

FIRE-FIGHTING VEHICLES AND THEIR CLASSIFICATION

Gorgadze L.N., Kojevnikov A., Novikov D.

Don State Technical University

Fires arise and develop wherever there are combustible materials and sources of ignition. Fire - uncontrolled burning causes material damage, damage to life and health of citizens and the interests of society and the state. Fires develop very quickly, so to minimize damage one should begin their fast quenching, that is locate, and then eliminate them in the shortest time. To eliminate fire, it is necessary: to deliver crews, extinguishing agents and fire-fighting equipment to the desired area; to submit the necessary quantity of extinguishing agent in the combustion sources; carry out a number of special work before and during the extinguishing process [1].

Performing these tasks in a short period of time can only be done by using a variety of mechanical means. In the fire service in the parts of the garrisons of fire protection, as a rule, mechanical means on a wheeled chassis - fire trucks are used. Depending on the purpose of the equipment that comes with the machine, there are three types of fire engines: the basic, special and auxiliary ones.

Basic fire trucks are used for delivery of the fire-fighting crew, fire extinguishing equipment and stock funds, as well as for the supply of fire extinguishing agents in the fire. The main concern is fire trucks, powder, foam, and other airfield fire trucks. This group also includes fire trucks that do not have a stock of fire extinguishing agents, and only provide them over the pockets of fire from foreign vessels or systems.

Special fire trucks are designed for special applications in fire fighting. The special fire engines are ladders, auto-cranked lifts, bags, staff and operational fire trucks.

Auxiliary fire trucks are equipped to perform auxiliary operations on fire. These include mobile repair shops, propaganda vehicles, cars, trucks, tractors.

Basic and special fire trucks consist of a truck chassis; tanks for fire extinguishing agents on the main vehicles; fire-fighting equipment or special arrangements in special vehicles; additional equipment (e.g., cooling system); control actuators of fire equipment.

All products of fire equipment are painted in red. On the door of the car cabin there are numbers for the room and the city of the fire department, in the stern there is the type and the number of the fire. According to the appropriate flowchart, car bumpers are painted in white color, frame, wheels and visible chassis parts in black.

The primary tactical unit in fire protection department is a tanker (AC) or a vehicle fire pump and a bag (AHP). These fire engines are the technical basis of the armed fire departments.

Fire -fighting vehicle is used for the delivery of the fire- fighting crew, fire-fighting equipment, fire-extinguishing agents stock (water and foaming agent) and fire-fighting water or air-mechanical foam [3].

Fire fighters and ANR had been issued before the fire pump motors (AH) were equipped with fire pumps. They are similar to the active site, but they have no tank of water. They extinguish fires with water only from outside sources like ponds or water supply system. To extinguish mechanical foam there were used installed tanks with a foaming agent. In addition, the Academy of Sciences and the ANR there are bag-hose cars. They have a stock of fire hoses reaching in length from 300 to 1000 m. To extinguish the fire by using the water from a cistern, or tank truck the hose is set to the water source. Also, water may be supplied from another fire truck being used as an intermediate container.

The fire tankers are characterized by high driving characteristics, they are reliable and easy to maintain. They are created on the chassis ZIL-130, ZIL-13, GAZ-66, etc. which with an engine, transmission, control mechanisms properly maintained are considered to be the main parts of the car.

The significant changes have also been made to the electrical system. It includes lighting equipment, light, sound and instrumentation.

The driver's cab is rigidly connected to the combat crew cabin. Cabins have thermal insulation and rubber mats.

In the middle of the chassis, for combat crew cab a steel water tank is mounted. The tank is attached to the frame side members. The fire-fighting equipment is placed in the compartments of the body and roof. To the tanker, the extinguishing liquid is supplied by a pump installation. Fire pumps, actuators and control devices, as well as the foaming agent tank are housed in the pump compartment rear.

Fire trucks are continuously being improved by applying new tools and equipment, and creating new machines. This requires the development of new tactics of suppression of fires and improvement of the special personnel training [4].

REFERENCES

1. Федеральный закон от 21 декабря 1994 г. N 69 "О пожарной безопасности".
2. <http://www.studfiles.ru/preview/2484908/>
3. <http://fire-truck.ru/encyclopedia/pozharnyie-avtomobili-opredelenie-i-klassifikatsiya.html>
4. <http://stroy-technics.ru/article/naznachenie-i-obshchee-ustroistvo-pozharnykh-avtomobilei>