

## IMPROVING THE PROCEDURE FOR USE OF DIGITAL TACHOGRAPHS IN THE REPUBLIC OF UZBEKISTAN

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**Abstract.** This article talks about improving the procedure for using digital tachographs in the Republic of Uzbekistan. No country in the world can imagine without a developed transport infrastructure in its historical development. Modern society has become an important part of passenger transport, especially buses and taxis, which are the most popular and dangerous form of public transport today. Their main task is to satisfy the population's need for transportation, to systematically improve the quality of service, as well as to increase the level of reliability and safety. In recent years, the issues of ensuring road safety have become particularly relevant due to the trend of increasing the number of traffic crimes committed by persons driving traffic vehicles, which result in the death of many people.

**Key words:** automobile, transport, tachograph, infrastructure, innovation, digitization, technology, traffic accidents.

**Annotatsiya.** Ushbu maqolada O'zbekiston Respublikasida raqamli taxograflarni qo'llash tartibini takomillashtirish haqida so'z yuritilgan. Dunyodagi biron bir davlat o'zining tarixiy rivojlanishida rivojlangan transport infratuzilmasisiz tasavvur qila olmaydi. Zamonaviy jamiyat hayoti yo'lovchi tashish transportining muhim qismiga aylandi, xususan, hozirgi vaqtda eng ommabop va xavfli jamoat transporti turi bo'lgan avtobuslar va taksilardir. Ularning asosiy vazifasi aholining transportga bo'lgan ehtiyojini qondirish, xizmat ko'rsatish sifatini tizimli ravishda oshirish, shuningdek, ishonchlik va xavfsizlik darajasini oshirishdan iborat. So'nggi yillarda yo'l harakati xavfsizligini ta'minlash masalalari yo'l harakati transport vositalarini boshqarayotgan shaxslar tomonidan sodir etiladigan, oqibati ko'plab insonlar qurbon bo'lishiga olib keladigan yo'l harakati jinoyatlari sonining ko'payishi tendensiyasi tufayli ayniqsa dolzarb bo'lib qoldi.

**Kalit so'zlar:** avtomobil, transport, taxograf, infratuzilma, innovatsiya, raqamlashtirish, texnologiya, yo'l-transport hodisalari.

**Абстракт.** В данной статье говорится о совершенствовании порядка использования цифровых тахографов в Республике Узбекистан. Ни одна страна мира не может представить себе в своем историческом развитии без развитой транспортной инфраструктуры. Современное общество стало важной частью пассажирского транспорта, особенно автобусов и такси, которые на сегодняшний день являются самым популярным и опасным видом общественного транспорта. Их основной задачей является удовлетворение потребности населения в перевозках, планомерное повышение качества обслуживания, а также повышение уровня надежности и

безопасности. В последние годы вопросы обеспечения безопасности дорожного движения приобрели особую актуальность в связи с тенденцией увеличения количества дорожно-транспортных преступлений, совершаемых лицами, управляющими транспортными средствами, в результате которых погибло большое количество людей.

**Ключевые слова:** автомобиль, транспорт, тахограф, инфраструктура, инновации, цифровизация, технологии, дорожно-транспортные происшествия.

What is a tachograph and how to work with it has long interested many drivers. Most people don't think it's necessary to install it on their car. And in vain, one device with the simplest functions can bring a lot of benefits.

And this is a device called a tachograph. This is an on-board control device with a measuring feature. And such a simple device ensures that the necessary requirements are met. This is a record of speed and time spent on the road. Time spent on vacation. Everything, why you need to carefully monitor the driver himself. But often not all drivers have more loads, because of their fatigue they always realize that they need to stop to rest. They also do not follow the speed limit carefully, which leads to many violations and large fines on the roads. But thanks to such an interesting device called a tachograph, all this will be easier and more pleasant. The sensor always helps and guides the driver in the right direction. But it is not enough to equip the vehicle with a tachograph, in order for the device to start working, you need to buy a driver's card for the tachograph. In addition, each driver must have a personal driver.

*Using a tachograph.* It is always easier to work with a tachograph if the driver first familiarizes himself with the features of his work. Get to know him directly. The design of the device can already say a lot about it. What are its components and main elements? And here is something to remember about such a device. It is equipped with always-volatile memory. What does this mean? This means that all recordings are made in real time while the car is running. In addition, the data obtained as a result of the operation of the tachograph can be stored in the system for years. And only a special person can use it. This information is not available to any user. And unauthorized access is simply reduced to zero. It does not exist at all.

#### *Rules for using the tachograph*

In general, the rules for using a tachograph are simple. And how it works will help you understand it in more detail. In the instructions of each device, in a clear and understandable structure, all the important and main points of using the device are always indicated.

A few simple steps before you start working with the device:

1. You need to insert the driver card into the special section of the device. The card is usually inserted into the slot with the chip facing up. And the display immediately shows all the information about the driver. This is his first name.

2. Then the mode is selected. Here are only two of them. If the driver decides to continue driving immediately, the so-called "working mode" is for him. If the driver decides to take a break, have a snack, he should already select the mode called "rest mode".

3. Enter the location for the device.

4. It doesn't matter if the driver started moving without switching from mode to mode. The tachograph resets the mode itself, saving only the location and driver information.

5. Likewise, when stopped, the tachograph automatically switches to rest mode without the driver's intervention. But still, sometimes the device fails and does not work properly, the driver must control the switching of modes. In this case, the device should be submitted for repair immediately, and if the modes are broken, it should not be used.

6. After work, the driver must always remove his card from the device device.

In addition, especially for inspectors, there are functions such as data printing built into each tachograph. And the traffic police inspector is always on the right, requiring all the necessary information from the tachograph card.

#### *Tachograph driving rules*

In order to learn how to drive correctly on a tachograph, the driver must fully study the instructions from the device. Explain to yourself the whole process of his work. The article shows how to manage such devices. You also always go your way, as if there is no device. It's just recording and recording the speed of movement. This is some control that the driver needs to adjust. Observance of all safety requirements and regulations does not prevent the driver from traffic, such as the tachograph in the car, the assistant, the controller.

#### *How to use a digital tachograp.*

Now it is easy to follow how to use the tachograph correctly, according to its working principle, the data is available and simple.

Here is the whole principle of the device:

- Printing device.
- Screen.
- Tachograph card receiver.

Outwardly, this device looks like a radio tape recorder. And depending on the components, the characteristics may increase.

A digital device usually works in conjunction with a chip-equipped driver card. It, in turn, shows all the necessary information about the driver. To activate a similar device, you must first insert this card. Do not forget to turn on its electronic chip first. In this case, the card must be fully inserted, to confirm this you will hear an annoying click. If everything is done correctly, you can see the cardholder's contacts on the monitor screen.

Next, when the device is launched, you need to specify the location, country and city coordinates of the driver's car. The main advantage of such equipment is to minimize manual adjustment. All operations, including recording the driver's

rest or work, are performed automatically. And the mode set by the device can be seen on the monitor screen. At the end of the shift, the driver must remove his card from the device and turn off the equipment.



The advantages of the tachograph and all the tasks it easily solves:

- legal protection of the driver;
- free transport to foreign countries;
- the possibility of unauthorized travel is completely excluded;
- significantly increase security;
- a driver using the device of professional qualities;
- increase tires, braking systems, engine resources.

Driving with tachographs has been proven by professionals not only to protect the driver with a tachograph, but also to prevent an accident involving a truck. Because the system always monitors not only the highest speed of movement, but also the time when it is necessary to change the driver. And a tired driver, a driver who tends to fall asleep on the road while the car is moving, is a potential culprit in an accident.

Most drivers have already voted to use tachographs, there are fewer accidents with them, why not use them in every car. As an advice to drivers about the duration of the trip and the requirement to limit the speed of their vehicles. Correct use of the tachograph is always a successful and safe way of transportation.

A tachograph is a small device that looks like a radio tape recorder or a speedometer if the tachometer is round. Its main function is to correct engine performance and speed. Control is primarily carried out in the interests of the transport crew and the general safety of all participants in the movement. If the tachograph is mechanical, then all data is recorded on film, if it is digital, on a memory card.

Trying to cheat the tachograph is strictly not recommended. Even if there is no urgent need, its power should not be turned off. The system is designed in such a way that it is almost impossible to cheat him (as well as correct his testimony). All abnormal conditions are recorded in the module with cryptoprotection.

The relevant employee will always know about all periods of power failure of the device, any violation of the electrical circuits of communication with the

sensors (if their own sensor is used, by the way, sealed) and the difference between the distance. according to device data and ECM data (in modern cars, the tachograph is connected to the control system, records mileage and speed, as well as other parameters).

Even if you turn off the device's power supply and communication with the ECM, after turning on, an abnormal condition is recorded about the data inconsistency in the memory.

Trying to turn off the device by applying too much voltage is also useless. The tachograph has a built-in power line. In theory, even if it is deleted, the data will be preserved, because. The components used with a high level of protection (even from radiation). For older vehicles not equipped with an ECM, separate sensors are installed. It is also almost impossible to deceive them. Data transmission is carried out digitally, with data stream encryption and integrity control. In addition, each sensor is "connected" to its own tachograph and calibrated in the workshop where the device is installed. In addition, all important communications are sealed, the facts of communication violations are recorded. It is also useless to play with magnets - the equipment is made according to "military standards" and is not afraid of EMP even from a nuclear explosion.

Hopes for fixing the device's memory can also be abandoned - security standards have been developed by the FSB. Not every special service can open a protected module, not to mention home-grown young hackers, and it takes an unacceptably long time (seemingly due to the need to offload).

Another important point is that the CIPF device is equipped with a navigation module. According to the data obtained from it (time, speed, fact of movement and other data are determined from the satellite), all the parameters of the vehicle's movement are easily determined. If they do not match the data of other systems (hours, speed, kilometers), this is also displayed in the non-volatile encrypted area of the device's memory.

#### *Instrument operation and data storage.*

The tachograph records data not only in its memory, but also on the driver's card. Data must be downloaded from the driver card every 28 days and from the device memory every 90 times.

The data obtained from the device is uploaded to the computer and must be stored for 1 year, in addition, it must be available for inspection. The driver, if it is not possible to download data from the card, can print them using a tachograph and carry them with him.

Failure to comply with these requirements threatens with fines similar to the absence of a tachograph and the operation of a vehicle with an incorrect tachograph.

How is an analog tachograph (tachograph) used?

Using a tachograph with a washing machine is much easier.

There are only two types:

- in the form of a speedometer;

- in the form of a car radio.

Both types are related to the gearbox and the speed sensor. All information is displayed on the scoreboard and on a paper disc inserted into the slots. If there are two drives, then there is a separator cover for installing a second washing machine



Kienzle 1318



Aktia 028



Kienzle 1319



Motometer EGK-100



VDO 1324



Veeder Root 2400

Before starting, the disk is filled manually:

- Full name, date and time of card installation;
- the name of the starting point of the route;
- kilometer on the speedometer;
- vehicle registration number.

Accordingly, at the end of the working day, the mileage per day, the final destination of the route, the date and time of card issuance are displayed. Even if the car is on the road for several hours, one disc is installed for a day's work.

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