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MANUAL FOR PASSING CATEGORY C AND D DRIVER'S LICENSE EXAM

Handbook authorized by the Ministry
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MANUAL FOR PASSING THE CATEGORY B DRIVER'S LICENSE EXAMINATION

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Content

Preface

This handbook was drawn up by the working group authorized by the Ministry based on the basic syllabus for giving the driver's license exam for categories C and D of vehicles from the theoretical part, which is in full compliance with the European Directives on Driver's Licenses. The purpose of this handbook is for the candidate as a future driver to get to know and understand the meaning of road signs, rules, traffic safety, identification of road hazards, technique and Eco-driving, the use and operation of vehicle equipment, avoiding matter that has no influence on it, such as the composition of the material, the dimensions and the way of placing the traffic signals, the installation of the equipment in the vehicle, administrative questions, etc.
We, as a working group, are aware that during the drafting of this handbook there may have been some omissions, whether technical or of another nature, therefore, we ask the users of the said handbook not to hesitate and write to us about any possible omissions, your well-intentioned recommendation or suggestion. While we will be grateful and grateful to you and at the same time we will take them into account, so that the next edition will be even more qualitative and practical than this current one.

Authors

DRIVING TIME AND REST PERIOD RULES

Category C1, C, D1 and D

DRIVING DURATION AND REST PERIOD

The expressions used in relation to the driving duration rules have the following meaning:

Week - the period between 00:00 on Monday and 24:00 on Sunday;

Vacation - any uninterrupted period during which the driver uses free time as desired;

Interruption - any period during which the driver does not have the right to drive or perform any other task, which only allows him/her to rest;

Daily rest time - the part of the day during which the driver can spend free time as desired and which can be "normal daily rest" or "reduced daily rest".

Driving the vehicle

Duration of driving the vehicle - is the duration of crew driving, the condition in which during driving composed between two consecutive periods of daily rest or between a period of daily rest and a weekly rest, there are at least two drivers in vehicle board to provide shifts. In the first hour of driving, the presence of the other driver or others is optional, but this is mandatory for the rest of the driving period;

Daily duration of driving - the total accumulated duration from the end of the daily rest and the beginning of the next daily rest or from the end of the daily rest and the beginning of the weekly rest;

Driving time - the total driving time recorded automatically, semi-automatically or manually under the conditions defined by the aforementioned rules.

Driving time

The duration of daily driving ***does not exceed 9 hours.*** The duration of daily driving can be extended to a maximum of ***10 hours***, but not more than ***2 times*** during the week. The weekly driving time **does not exceed 56 hours.**
The total driving time accumulated during 2 consecutive ***weeks does not exceed 90 hours***.
Driving time consists (calculated) of the entire driving time performed in any territory.

Interruptions (rest-pause)

After driving for ***4.5 hours,*** the driver gets an uninterrupted break of at least **45 minutes**, unless he takes a break.

This interruption can be replaced by an interruption of **15 minutes** followed by an interruption of at least **30 minutes**, where both are distributed during the driving time or taken immediately after it, in such a way that the pause of at **least 45 minutes is respected**.

Truck driver pause

Waiting time and time not spent driving, time spent in a vehicle, ship or train in motion is not considered other work but can be qualified as *"interruption"*.

Time off pause

The driver uses the daily and weekly rest time defined by the rules of road transport.

In each period ***of 24 hours*** after the end of the daily or weekly rest time, the driver must take a new daily rest time.

If a part of the daily rest that falls within that period of ***24 hours*** is at least ***9 hours*** but less than ***11 hours***, the daily rest time in question is considered a shortened daily rest time.

Regardless of what was mentioned above, the driver involved in the handling of the vehicle must have used the new period of daily rest time of at least ***9 hours*** to ***30 hours,*** after the end of the daily or weekly rest.
Daily rest time can be extended to become normal weekly rest time or reduced weekly rest time.
A driver may not use more than three periods of reduced daily rest time between two weekly rest periods.
During ***2*** consecutive weeks, the driver uses the holidays provided by the rules of road transport.
The driver who offers only an international passenger transport service must follow the rules for holidays as provided for in road transport.

The driver participating in the crew uses a weekly rest of at least **45 hours** , this time can be reduced to at least **24** hours (reduced weekly rest time), however, any reduction is compensated with an equal period of rest used as a whole at least during the third week following the week when the reduction was made, **the weekly rest period begins at least at the end of six 24-hour periods** from the previous weekly rest period.

Tachograph sheet

Any leave taken by way of weekly leave compensation is combined with another rest time of at least ***9 hours***.

If a driver wishes, the daily rest time and the reduced weekly rest time, taken outside the stopping point, can be used inside the vehicle, provided that the vehicle in question is equipped with suitable beds for each driver, as foreseen by the manufacturer during the planning of the vehicle and the vehicle must be stationary.

Weekly leave time that falls between ***2 weeks*** can be counted in either week, but not in both.

Control apparatus

All means of transport of goods and passengers with the largest permitted mass ***over 5 tons*** and registered in the territory of Kosovo must be equipped with a control device in compliance with the provisions of road transport.

Control apparatus

Terms of use

The employer and the driver ensure the proper functioning and adequate use of the control device, as well as the driver's card.

Digital device

The employer issues to drivers of vehicles equipped with analogue tachograph recording devices a sufficient number of data sheets, taking into account the personal nature of these sheets, the duration of service and the obligation to replace damaged sheets or those taken by the official for control.

In case the vehicle is equipped with a digital tachograph control device, the employer and the driver ensure that, taking into account the duration of the service, the printing according to the request can be done adequately in case of control.

The driver's card is issued at his request, by the competent authority of the state of his habitual residence.

The validity of the driver's card cannot be longer ***than 5 years***, the driver can have only one valid card in his possession.

The driver is authorized to use only his personalized card, a damaged or expired card cannot be used.

Drivers use data sheets or driver cards every day they drive from the moment they take the vehicle under control.

The data sheet or driver's card shall not be withdrawn before the end of the daily work period, unless such withdrawal is authorized.

No data sheet or driver card may be used for a longer period of time than for which it is intended.

If there are more than one driver in the cabin of the vehicle with a digital tachograph control device, they ensure that their card is inserted in the correct place on the tachograph.

Each member of the crew must keep the information on the registration sheet according to the rules established with road transport.

2. RULES FOR TRANSPORTATION OF PASSENGERS AND GOODS

PASSENGER TRANSPORT (Category D1 and D)

The expressions used related to the transport of passengers have the following meaning:

Bus - a motor vehicle that serves to transport passengers, and which, in addition to the driver's seat, has at least eight other seats;

School bus - motor vehicle that serves to transport children, namely students;

Public transport - transport which under the same conditions can be used by all users of transport services;

Bus stop

Public linear passenger transport - transport which is carried out on certain routes and according to the order of travel, prices and general conditions of transport determined in advance.

Line - the relationship or set of relationships of carrying out transportation in road traffic, from the initial station to the station, respectively to the final stop, in which passengers are transported according to the order of the journey registered and published by one or more departure;

Inter-urban line - line which is developed on the main and regional public roads of Kosovo and which connects two or more municipalities;

International line - a line whose starting station is in the territory of Kosovo, while the final station is outside the territory of Kosovo;

Urban line - the line which connects two or more stations, i.e. a stop within the urban limits of a Municipality - the city;

Urban-peripheral line - line which connects two or more stations, i.e. a stop within the territory of a Municipality;

Passenger line - line on which transport is carried out between the initial and final station, namely the bus stop with mandatory stops at all stations, namely the bus stop along the route specified in the travel schedule;

Direct line - line in which transport is carried out between the initial and final bus station, respectively the bus stop, defined in the travel schedule without stopping at a stop along the route;

Express line - a line in which transport is carried out between the initial and final bus station, respectively the bus stop specified in the travel schedule, stopping at any important bus station, respectively the bus stop specified in the schedule of travel;

Inter-urban linear transport - public transport of passengers between two or more municipalities, while it can be carried out as linear passenger transport, express or direct;

Transport on international lines - public road transport of passengers between Kosovo and other countries;

Passenger - the natural person/persons who are transported by road transport operators with compensation and who, based on the contract, have the right to transport;

Special linear transport - the transport of only a certain number of passengers which is carried out on the basis of a written contract between the transport operator and the customer of the transport, in which case the customer pays for the transport;

Direction - distance between two places on the line which are marked as bus stops in the travel order, respectively as bus stops.

Road transport of passengers is carried out as:

- *regular transportation of passengers by bus;*
- *free transportation of passengers by bus;*
- *taxi transport of passengers;*
- *transportation of passengers for personal needs.*

Regular transport of passengers by bus, free transport of passengers by bus, and private transport of passengers by bus is carried out as:

- *transport within the territory of Kosovo;*
- *transport outside the territory of Kosovo;*
- *transport for access and transit through the territory of Kosovo.*

Regular passenger transport within Kosovo

The regular transport of passengers by bus is carried out on certain routes (lines), according to the order of travel defined and confirmed previously, the price determined and announced and other conditions of transport.

The regular transport of passengers by bus within the territory of Kosovo can be carried out as:

- *urban and urban-suburban transport;*
- *inter-urban transport;*
- *special passenger transport;*
- *transportation for personal needs.*

Urban and urban-suburban transport can be carried out as regular transport.
Intercity transport can be performed as regular transport, direct transport and express.

The members of the crew of the bus with which the road transport of passengers is carried out must have official clothes (uniform).

International passenger transport

The international transport of passengers by bus, between Kosovo and other countries and transit transport through the territory of Kosovo is done in accordance with the provisions of the Law on road transport and by-laws, agreements and other international rules.

Bus in international transport

Free passenger transport

Free passenger transport, in domestic and international transport, is the transport of a previously known group of passengers created at the initiative of the client or tourist agencies, without entry and exit of passengers along the route, for which the relationship, the price of transport and other conditions are determined by contract between the transport operator and the transport customer.

Transportation for personal needs of travellers

Transport for personal needs of travellers are operations that are carried out for non-commercial and non-profit purposes by a natural or legal person.

Obligations of the operator-driver

The transport operator, namely the driver who drives the bus, is obliged to carry out the transport according to the provisions of road transport and by-laws.

The transport operator or the driver who drives the bus is obliged to use the bus stations that are licensed by the Ministry and the stops that are signalled with horizontal and vertical signs and dedicated to inter-urban transport:

- the entry and exit of passengers take place only at the bus stops and stops designated and recorded in the travel order;
- the transport operator - the driver is obliged to stop at all the stops which are registered in the travel order.

The vehicle with which the regular transport of passengers is carried out must have:

- *on the side part put the name of the passenger transport operator;*
- *in the lower right corner of the windshield (fender) the line with the time of departure from the departure station and the time of arrival at the last station, marking it with at least three stops dedicated to picking up and dropping off passengers.*

The vehicle must meet the technical-operating conditions as well as the technical-sanitary and hygienic conditions.

Transportation of passengers by bus

In the vehicle and in the attached vehicle for the transport of passengers in urban public transport with buses, it is allowed to transport people even while standing.

In this case, the use of the safety belt is not necessary.

Urban bus transport

In buses with which public transport is carried out in intercity transport, only as many people as there are seats mounted on the bus can be transported.

Intercity bus transport

Passenger trailers may only be attached to buses in urban transport.

Buses that, in addition to seats, have places for standing, are obliged to comply with the provisions for road transport.

Passengers are not allowed to get out of the passenger transport vehicle without the vehicle stopping and the bus driver opening the doors.

Organized transport for children/students

If children are transported by vehicle/bus in an organized manner, the vehicle must meet the special conditions and be marked with a special sign, while during the time when children enter and leave the vehicle, the driver must turn on the all driving indicators.

It is prohibited to mark the vehicle with a special sign if children are not transported in an organized manner.

The bus which only transports children/students

If that vehicle does not transport children, then the special sign must be covered or removed.

The bus driver from the bus stop within the urban area may enter the adjacent traffic lane or move onto the road, only after ensuring that such action will not cause any obstruction or danger to the traffic. The driver must signal with direction indicators.

Bus entry into traffic-within the urban area

Stopping of buses to pick up or drop off passengers outside the bus stop is prohibited.

The bus driver from the bus stop outside the urban area can enter the adjacent traffic lane or move on the road only after releasing all vehicles from the road. The driver must signal with direction indicators.

Bus entry into traffic-outside the urban area

Speed limit

The speed of movement according to vehicle categories on other roads, except for highways and motorways, is limited:

- ***at 80 km/h,*** for buses,
- ***at 80 km/h***, for buses with light trailers and for vehicles pulling camping trailers;
- ***at 70 km/h,*** for buses carrying out organized transport of children,

- ***at 70 km/h***, for nodal buses without a standing position,

Nodal buses without standing

- ***at 50 km/h,*** for buses with trailers for transporting people,
- ***at 50 km/h,*** for urban buses,
- ***at 50 km/h,*** for buses in which, in addition to mounted seats, there are places for standing.

In cases where passenger vehicles move on highways and motorways, the speed for these vehicles is limited to 100 km/h, for buses with the largest permitted weight over 12,000 kg, except for buses that transport organized groups of children.

Drivers of vehicles that have a speed limit according to the vehicle category, are obliged to place the speed limit sign on the back of the vehicle, in a visible place.

Buses must have a speed limiter, as provided for in the relevant legislation.

Bus drivers must adhere to the bus restrictions for that category even when the rules or traffic signs allow the highest speed.

TRANSPORTATION OF GOODS (Category C1 and C)

The expressions used related to the transport of goods have the following meaning:

Operator of road transport of goods - the activity of any operator of transport of goods that carries out transport for personal needs and third parties, by means of motor vehicles or combined vehicles;

Transport for third parties - the transport of goods by transport vehicle or a set of means of transport carried out for commercial purposes for other physical and legal persons.

Road transport of goods

Domestic and international road transport of goods is carried out as transport of goods for own needs (for own account) and transport of goods for hire and payment (for third parties).

Transport of goods for personal needs

Transport of goods

The transport of goods for personal needs is considered the transport carried out by a natural or legal person without compensation

Transport of goods for rent and payment (for third parties)

The transport of goods for rent and payment (for a third party) is carried out on the basis of a written or oral agreement between the sender and the recipient of the goods who contracts the transport of goods.

Permits for international transport for operators' resident in Kosovo

Permits for international transport for resident operators for the transport of goods are carried out on the basis of the Permit for international transport, unless it is determined by international agreement that the transport is carried out without a permit.

Transportation of persons in a truck (vehicle)

No more than 5 people can be transported in the truck who work in loading-unloading the load, as well as when doing agricultural work or other work.

More than 5 people who work in loading-unloading or other work can be transported in the truck in the space for placing the load with a special permit. The driver must carry the special permit and show it when asked by the authorized person.

In the case of evacuation or providing aid during natural disasters, the vehicle may transport people even without prior permission.

A person who has not reached the age of 14 is allowed to be transported in a truck only if accompanied by an adult.

Persons who are transported in the cargo space of the truck or in the work machine are not allowed to:

Standing is not allowed

- *to stand;*
- *to sit on the sides of the vehicle,*
- *to sit on an unstable load;*
- *to sit in a load that exceeds the height of the side of the vehicle.*

In road traffic, the transport of persons is prohibited:

- *in the vehicle which does not have a side;*
- *in the vehicle with an automatic unloader, if the mechanism is activated;*
- *in the attached means of transport of the load which the truck pulls.*

The most extreme point of the load that is transported by means of transport or by trailer if it exceeds the most extreme point by 1 meter must be marked with a sign. This board is square in shape, measuring 50cm x 50cm, coloured alternately with diagonal stripes of reflective orange and white and placed perpendicular to the longitudinal axis of the vehicle.

Transport of animals

The transport of animals is allowed in a vehicle that meets the conditions for this type of transport and does not endanger road safety.

If animals are transported in the truck and trailer, the transportation of persons is not allowed in those vehicles.

If pets are carried in the vehicle, it is not allowed to place them in the front seat.

Animal transport truck

Truck movement within the urban area

On the road within the urban area with two lanes or more lanes for one direction, the driver of the truck with the largest allowed mass over 3500 kg is allowed to use only the extreme right traffic lane, except in the part of the road before the intersection or before the next place where the vehicle turns left

The truck is allowed to move in the far-left lane only for left turns.

Truck during movement within the urban area

Driving on a multi-lane highway

On a highway with 3 or more traffic lanes serving for the movement of vehicles in one direction, the driver of a vehicle with a maximum permissible mass of more than 5000 kg, or for vehicles with a trailer over 7 meters long, can use only 2 lanes of traffic that occurred near the right edge of the road surface.

The truck while driving on the highway

Speed limit

The speed of movement according to vehicle categories on other roads, except for highways and motorways, is limited:

- at 80 km/h, for trucks with the largest permitted weight up to 7500 kg,

- at 70 km/h, for trucks with the largest permitted weight over 7500 kg,

The truck with the largest allowed weight over 7500kg.

- at 70 km/h, for vehicles with attached vehicles;

- at 70 km/h, for vehicles that transport dangerous substances;

Transport dangerous substances

- at 50 km/h, for trucks that carry out group transport of people.

In cases where vehicles move on highways and motorways, the speed for trucks is limited:

- 85 km/h, for vehicles with the largest allowed weight over 12,000 kg, except for vehicles that transport dangerous substances;

Vehicles with the largest allowed weight over 12,000 kg

- 80 km/h, for vehicles with attached vehicles.

Drivers are obliged to adhere to the speed of movement according to the limitations of their vehicles, even on the road on which they move according to the traffic rules or with a traffic sign, a higher speed is allowed.

Drivers of vehicles (with a maximum permissible weight over 3500 kg), which have a speed limit according to the vehicle category, are obliged to place the speed limit sign on the back of the vehicle, in a visible place.

PASSING IN OPPOSITE DIRECTION

On a sloped road in which passing in opposite direction is difficult or impossible, and one of the vehicles is forced to move backwards in order to facilitate traffic, it must do so:

- the transport vehicle that meets the bus;
- the bus if it meets the connecting vehicle;
- the vehicle that moves downwards, if the vehicles are of the same category.

The bus must move backwards

Towing the transport vehicle and the group of vehicles in defect

The towing of the transport vehicle or group of vehicles loaded with a defect is allowed up to the first place suitable for loading and unloading, while in exceptional cases up to the first place where the defect of the vehicle can be eliminated.

Towing the broken down bus

In case of towing a vehicle in such a way that there is no need to steer it or use the brakes, the total mass of the towed vehicle cannot be greater than the total mass of the towing vehicle.

Pulling the defective bus

Attachment tools

In road traffic, the transport vehicle is allowed to tow two attachments on national roads and one attachment on the highway.

The passenger transport vehicle is only allowed to be towed by a towing vehicle on any moving road.

Spare and additional equipment of the vehicle

Trucks and buses in road traffic must have spare and additional equipment: spare tanks, except for those with advanced technology, first aid kit, safety triangle, device for towing the broken-down vehicle, reflective vest, while the camera for fire extinguishing in cases where its use is foreseen by the rules provided. All these devices must be complete and with expiration date.

Additional and spare equipment

3. DOCUMENTATION NECESSARY FOR DOMESTIC AND INTERNATIONAL TRANSPORT

DOCUMENTATION NECESSARY FOR DOMESTIC AND INTERNATIONAL TRANSPORT

Category D1 and D

The expressions used related to the necessary documentation for domestic and international transport for travellers have the following meaning:

Transport permit - the act specified by this law or by international agreement on the basis of which the road transport of passengers or goods is carried out;

Leaflet - the prescribed form that the transport operator must have when carrying out the free road transport of passengers in domestic and international transport;

Route booklet - prescribed form that contains the registration number of the bus with which the linear transport of passengers is carried out, the name of the line, the time of the start and end of the trip, data on the vehicle's personnel and the direction of its traffic, the signature of the person authorized to issue the waybill, as well as the column for marking the arrival and departure from the bus station or bus stop in linear transport.

Order of travel

Travel order - a document that contains: the name of the transport operator, the line on which the transport is carried out, the type of line, the sequence of bus stops, respectively of bus stops, then the distance from the place where the line starts, the time of arrival and of departure from the bus station, namely at the bus stops, the mode of maintaining the line, the period within which the line is maintained and the validity period of the travel order.

Documents required during operation in domestic and international road transport of passengers

During the regular inter-urban transportation of passengers, the operator is obliged to have these documents on the bus;

- *travel order;*
- *the street warrant;*
- *bus certificate according to the relevant license.*

During the regular transport of passengers in international transport, the operator is obliged to have the following documents on the bus:

- *the permit and accompanying permit documents in original;*
- *road order sheet;*
- *the bus certificate according to the relevant license;*
- *driver's certificate (CPC).*

During the free transportation of passengers, the operator is obliged to have the following documents on the bus:

- *the permit and accompanying permit documents in original;*
- *original waybill certified by the operator and the Border Police;*
- *bus certificate according to the relevant license;*
- *the street warrant.*

During the transport of passengers, the operator is obliged to have other additional documents defined by road transport rules, by-laws and international agreements.

Travel Paper

The travel book is indispensable when carrying out the free transport of passengers.

Category C1 and C

The expressions used in relation to the necessary documentation for domestic and international transport of goods have the following meaning:

Transport permit - the act designated by this provision of road transport or by international agreement on the basis of which the road transport of passengers or goods is carried out;

CEMT permit

Permit (CEMT) - multilateral permit for international road transport of goods in the territory of CEMT member states, with vehicles registered in one of the 3 CEMT member states - European Conference of Ministers of Transport.

Transport for third parties - the transport of goods by transport vehicle or all means of transport carried out for commercial purposes for other physical and legal persons;

Bill of lading - the document that accompanies the goods and must contain: the date and place of issue, the name and surname or designation of the sender, then his address, the name and surname or designation of the transport operator, the vehicle registration mark, date and place of loading the goods, the name and surname or designation of the recipient and the place of unloading, the note of the quantity and type of cargo, the list of documents attached to the bill of lading, transport costs and other costs;

CMR - document that accompanies the goods in international road transport.

Documents required during the road transport of domestic and international goods

During the transport of goods, the operator in the vehicle must have the following documents:

a) for local transport in Kosovo:

- *vehicle certificate (extract from License);*
- *the street flyer.*

b) for international shipping:
- *vehicle certificate (extract from License);*
- *the CMR consignment note;*
- *permit for international transport, unless otherwise determined by international agreement;*
- *street flyer;*
- *driver's certificate (CPC).*

TIR During the transport of goods, the operator in the vehicle must also possess other additional documents defined by the rules of road transport and other by-laws.

Category C1, C, D1 and D

According to the law on road traffic rules, the necessary documents while driving are:

- *driver's license;*
- *vehicle registration certificate;*
- *authorization, if the vehicle is used for driving abroad. The authorization must be issued by the competent authorized body, if the driver is not the owner of the vehicle or the owner of the vehicle is not in the vehicle;*
- *work order or authorization, issued by public or private institutions for driving within the country, if the vehicle is used as a commercial vehicle, such as: public and private vehicles of companies, enterprises, firms, taxis, driving schools, buses, transport vehicles or similar;*
- *insurance policy;*
- *European accident report;*
- *documents for the qualification of drivers, as provided for by the regulation;*
- *valid health certificate, when the law provides for its possession.*

4. RULES FOR MASS, DIMENSIONS, AXLE LOAD, RULES FOR SPEED LIMITATION DEVICES

Category C1, C, D1 and D

MASS, DIMENSIONS AND AXLE LOAD

The expressions used in this chapter have the following meaning:

Truck/transport vehicle - any vehicle that serves to transport cargo;

Vehicle capacity - the allowed measure up to which the road vehicle is allowed to be loaded, according to the vehicle manufacturer's statement;

The length of the truck-tug

Weight of the empty vehicle - the weight of the empty vehicle without crew, without passengers, without cargo, with a full tank of fuel, as well as with the tools and equipment required for the vehicle;

General mass - the effective mass of the road vehicle together with the mass of the load transported by the vehicle, including the mass of the persons in the vehicle, as well as the mass of the vehicle attached to the load, if it is added to the towing vehicle;

Maximum permissible mass - the maximum permissible mass of the vehicle together with the load of the vehicle;

The maximum allowed length of the vehicle - is the distance between the most extreme front and rear part of the vehicle without load;

The greatest permissible width of the vehicle - is the distance between the front and rearmost part of the vehicle without load;

The maximum permitted height of the vehicle - is the distance between the horizontal base and the highest part of the unloaded vehicle, while the tire pressure is in accordance with the pressure determined by the vehicle manufacturer.

The maximum permitted height of category C and D vehicles is 4 m.

Height of buses

The traction wheels of trucks and buses account for at least **1/4** of the total mass of the vehicle or group of vehicles.

The wheels of the steering axles of buses and trucks, if the vehicle is at rest on a horizontal basis,

account for at least 1/5 of the total mass of the vehicle.

The transport vehicle with the largest allowed mass of up to ***3.5 tons or the bus*** is not allowed to exceed the total mass of the towing vehicle.

The total mass of the trailer pulled by the transport vehicle with the largest permitted mass above ***3.5 tons*** can exceed the total mass of the towing vehicle by up to ***40%.***

The restrictions noted above do not apply to the towing head (trailer).

The tugboat

BRAKE SYSTEM

The parking brake system must be located on the attached vehicle in such a way that it can be activated from outside the vehicle.

The working brake system of vehicles and trailers must operate on all wheels.

Long-term deceleration device

When driving on a large longitudinal slope - on long slopes, continuous braking of the vehicle is needed, therefore retarders are devices that enable the vehicle to slow down without frequently using the working brake.

The long-term deceleration device on vehicles and buses with a maximum permissible mass above 5 t, designed to tow a trailer with a maximum permissible mass above 7 t, must be installed and positioned to ensure long-term deceleration of the vehicle.

In semi-trailers with a maximum permissible mass per axle exceeding **9 t,** and in transport vehicles and buses with a maximum permissible mass above **9 t,** they must be installed and located to ensure long-term deceleration of the vehicle

The above-mentioned vehicles must have the possibility (deceleration) of maintaining a constant speed of 30 km/h, at an appropriate grade of downhill transmission of 7% and a road length of 6 km.

Types of retarders are:

Engine retarder - *works by completely stopping the fuel flow to the engine and closing the exhaust pipe.*

The hydrodynamic retarder - *works on the basis of the fluid, while the electrodynamic retarder works on the basis of the current-generator.*

Rotarder - which is not a device installed on a heavy transport vehicle, the advantage of this system is that the brake plate and the drum are saved, fuel is saved, the stability of the tires increases, which means greater road safety. In the electric control which is installed in the retarder, it is possible in a certain position of the handle of the steering wheel, to memorize the appropriate speed when descending long downhills and at a constant speed the descent is made, for example 40km/h, which means that it does not allow increasing the speed of the vehicle. depending on the deceleration

Braking devices on the attached vehicle, the maximum permissible weight of which does not exceed **0.75 t,** do not have to be installed according to the above rules.

The service brake system on the attached vehicle, the maximum permissible mass of which exceeds **0.75 t,** must be installed and located in such a way that it works on all wheels of the trailer.

In an attached vehicle, the maximum permissible weight of which does not exceed **3.5 t,** the working brake can be performed by inertia command.

system of transport vehicles, buses and trailers, when it is separated from the towing vehicle, must ensure the immobility of the loaded vehicle to the maximum extent allowed on a slope of **18%** during which the vehicle is not restrained in another way.

system for the group (group) of vehicles must ensure the immobility of the entire group of vehicles on a slope of **12%,** and during this the group of vehicles is not braked in another way.

The device for the long-term deceleration of the transport vehicle, bus, without or with the attached vehicle and with a larger allowed mass must have the possibility (deceleration) of maintaining a constant speed of **30 km/h,** in a suitable transmission rate in downhill of ***7%*** and road length of **6 km**.

If the towing vehicle does not have a long-term retarder installed, it may tow the attached vehicle only if the attached vehicle has its own retarder and the driver of the towing vehicle can activate it while driving.

Equipment for road lighting, signalling and positioning

The following lights must be on in transport vehicles and buses participating in road traffic:

- have at least two white lights in the front and two red lights in the back;

Rear lights of the attachment

- when towing one or two attached vehicles, at least two red lights must be on at the rear of the last attached vehicle.
- and if the width of the attached vehicle is greater than 1.60 meters, two white lights must be lit in the front of the first attached vehicle.

The vehicle that participates in the road traffic must have the signalling and lighting system, the position in order.

The use of lights in the vehicle which is equipped with advanced technology is done as provided by the manufacturer.

Street lighting devices are:

- *high beam headlights,*
- *low beam headlights,*
- *front fog lights,*
- *drive backwards.*

Lighting signalling devices for vehicles and attached vehicles are: direction indicators, hazard warning signal (flashing, simultaneous lighting of all direction indicators) and brake lights.

Position devices (devices for marking vehicles and attached vehicles), are: rear registration plate light, front position light, rear position light, rear fog light, parking light, side light position light, daytime running light (daytime running light), non-triangular rear reflector, triangular rear reflector, non-triangular front reflector, non-triangular side reflector, high visibility marking (retro-reflective strips for marking the frame, contours of the vehicle), moving lights (reflector), devices for giving special lighting signs (rotating and flashing lights), retro-reflective plates and reflective signals that must be used in ADR, retro-reflective plates and reflective signals for the transport of specific and similar cargoes.

Vehicles which on a flat road cannot move at a speed greater than 25 km/h are not required to have high beams.

Front and rear position lights, marker lights, side marker lights and rear registration plate light are switched on or off at the same time.

Two non-triangular rear reflectors must be installed on vehicles.

Two rear triangular reflectors are installed on attached vehicles, while their installation on vehicles is prohibited.

Vehicles on a level road that cannot be driven at a speed greater than 25 km/h must not have a brake light.

The space for the driver and passengers in vehicles and attached vehicles must have internal lighting.

Slow vehicle

Vehicles and attached vehicles which, due to their construction, cannot move at a speed greater than 30 km/h or on the road move at a speed less than 30 km/h, when performing certain tasks in traffic, must to be marked with a ***"slow vehicle" sign,*** in accordance with the previous provisions.

The vehicle must have at least one "slow vehicle" sign placed on the rear of the vehicle.

"Slow vehicle" sign

If the vehicle has only one "slow vehicle" sign, the sign must be placed so that it is on the left side of the vehicle.

Heavy vehicle

Transport vehicles with a maximum permissible mass exceeding 12,000 kg, except for towing vehicles intended for towing semi-trailers, must be marked with a "heavy vehicle" plate/plates in accordance with the previous provisions.

Plates for heavy vehicles

Towed vehicles with a maximum permissible mass of 10,000 kg or less, the length of which, including the length of the draw axle, exceeds 8 m, and towed vehicles with a maximum permissible mass of more than 10,000 kg, regardless of length, must to be marked with a "long vehicle" plate/plates, in accordance with the previous provisions.

Marked long vehicle

In heavy and long vehicles, there must be one, two or four "long vehicle" or "heavy vehicle" plates, while the number of plates depends on the possibility of mounting them on the back of the vehicle.

Marked long vehicle

Buses

In vehicles that carry passengers, stairs must ensure the safe entry and exit of passengers.

The surface of the corridor, access to the entrance and stairs of passenger vehicles must be non-slip.

Stairs on buses

The interior space of the driver's cabin and the passenger space must be equipped so that the driver, respectively the passengers in the vehicle, cannot be injured.

Spaces for the driver and passengers in motor vehicles and attached vehicles must have interior lighting.

Bus on the ground

The equipment for ventilation must exist in the vehicles and attachments for carrying passengers.

Buses and trolleybuses with more than 25 seats that carry passengers must have a stop - switch that disconnects all electrical circuits in the vehicle except for the tachograph. The stop handle - the switch must be easily accessible for the driver's hand.

The mud hosts

Mudguards on the truck

Mudguards on vehicles and attachments that can develop a speed of more than 30 km/h, except for all-terrain vehicles and transporters that are unloaded automatically, must be installed and placed on all wheels.

Speedometer

The speedometer (speedometer) with the odometer (odometer) must be equipped with a flashing light when the position lights are on, to ensure reliable readability in reduced light conditions.

Speed limiter

There must be a speed limiter on vehicles and buses.

Vehicles of the bus category must have the speed limiter installed at a maximum allowed speed.

Pressure gauge available to the service brake pneumatic device if this device is under pressure at all times.

device for controlling the closing of the door and a device for giving and receiving signals from passengers with which buses for urban (city) traffic must be equipped.

The device for connecting the towing and attached vehicles must be approved and installed in accordance with the provisions set forth above.

Spare and additional equipment of tools

Means of transport of goods and passengers, with the exception of single-axle trailers, buses for urban traffic and vehicles intended for municipal services, must have a spare wheel with tracking devices.

The spare wheel must not have the upper means marked if the tires or rims are equipped with a safety system for safe driving with a flat tire or if the vehicle has an appropriate means of temporarily fixing the flat tire (p .eg spray or foam in pressurized bottles, etc).

The spare wheel of the towing vehicle can be placed on the attached vehicle

Fire extinguisher

Vehicles for transporting goods and passengers must be equipped with fire extinguishers filled with powder defined by normative acts, depending on the category of the vehicle.

The security triangle

Vehicles carrying goods and passengers must have a sign to mark a vehicle stopping on the road, which the driver can use if necessary.

Two safety triangles must have: Auto transport vehicle and bus – if towing the attached vehicle;

The vehicle at the rear of the convoy - if the vehicles are moving in an organized convoy.

First aid kit

Freight and passenger vehicles must have one first aid box, while buses with more than 25 seats have two boxes.

Safety wedges

The means of transport of cargo and passengers with the largest allowed weight over 5000 kg must be equipped with a tachograph or a surveillance system, as well as with a wedge to ensure immobility.

The bus must be equipped with a sufficient number of window breakers conveniently located so that they can be used in case of danger.

Spare bulbs

Means of transport of goods and passengers, with the exception of buses for urban traffic, must have spare bulbs for at least half of the lighting places in the vehicle.

Vehicles equipped with wireless lighting devices (xenon, neon, LED, etc.) do not need to be equipped with spare bulbs.

Maximum allowed length of vehicles

- *Vehicles, except buses-12 m*
- *Attached tool with hook-12 m*
- *Semi-trailers according to the above rules - 12 m.*
- *Tow truck-16.50 m*
- *Buses with two axles-13.50m*
- *Buses with more than two axles-15 m.*
- *Nodal bus-18.75 m.*

The largest allowed mass (maximum) and the total mass of the means:

- *Single-axle trailer-10t*
- *Two-axle trailer-18t*
- Three-axle trailer-24t

The set of vehicles with 5 or 6 axles - two-axle vehicle with three-axle trailer - 40t.

5. MEASURES DURING CHANGING THE WHEEL

(Category C1, C, D1 and D)

MEASURES DURING CHANGING A TIRE

When changing a tire, the driver must take all safety measures, following the instructions provided.
Below is one of the safe ways to change a tire.

1. Preparing the vehicle for changing tires

If while driving you happen to have a flat/damaged tire, first move the vehicle off the road to a parking lot or other safe place, turn off the engine, leave the lights on and engage the handbrake, place the gearshift in the appropriate gear and set safety wedges from not moving the vehicle itself. If you are forced to stop the vehicle in the place where it is prohibited to stop and park the vehicle, then place the safety triangle behind the stopped vehicle at a distance as provided by the road traffic rules and by turning on all direction indicators.

The beginning of the release of a tire

It is recommended that all passengers exit the vehicle. You must bear in mind that the vehicle must rest on a flat, non-slip surface so that the tire can be changed safely. The spare tire is usually located in the trunk, and in some vehicles in the rear door.

Before starting to change, check if the spare tire is in order, i.e. if the tire pressure is according to the regulations.

It is a common mistake that drivers make by jacking up the vehicle before removing the bolts. The wheel bolts are loosened until the vehicle is raised, because the vehicle is more stable. The bolts are loosened in a counter clockwise direction. The bolts are unlocked with difficulty by hand, then the foot is placed on the key, weighing on it.

2. Raising the vehicle

It is recommended to place the crane on a firm surface. If the vehicle is on a soft surface, then place a solid object under the crane, it can be a solid metal plate, concrete slab, or board, or whatever is available under the circumstances. Otherwise, the crane and the vehicle may be damaged.

Placing the crane on the platform

The crane is placed under the vehicle in the place provided by the manufacturer, most often, the positions are marked on the lower part of the vehicle body. After placing the crane in the right place, the lifting of the vehicle begins.

3. Security measures

When lifting the vehicle, loosen all the bolts, beforehand it is recommended to place the spare tire under the vehicle to keep it in place if it falls from the crane. It is dangerous to get under the vehicle if it is only supported by a crane and there is no other safety measure.

Loosening the tire from the bolt

4. The tire removal

The bolts are loosened two by two in diagonal pairs and the tire is removed.

Tire removal

5. Changing the tire

For safety reasons, it is recommended to put the damaged tire under the vehicle in case the crane is released. The spare tire is placed in its place. It is placed in the centre hole in the middle of the tire (the tube that goes through the centre hole in the rim), then the tire is moved by hand to line up all the bolt holes. The bolts are placed through the holes and hand-tightened as much as possible. After the vehicle is lowered, only then tighten the bolts with the wrench, counter-clockwise.

Replacing the tire

6. LIMITATION OF VISIBILITY DUE TO THE CONSTRUCTION OF THE VEHICLE

LIMITATION OF VISIBILITY DUE TO THE CONSTRUCTION OF THE VEHICLE

According to the rules of road traffic " Limited Field of View" - is considered the limited space that the traffic participant can see from the place where he is, due to the road with invisible curves, ridges or due to any physical obstacle, any object or Similar.

However, the limitation of visibility (field of view) may be due to the construction of the vehicle, especially on the side when it is impossible not to notice the vehicle which is in the so-called ***"blind spot",*** therefore the driver of the vehicle is obliged to look over his shoulder to ascertain that there is no vehicle on the side which is not visible from the exterior mirrors. This is necessary before changing the traffic lane, when turning left, overtaking, overtaking or any other action with a vehicle.

Blind spot

The angular front construction of trucks and buses provides the driver with good visibility where the upright position at the wheel plays a big role. The driver of the truck and bus or group of vehicles must be aware that due to the large gaps, the field of view of the road vehicles moving behind him is limited, so if the traffic or road conditions allow, they facilitate their actions, especially if for any reasons are forced to move slowly.

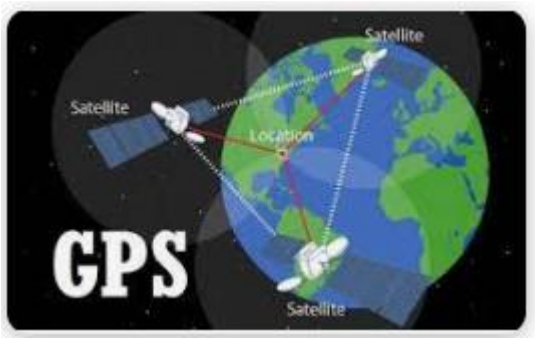
Right-angled surface of trucks

In the trucks and buses of the new type, in order to eliminate the so-called "blind spot" effects, advanced technological devices are placed when the whole situation is seen on the side of these vehicles, which has achieved safety in road traffic.
The truck driver must bear in mind that during transport, the load is not allowed to cover the view of the road, which would jeopardize road safety.

7. READING THE TICKET, PLANNING THE ITINERARY, USING ELECTRONIC GUIDANCE DEVICES (GPS)

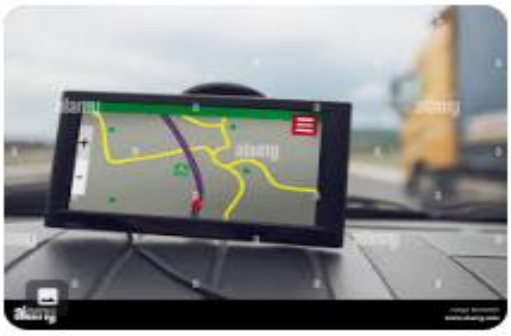
READING THE TICKET, PLANNING THE ITINERARY, USING ELECTRONIC GUIDANCE DEVICES (GPS)

In the past were used auto cards, but now with the use of the Global Positioning System (GPS) their use no longer has any importance.



GPS- is a system based on satellites that rotate around the earth and transmit radio signals to receivers on the ground, to vehicles that are equipped with a GPS system.

GPS - enables us to know exactly where we are, and shows us the trajectory of the journey in a certain distance.



GPS – shows the traffic conditions, if there is a traffic jam in a road segment.

8. SAFETY FACTORS IN CONNECTION WITH VEHICLE LOADING, LOAD SUPERVISION (category C1 and C)

SAFETY FACTORS IN CONNECTION WITH VEHICLE LOADING, LOAD SUPERVISION (category C1 and C)

According to road traffic rules, it is foreseen that the load in the vehicle must be placed and, as necessary, reinforced and covered, so as not to hinder or jeopardize safety in road traffic.

The truck driver is responsible for receiving the goods, transporting the goods and delivering the goods. The load on the vehicle is not allowed to exceed the specified dimensions, the capacity of the vehicle, the axle load, the largest allowed mass and the technical properties of the road, for all of this the truck driver is responsible.

Before accepting the goods, which means loading the goods, the truck driver must check all the documentation, whether it is in order, then whether the quantity is as written in the documentation, or if there is no damage or similar.

Load on truck

After the truck driver ascertains that the documentation is in order, during loading he takes care of the safety of the goods and its quantity.
During the loading of cargo that can be damaged, additional measures must be taken by following the instructions related to the cargo, to ensure that the cargo does not move inside the cargo space and be damaged.
If there is a risk that the cargo may spill onto the road, it must be covered and secured so that it does not spill onto the road.
If the truck has equipment installed for loading and unloading goods, the truck driver takes all safety measures before using such equipment.

If the cargo is liquid or solid hazardous materials, the truck driver must comply with the requirements for the transport of certain categories of goods, such as those covered by the European Agreement for the International Carriage of Dangerous Goods by Road (ADR).

Dangerous Goods by Road

After accepting the goods and ascertaining that everything is in order, the driver signs the acceptance of the goods and receives the relevant documentation of the goods according to the regulations in force and is obliged to show at the request of the authorized person.

After receiving the goods, the truck driver made the transport to the destination point, taking into account the duration of the drive, the cargo being transported must be secured in such a way that it does not affect safe driving, or does not pose a threat to life, health, or property. or the environment.

Given the types of vehicle operation, including emergency situations or uphill manoeuvres so that:

- the cargo can only minimally change their position in relation to each other, against the sides or surfaces of the vehicle, and
- the cargo cannot leave the cargo space or move outside the loading surface, unless the regulations provide otherwise for the cargo.

After reaching the point of destination, if the goods are unloaded with mechanisms that are installed on the truck, the driver must take all safety measures before unloading the cargo, depending on its type. After the delivery of the goods, the documentation of the parties is written and with this the transport of the cargo ends.

RESPONSIBILITIES OF THE DRIVER FOR THE TRANSPORTATION OF PASSENGERS (category D1 and D)

The driver who carries out the public transport of passengers with buses must follow the rules for any type of passenger transport provided by the road transport rules.

The bus driver must take care of the passenger's safety and comfort, especially on long journeys, taking into account the duration of the drive and the rests/breaks foreseen by the rules of road transport.

The bus driver does not allow entry to the bus:

- *Unaccompanied child under 6 years old;*
- *People with contagious diseases,*
- *Corpses;*
- *People who are drunk or under the influence of drugs,*
- *Hazardous substances which are harmful and dangerous for health or the environment;*
- *Persons with stained clothes or damaged luggage or who stink.*

Before accepting the passengers, the bus driver must take care of the hygienic conditions of the bus, during the acceptance of the passengers, he/she should pay attention to the disabled, the blind, the elderly, special care for children who are not under the supervision of the person of adult age and these persons are provided seats according to the possibilities. After accepting the passengers, ensure that all doors are closed, give instructions on putting on seat belts if the bus is equipped with them. Verifies that each traveller is equipped with a travel ticket or any valid document for transportation.

Schedules the ride if you take regular scheduled transportation in the order of travel to arrive first. It provides timely information about the next station or bus stop, after stopping at the bus stop, it opens the bus doors for exit or acceptance of passengers, allowing passengers easy access to the bus.

After the end of the ride, the bus driver opens the bus doors for passengers to get off, giving them their luggage if any passengers have left it. After disembarking the passengers, the bus driver checks whether anyone has forgotten anything, if so, hands it over to the operator along with a certificate or to the bus station official.

Buses with special dimensions with four axles and three parts are used in urban transport where there is a large number of passengers where the doors are wide so that it is very easy to enter and exit the passengers through the bus stops.

The driver who transports passengers with buses for personal needs must follow the rules provided for road transport. The bus for personal needs must have the inscription for this type of transport, the driver is not allowed to take passengers other than those he has on file and equipped with relevant documentation.

Organized transportation of children/students by bus

The driver who transports children/students in an organized manner is responsible for their safety during entry, transport and exit. The bus must be marked with an appropriate sign and must be left or rolled up if it is not transporting children. During entry and exit, all direction indicators must be on.

passenger comfort and safety, the necessary checks before departure, the knowledge test must include all buses (buses for public transport and for personal needs, buses with special dimensions, only for category D, DE, D1, D1E)

9. PROPER VERIFICATION OF GENERAL KNOWLEDGE FOR ADDITIONAL RULES RELATING TO CATEGORIES C, CE, D, and DE

CONSTRUCTION AND WORKING OF THE INTERNAL COMBUSTION ENGINE

The internal combustion engine has the task of converting the chemical energy of the fuel into mechanical work that serves to move the vehicle.

Types of internal combustion engines

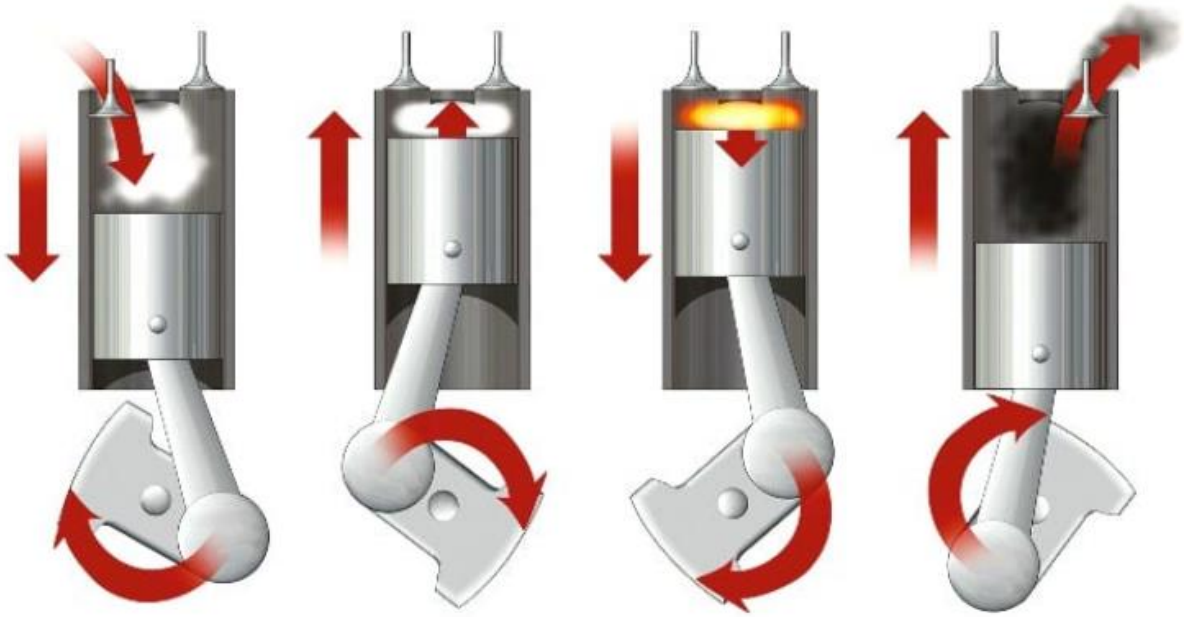
According to the type of design and operating specifications of the internal combustion engine, they are classified according to several criteria:

- According to the type of fuel used - petrol, diesel, gas;
- According to the type of cooling - liquid and air;
- According to the method of preparation of the fuel mixture - carburettor, gas and injection;
- Depending on the position of the cylinders - in line and V-shaped;
- According to the method of ignition of the fuel mixture - with forced ignition and self-ignition.

The construction includes the following parts:

- block;
- the cylinder;
- locking mechanism;
- gas distribution mechanism;
- systems for supplying and igniting a combustible mixture and removing burnt gases.

Internal combustion engine operation.



(1) Absorption (2) Compression (3) Ignition-expansion (4) Discharge

Engine duty cycle

A cycle includes the process of suction (1), compression (2), ignition-expansion (3) and exhaust (4).

Fuel supply system

It serves to deliver the fuel-combustion material to the warehouse in a predetermined quantity, with the best quality and at the right time.
The parts of this diesel engine system are: tank, pre-filter, AC pump, pipes, second filter, high-pressure pump, high-pressure pipes, injectors, intake and exhaust manifolds, air filter and quantity indicator of fuel in stock. Now the advanced technological system of the engine supply system is much more sophisticated.

Engine ignition system

They have the task of starting the engine, the main equipment is the alternator, the battery that supplies electricity and the engine.

Fuel ignition system

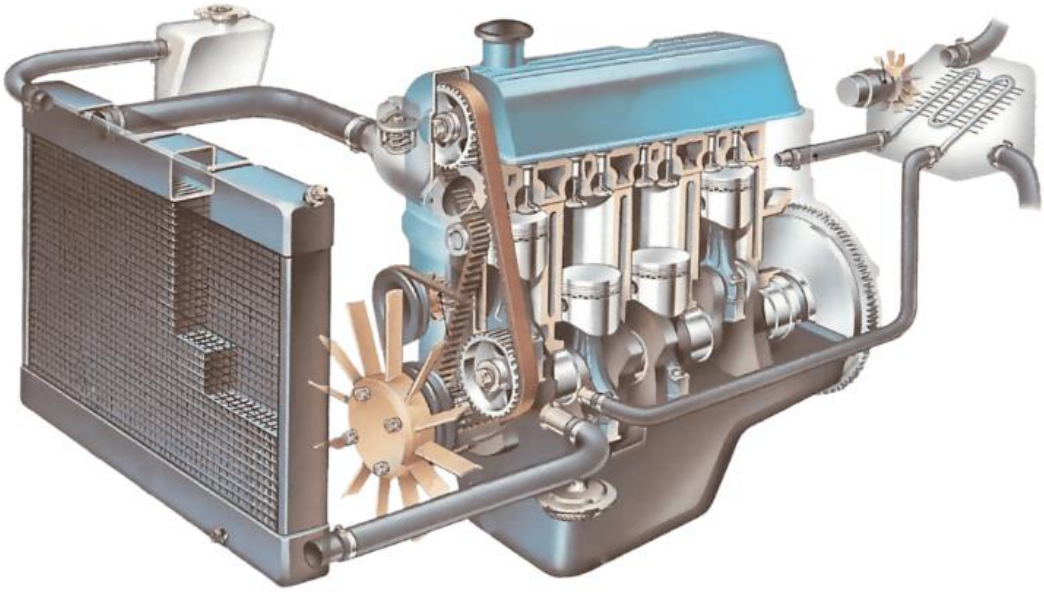
It has the task of igniting the fuel in all atmospheric conditions, difficulties are clearly presented during the winter time when temperatures are low. The battery supplies it with current, which is filled through the alternator, then the bomb which converts the current from low to high voltage, the electric spark plugs and the low and high voltage electric cables, which serve to ignite the ignition material in the otto - engines.

Engine cooling system

The purpose of the cooling system in the vehicle is to remove excess heat from the running engine.

The main parts of this system are:

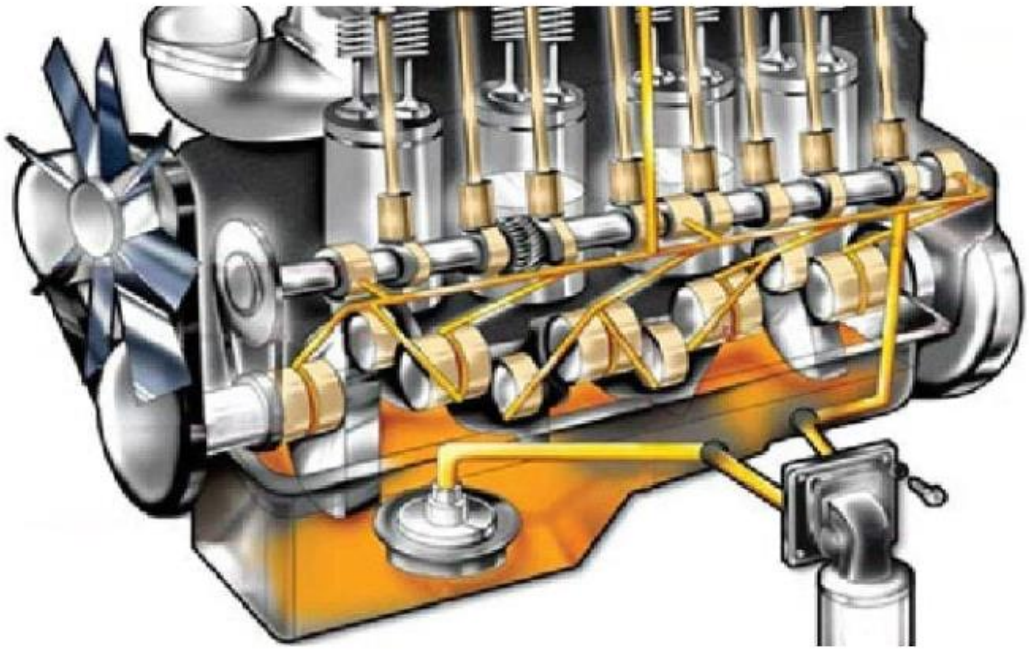
- the radiator;
- water pump;
- the cooling fan;
- the thermostat.



Water cooling system

Lubrication system

The lubrication system of internal combustion engines has the task of reducing the friction on the contact surface, according to this, energy consumption and surface wear are reduced, which automatically leads to an increase in the durability of the engine's wearable elements.



Engine lubrication system

parts of the lubrication system are: crankcase, oil pump, oil filters, oil valves, pipes, oil cooler.

The oil used in the engine must be according to the manufacturer's instructions, the driver must be careful that in winter due to low temperatures the oil must be thinner. At the beginning of the drive, it should be with a small number of rotations of the engine until it reaches the working temperature.

Vehicle electrical system

It serves to provide current for starting the engine and the operation of the lighting and signaling devices of the vehicle and other devices whose function is related to the electric current of the vehicle. The alternator enables battery charging when the engine is running and mechanical energy in the electrical one. It is put into operation by the belt which is connected to the motor shaft. The main parts are: rotor and stator.

Suspension system

Suspension system - The springs and shock absorbers serve to soften or dampen the resistive forces that are caused during driving on uneven roads, so that these forces are transferred to the supporting structure of the vehicle. When the shock absorbers are damaged (for example due to a lack of oil or gas), we have a disorder of the vehicle when braking and when cornering (a large lateral swing of the vehicle when cornering), the braking distance increases and a decrease in passenger comfort. The damages that the vehicle can suffer as a result of damage to the shock absorbers are: non-uniform wear of the front part of the tires, damage to the springs and parts of the steering system that suffer shocks.
Today, new vehicles are equipped with sophisticated systems that increase comfort while driving even on uneven road surfaces.

Transmitter system

It has the task of carrying the traction force and torque to the vehicle's traction wheels.
This system is made up of: friction, speed changer, cardan shaft, power distributor, main transmission, differential, side reducers and half shafts.

Lighting and signaling devices

Lighting and signaling devices in trucks and buses have the same function as in cars.

Lubrification and frost protection

In the conditions of low temperatures during the winter season, the driver must be careful to use antifreeze in the cooling system in time because it can easily lead to the freezing of water that causes the engine to block. If the vehicle is covered by frost before driving, the snow-ice/frost must be carefully removed from the driver's windshield and the side windows so that they are not damaged. After the large amount of frost is removed, the engine is turned on to melt the ice through the windows more easily. The removal of frost should also be done in the driver's mirrors to look at the traffic from behind and to the side.

Driving during snowfall

Now, vehicles with advanced technological systems start and heat by remote control, which melts frost-ice on the windows, so that after a while after activating the heating, the driver can immediately start driving without wasting time, this is especially important for buses who must adhere to the order of travel.

Principles of construction, assembly, correct use and maintenance of pneumatics

On the wheels are placed the pneumatics that made the connection between the vehicle and the road so that they transmit the forces acting between the vehicle and the road. According to the task performed by the vehicle, the wheels can be trailing or trailing.

The tire is the main part of the wheel that is in direct contact with the road and transmits the forces with which the vehicle acts on the road. Pneumatics affect all vehicle characteristics, which depend on the quality of contact between the tire and the road, such as: braking characteristics and dynamic characteristics, controllability, pass ability; affects driving comfort and fuel costs.

The tire must meet the following requirements: have a large coefficient of friction (adhesion) in the longitudinal and transverse direction between it and the road, small rolling resistance, high radial elasticity, low specific pressure on the road, resistance to tearing, resistance to external influences such as: mechanical, chemical, atmospheric, etc.

Tireless pneumatics are now in use so-called "Tubeless".

According to the construction, pneumatics can be: diagonal and radial. The advantages of the radial tire compared to the diagonal tire are: less rolling resistance, good contact with the road in all driving conditions, greater stability, less weight, when driving on a road with a bad base.

The protector is the outer layer of the tire, which has the task of protecting the load from external influences and providing the tire with good contact with the road.
Tires on the same vehicle axle must have the same size, tread shape, load capacity, speed characteristics, type (winter/summer), construction (radial/diagonal, etc.) and brand/type.

The depth of the tire layers on the tread surface must be at least 1.6 mm in summer, and at least 4 mm in winter.

Marking of pneumatics

Width Radial Profile Diameter Bearing Index Speed

The sign of a radial tire for transport vehicles is shown below:

10.00 R 20 146 / 143 K TT,

Where are:

10.00 - nominal tire width (B) in inches;
R - radial tire mark;
20 - the nominal diameter of the bandage (d) in cole;
146/143 - bearing index;
K - speed sign (max. 110 km / h);
TT - tube type (TL - tubeless trunk).

The assembly of pneumatics is recommended to be done in workshops that perform these types of services, since now the equipment is in use that enables a safe and quick change.
Pneumatics must be maintained, regularly check the air pressure in them, if the pressure in the pneumatics is according to the manufacturer's instructions, their durability will be longer, safety in road traffic will increase, there will be a ride with higher comfort of passengers.
In new vehicles there is a device that indicates that the pneumatics do not have the expected pressure.

Daily use and maintenance of the vehicle

The vehicle must meet the technical conditions for safe participation in road traffic and from a hygienic point of view according to the rules set forth.

In order to ensure the operation of engine equipment and equipment important from the point of view of road safety, daily preventive technical checks are carried out on vehicles, which include the following checks:

- *the amount of oil in the engine (the vehicle must be on a flat surface);*
- *transmission belts (alternator, motor shaft, fan, etc.);*
- *the amount of liquid in the cooling system, if they have water cooling;*
- *brake oil level;*
- *amount of windshield wiper fluid (wiper driver);*
- *visual inspection of the pneumatics, attention to the double wheels, what is in the interior;*
- *hanging systems, signalling, lighting, etc.;*
- *system function, steering and braking, as well as*
- *other controls that may be important for the operation of the vehicle.*

Speed limit devices

In order to increase road safety, speed limiters should be installed in heavy vehicles over 12,000 kg for both cargo and passenger transport.

Speed regulator (Adaptive Cruise Control)

The ACC system is an intelligent vehicle speed control system that automatically slows and accelerates to maintain distance from the vehicle in front. It instructs the vehicle driver to maintain a safe distance in seconds depending on the road conditions. ACC provides pre-collision hazard information to vehicles moving ahead and initiates braking in cases of imminent danger.

Anti-Blocking System ABS (Anti-Blocking System)

The anti-lock braking system (ABS) is designed to help the driver in the event of braking to manoeuvre the vehicle to avoid an accident and to avoid locking the wheels while braking the vehicle. This directly enables vehicle stability and manoeuvrability during maximum vehicle deceleration. When the tires contact the road under normal conditions, this ensures that the vehicle can be steered correctly. On the other hand, when the wheels are locked after braking too quickly, the tires lose their ability as a result of the extreme heat and the vehicle's movement becomes uncontrollable.

Tire Pressure Monitoring System (TPMS)

The TMPS tire condition control system helps to keep their pressure under control. For this purpose, in addition to the electronic system of the wheel, sensors are also integrated in each wheel. By means of waves they send signals to a control device. These sensors provide information about tire pressure and temperature. When the tire pressure is low or the pressure drops quickly, the system warns through optical (visual) or acoustic (auditory) signals. Through this permanent control, not only higher safety is offered, but with the right tire pressure, its life span increases and at the same time fuel consumption is reduced. The TPMS system warns the driver by lighting the lamp on the instrument panel, this means that the system has detected at least one tire with a pressure below the minimum for the vehicle. Tires should be inspected and tire pressure checked as soon as possible. In most cases, the light will go out after the tires are properly inflated and the vehicle has been driven at a moderate speed and distance

Intelligent vehicle systems

Intelligent vehicle systems or driver assistance systems which, based on information, increase road safety and environmental protection are basic components of modern vehicles, the most important of which are listed below:

The system for connecting (locking) the towing vehicle and the attachment vehicle

Based on the traffic rules, the terms used in this teaching topic have the following meaning:

Group of vehicles - motor vehicle and attached vehicles, which participate in road traffic as a whole;

Semi-trailer – attached vehicle without the front axle, constructed in such a way that part of its total mass is carried to the towing vehicle through its front part, with the side of which it rests on the towing vehicle;

Light trailer - attached vehicle, the maximum permissible mass of which is not greater than seven hundred and fifty (750) kg;

Trailer-attached Road vehicle, constructed in such a way that it can carry the entire mass through its axles on the circulating road.

The device for connecting the towing vehicle and the trailer must be located in the symmetrical and vertical longitudinal plane of the hinged vehicle so as to enable the mobility of the device in all directions, the axis of the device for connecting the towing vehicle and the trailer must to have the fuse

which prevents the separation of the vehicle assembly. This device must be reinforced for the strongest part of the vehicle. In the case of attaching the trailer to the towing vehicle, signalling and braking devices must be installed and their operation must be verified.
The towing vehicle and trailer must be connected to each other in a way that enables and guarantees the safe movement of the vehicle assembly.

Verification of the causes of breakdowns

In new vehicles, eventual defects are shown through technological devices which are presented based on symbols or acoustics. Some defects related to the operation of the engine must be avoided immediately, as it may lead to the engine blocking, while defects in equipment that directly affect road safety, driving must be stopped and defects in the vehicle must be avoided, making the diagnosis. The state of the devices for locking and unlocking the trailer with the towing vehicle must also be visually checked for any possible defects.

Preventive maintenance of the vehicle and adjustment of current breakdowns

From the perspective of safety, the preventive maintenance of the vehicle means that every time before driving, we must take preventive measures so that the vehicle that participates in road traffic is safe, especially the devices that directly affect road safety, including the mechanism of the locking devices and what connection to the community of the vehicle which as a whole participates in road traffic.
After identifying the defect in the vehicle, it must be diagnosed to eliminate possible defects in the vehicle.

Responsibilities of the driver in terms of receiving, transporting and delivering the cargo according to the terms of the contract (only for categories C, CE)

The driver of the truck or the vehicle group is responsible for receiving the goods, transporting the goods and delivering the goods as described in the cargo transportation chapter.

LITERATURE:

1. Law on Road Traffic Rules.

2. Driver's License Law.

3. Traffic rules and road safety with the methodology.

4. Bylaws from the Law on Road Traffic Rules and Driver's License.

5. Xhevat Gashi - Driver's license for category A and B.

6. Internet resources.

7. Other sources