



LOCOMOTIVE TRAINING OF ENGINEERS AND STUDENTS

Ministry of Transportation issued at the end of April of this year (1906 – ed.note), a circular, according to which engineers of traction service, until the appointment as heads of traction sections, their assistants and auditors, are obliged to serve in the position of a driver for at least 6 months.

We must assume that this order was caused by a desire to receive for traction service experienced and practically knowledgeable top liner traction service agents. In this sense, we can welcome this measure, as it is currently quite often possible to meet top liner traction service agents that are not sufficiently practically experienced in locomotive business. This explains the fact that at many depots, especially where there are no responsible masters, routine and slight repairs of locomotives are performed badly. Without thorough practical knowledge of locomotive's repair, heads of depots or sections and their assistants fully rely on the serviceman, on the scrupulosity of which depends the quality of repair of locomotives. The driver does not have a physical capacity to look after, whether recorded repair has been executed and how it is executed. Looking through repair book at the depot you will always see at all times in a row written demand for the same repair of the same locomotive, which of course, is due to negligence and bad faith of a serviceman. It often happens that non-performed timely slight repair entails serious damage and exclusion of a locomotive from motion for more or less longer period.

In addition to technical deficiencies, inadequate acquaintance of site supervisors and auditors with locomotive service entails administrative errors. There are cases of imposing a punishment, which is either inappropriate to guilt, or even without actual guilt of locomotive crews. Also, conversely, serious omissions pass unnoticed or unpunished.

Preliminary more or less continuous driving a locomotive train as an assistant driver or a driver and, of course, should provide known practical knowledge and experience, without which top liner traction service agent will always be not in a proper place.

The requirement for locomotive training, i.e. locomotive driving as it is known previously was imposed on engineers wishing to take up the position of a liner traction service agent. This engineer must have had a certificate of a right to drive a steam locomotive. Many engineers, while

still students, have time to stock up on such certificates and, after graduating from colleges, immediately got an appointment as a principal agent for service of traction. Engineer without certificates of a right to drive a locomotive, was considered as a candidate for the post of assistant chief of traction section, or even was appointed to this position, but at the same time drove in the position of a driver assistant required number of versts for admission to the exam, which was often limited to 3000 versts.

Locomotive driving, as it is known, involves large inconvenience, so an engineer usually looks at it as an unpleasant duty, and tries to get rid of it as soon as possible. Driving is performed in a hurry and, of course, gives nothing for an engineer intern except for a certificate. The training of students gives better results. Students are usually required to drive as driver assistants much more time. If a student is of a junior course, then he has to drive as driver assistant more, if of a senior course-less. But in any case, not less than 6000 versts. Students have to spend from 4 to 6 months, that is from 1 to 2 summer holidays, to get a certificate for the right to drive a locomotive, and many of them, of course, learn something.

How much locomotive training was useful for each student depends on individual abilities of a student and a driver, who was a student's supervisor.

Neither before starting training, nor during training a student does not receive any instructions from both his teachers and temporary heads. Guideless, a student for the first time gets into a locomotive, he does not know what he needs to learn and what he can get from locomotive training. It is luck if he gets to a good, knowledgeable driver, who wants to come to the young man's aid. The success of training of this student is assured. But, unfortunately, intelligent machinists are rare and students can hardly find a friendly attitude to themselves, as an inexperienced student is always a burden for a driver. Therefore, it is impossible to rely on a driver as on a head. However, a driver will have to teach his assistant volens nolens, but only in so far as it relates to the care



of a locomotive and its heating, and then it is rare to hear any explanations or practical considerations; to a larger extent there are orders: pump water, pile coal, smear cylinder, pack gland seals etc.

Attentive student, prepared for the training with an appropriate manual, of course, soon will focus on a locomotive, but without preparation an average student fails.

However, in locomotive training, there are aspects, which cannot be understood without a proper head, namely, whether a steam locomotive works right, whether there are any flaws, how to identify necessary repairs? — These are issues to resolve that can only be learned in practice, under appropriate guidance. Meanwhile, this is a main part of locomotive training, this is precisely what a top liner traction service agent needs to know, and it should be a major part of locomotive training.

Extension of locomotive training needed to engage in top positions in the traction service of course will help acquire necessary practical knowledge, but in order that locomotive training of engineers and students gives the best results, that it has been used extensively, everything, which it can offer, has been taken, — it is necessary to improve the formulation of training, it is necessary to organize it.

First of all, it is necessary to completely change an attitude to a trainee as a burden. He took a student for a training (in this case, of course, it is nothing to say about an engineer), it should not be thought that a benefit is given to him, giving an opportunity to earn and to learn. It should be borne in mind that the provision of training to students is a duty of railways in the interest of these techniques and railways, which then will have experienced agents. In those kinds it is necessary to take care of the fact that trainees actually benefit from practice. Heads of sites and their assistants must control training, and drivers should be required to treat trainees attentively and teach appropriate instructions for maintenance of a steam locomotive and preservation of its serviceability.

Received in the presence of these conditions, solid knowledge, while still a driver assistant, a trainee will develop them and will receive necessary experience, when acting as an independent driver.

With the term of locomotive training that is set by a new circular, and with the proper guidance, a trainee can acquire an ability not only to drive a train depending on a profile of a track, and to use fuel economically, but also, and it is most important to learn by hearsay and along the motion to detect faults of locomotives and their causes. The latter fact is of great importance, e.g., by reception of locomotive emerging from repair or factory.

During locomotive training, of course, there are different causalities en route, some breakage of parts of a locomotive, immediate recovery of which and further motion of a train without significant delay in motion are entirely dependent on technical acumen and experience of the driver. For a trainee these cases are useful for the development of criteria for judging the degree of guilt of the driver in either case.

A driver-trainee should be required to report on his training. The report can be an answer to some of the proposed (written) questions. Question sheets should be given to trainees before the start of their training, and if they are successfully compiled, the answers can be very useful for the trainee as a kind of a guide.

Finally, a few words should be said about established by the Ministry of Transportation period for driving as a driver assistant. During 6 months, it is possible to drive either 20000 versts, or 6000 versts, and even less, sometimes it is possible even not to drive, and perform any duties at the depot. The degree of experience and practical knowledge of the driver depend on the number of versts driven in the position of a driver, and not on the amount of time spent by him in this position; therefore, if the Ministry wants to have experienced top traction service agents, it would be more rational, to establish a certain number of versts, which an engineer has to drive to get high position. A sufficient number of versts can be 12000 versts, but driven in the position of a driver in a period not less than 6 months. This period should be left to those kinds in order that the driving was not made hastily, only to quickly get rid of it. More than 12000 versts should not be set as for an unaccustomed person a more intense driving is too tedious and will not bring results which may be achieved with proper rest and free time. Free time in addition to rest is necessary for a driver-intern, firstly, to think over and to work on those issues that a driver will inevitably face while driving a train, and secondly, in order to be able to get acquainted with repair performed at the depot and its organization.

But if the Ministry of Transportation is consistent in its orders, and if it wants to have practically trained top railway agents, it is necessary to expect a circular from it on the establishment of the requirements of the well-known practice training and from liner track service engineers, for which such a training is as important as for traction service engineers. If the latter are required to serve preliminarily as an assistant driver, and a driver, it should be required from the former to undergo pre-service as foreman and road master.

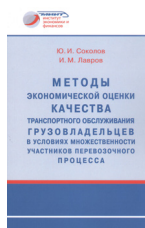
M. Korotkevich
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