING MOTOR CARS AS EXTRA TRAINS

By E.E. Bradley, Signal Engineer Western Maryland Railway

The following article about track car operation by train orders on the Western Maryland Railway is reprinted from the February, 1917 issue of the Railway Signal Engineer magazine, with the motor car photos from a follow-up story in the April, 1917 edition. It is interesting to note the use of brakeman's style lanterns as markers and an inspector's lamp as a headlight, along with standard flags and enamel number boards. This method of operation was considered novel at the time, but today all track car movements are governed by the modern equivalent of train orders.

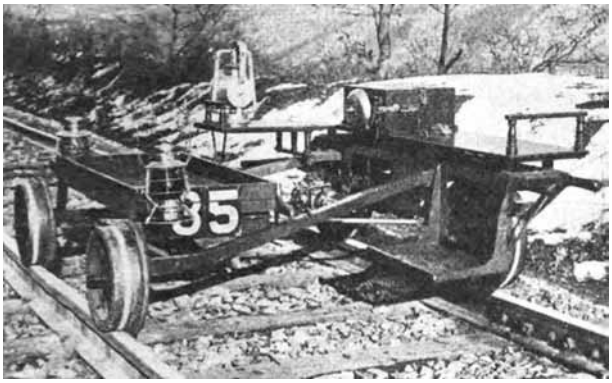
The Western Maryland is largely a single-track road, crossing both the Blue Ridge and the Allegheny mountains, and naturally has heavy grades in some places, and considerable curvature. In addition to grades and curves, the road, in traversing such a rugged and mountainous country, passes over many bridges and through tunnels of great length, all combining to make operating conditions difficult; and there was projected into this situation the problem of controlling movements of motor cars over the road, without resulting injury to persons and damage to equipment.



A Western Maryland Railway motor car equipped with proper daylight signals for operation by train order.

When automatic signals were installed, the signal maintainers were furnished gasoline motor cars to get over their sections, but on account of the physical conditions and the density of traffic over the lines, it was not considered safe for motor cars to move over main tracks except under protection of train orders, although with the Absolute-Permissive scheme of single-track signaling in use, it was possible at times to operate motor cars with considerable safety by signal indication. All motor cars run as extra trains by train orders from the dispatcher, and by rule, and all persons whose duties require them to operate motor cars are trained along lines similar to the men employed in train service. They are required to pass the following examinations: Physical, including color blindness, book of rules, time tables, movement of trains by train orders, and the physical condition of the road over which they operate their cars.

Motor cars leave their initial stations as extras, displaying proper classification signals and markers as required by rule, having meeting points fixed by train orders against all opposing trains of the same class, wait orders on opposing second-class trains and clearing the time of first-class trains as required by rule. Trains of superior class moving in the same direction are



Night signals for train order operation of Western Maryland Railway motor cars included an inspector's lamp as a headlight, and red and clear hand lanterns as markers.

cleared according to rule if on their scheduled time. If running late this information is given to the motor car operator on regular 19 order forms, so the delayed time can be used. When overtaken by extra trains moving in same direction, the motor cars let them pass as soon as it can be done, which means the first switch they come to, or when convenient at road crossings.

When doing work requiring from two to three hours on a district, such as filling lamps, making up batteries, etc., a form of wait order is used which does not interfere with the movement of opposing trains. Such orders may consist of the following restrictions on movement of opposing trains: "Motor car No. 14 run extra A to B keeping clear of extras west. Extras 740, 750 and 780 west wait at B until 1:40 p.m., G until 2:10 p.m., for extra motor car No. 14 east."

Under the above order, the motor car can move from A to B, clearing the time given at each station as required by rule. If delayed and the station named in the order could not be made in the time given in the order, the motor car can clear at any station or siding when the time is up on the order as required by rule.

Continued on Page 5

A view of the "WMRY" marking on a Dietz inspector's lamp which could have doubled as a motor car headlight on the Western Maryland Railway. Photo courtesy of Mike Yetter.

Western Maryland Motor Cars

Continued from Page 4

The men are delayed at times waiting on orders and for trains on which they have meets, and, of course, are subject to delays caused by drawheads being pulled out, etc. The average delay for each maintainer waiting on orders, making meets with trains and from other causes will average about 1 1/2 hours per day.

When this practice was first started it was questioned whether or not the delays would seriously interfere with necessary maintenance work. They have to a certain extent, but this is largely offset by the increased safety provided by train order protection. All motor cars being operated as trains, they are, of course, equipped with proper classification signals, markers, and flagging equipment, such as torpedoes, fusees, lanterns and flags for both day and night operation, and also warning devices to be sounded when approaching men working on the track, stations, road crossings and other similar places as required.

It was decided that the warning device to be used on these cars should be distinctive. A horn would not do as it might be confusing to men working on the track, as they would very likely think it a passing automobile and not heed the warning, and also an automobile approaching a grade crossing and hearing a horn would naturally mistake the horn for another automobile instead of looking for anything on the railroad. So each car is equipped with an eight-inch trip gong and operators of the cars are required to give ample warning when approaching any point where warning is necessary. Each car is also numbered the same as engines, the numbers being five-inch white enamel figures on a black background, displayed on both front and rear of the cars.

Telephones for train dispatching are used almost exclusively and signalmen take their orders direct from the dispatchers, except at offices where operators are on duty. In addition to the telephones at stations and block offices, telephones are located at each end of passing sidings, in watchmen's boxes, and at other convenient places along the line, and also in signal maintainer's tool houses, where located some distance from offices, so the signal maintainers can get their orders before leaving headquarters, and for reporting in to the dispatcher when their run is completed.

"Fairbanks, Morse & Co. Chicago, ILL" markings are stamped on the top of the lantern pictured at right, but the lettering style reveals that the manufacturer was the Star Headlight Co. of Rochester, NY. Mike Yetter photo.

In his book, Lanterns of the Western Maryland, Mike Yetter notes that Fairbanks, Morse & Co. included the buyer's choice of an oxweld or kerosene lantern with the purchase of their motor cars. Lanterns were available in either bell bottom or wire bottom models, with this example marked "WMRyCo" for the Western Maryland. Mike Yetter photo.

No one is allowed to go out alone with a motor car. Each maintainer is given an assistant and they always go together, and they are responsible for all signaling apparatus on their sections. This plan works out very well, as it is not only good schooling for the assistant, which prepares him for promotion, but also provides a flagman for the car when necessary.

Editor's Note: Any other accounts of motor car operation by train order and reports of lanterns or lamps used in this service (such as the above model) would be greatly appreciated.

References:

Bradley, E.E. "Operating Motor Cars as Extra Trains." *Railway Signal Engineer*, February 1917, p.36.

Railway Signal Engineer. "How to Operate Motor Cars with Safety." April 1917, p. 111-112.

Yetter, Mike. *Lanterns of the Western Maryland*. Hagerstown, Maryland: Mike Yetter, 2010.