THEORETICAL FRAMEWORK FOR THE STUDY OF LOCALLY PRODUCED TRANSMISSION OILS FOR TRUCKS OPERATING IN MOUNTAIN CONDITIONS AND HOT CLIMATIC CONDITIONS.

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Annotation. This article analyzes the properties, quality, reliability of essential oils and the changes in the quality of oils for high temperature, dust particles.

Keywords. Motor oils, temperature, edible, reliability, climatic conditions, oxidation, combustion ,sionsionic oils.

Introduction. Each country must have its own model of development, of course, taking into account the World Economic Laws, and at the same time taking into account the mentality, customs, culture and history of its people, of course. Uzbekistan, which demonstrates one of the highest rates of economic growth in the world even in the conditions of the global financial crisis, is an example of successful development of its model on the basis of the above principles.
Sionsionic oils are designed for mechanical, kidromechanical and kidroenergetic transmission lubrication. The composition and properties of oils depend on the design of the transmission and working conditions.

Literature view. The volume of production of lubricants used for the engine of gear reducers of Transport Machines, tractors, machine tools and other engines is significantly lower than the volume of production of motor oils intended for internal combustion engines. At the same time, these fats, which are of importance for modern techniques, are not inferior to any other group of fats called transmission.
With the development of the technique, the working conditions ofsionsion oils are becoming more and more, and oils from conventional oil distillates or untreated residues have become complex compositions, consisting of a specially prepared oil base and a complex of additives for various purposes. Since modern vehicles are used in a wide range of ambient air conditions (from -50 to +50 ° C), high requirements are imposed on the viscosity-temperature characteristics of transmission oils.
Another feature of the working conditions of transmission oils in aggregates is a wide working temperature. In aggregate, the oil temperature varies widely from -50 to + 170° C. In these intervals, oil should maintain its activity, IE. performs many important functions.
Research methodology. When using auto parts in hot climatic conditions in aggregates (transmission control distribution box), the oil temperature already reaches 160-170° C. With long-term operation of the oil under such high temperature conditions, its quality is sharply reduced, as it is due to the decomposition of anti-edible and anti-edible additives and deep oxidation.
The use of high-quality transmission oils provides significant economic benefits, because it allows to reduce the wear of friction surfaces and increase the mexanizm resistance, significantly reduces the metal capacity of the structures, increases the efficiency of vehicles in winter due to the reduction of sideilg'i consumption and maintenance costs of vehicles.
Analysis and results. Designers and Operating Engineers often encounter difficulties when choosing the engine system and gear oil type. Especially if they are designed to operate in a wide temperature range, with high contact stress and sliding rates, there will be difficulty in the eyes of scientists in creating new varieties of transmission oils. On the one hand, this is due to the lack of complete experimental data on the use of essential oils, on the other hand, not to generalize the existing results of experiments.
At present, the Republic of Uzbekistan uses trucks of various modifications, structures, carrying capacity and other large parks. The working conditions of these cars are characterized by a wide range of ambient temperature, high thermal resistance of transmissiya aggregates. At the same time, the reliable, durable and efficient operation of these units largely depends on the quality of transmission oils.

Analysis of working conditions of trucks and their aggregates in Mountain conditions and hot climates.

Highways cross the mountain and mountain systems at an altitude of 1500-2000 m above sea level. For such roads 10-12 km is characterized by large 1% longitudinal slopes for 10 serpantins on the road, significant winding 8-10 turns on the road 1 km with small slopes 15-18 m round, low width of the road and soil web coating deformation and poor visibility. During rain and rain, individual parts of the roads are destroyed.

In addition, in high mountainous areas, the weather is unstable: during the day there are large temperature changes. For example, in summer, in the daytime in the sun, the temperature is +30... It can reach +40 °C and at night -5...It can drop to -10 °C.

These factors affect the reliability of cars. Designed for transportation in hot climatic conditions, high temperature, dust, low relative humidity, solar radiation, and other vehicle, there are specific features of the hot climate zone, which affect the reliability of the vehicle, elimination of loss of cooling fluid from evaporation, closed-type engine cooling systems should be developed, as well as oil radiators for cooling engine oil. Cars working in the steppe-sand zone require filtering of air, fuel, oil. Parts made of plastic, rubber and polymer materials, collarilg'i, oil, brake fluid and other materials should be designed to ensure reliable performance in high temperatures.

Especially in areas with subtropical climate, high humidity in Mountain conditions, rapid corrosion is caused by car cable terminals, parts, units.

All this indicates that when using the car in Mountain conditions, it is necessary to pay special attention to the technical condition of the car's control bodies, lighting and signaling devices and the correctness of their installation, fastening and adjusting work.

In order to ensure the normal operation of cars in mountain areas, it is necessary to conduct technical preparation for cars for operation in Mountain conditions, reduce the frequency by 40% and strictly observe special driving rules in mountain areas. In addition, practice shows that the nominal load capacity of cars at a height of 300-4000 m should be reduced by 25-35%.

The complexity of the vertical profile and the mining of the mountain roads affect the operating mode of the car brake systems and the energy load. When driving along mountain roads, the number of brakes on the road 1 km reaches 10-19, the temperature of friction surfaces on some parts of mountain roads is 460-490 °C on the rear brakes, on the front-270-290 ° C. when a middle-class bus is moving at a constant speed on a road plot of the same length, with a change of slopes in 5 times, the energy load of brakes from 2% to 10% can increase by 17 times.

As a result of the transmission of large torques in the ascent with driving wheels, frequent braking over long distances, as well as in small radius multistage turns. there is a rapid wear of tires.

Designed for transportation in hot climatic conditions, high temperature, dust, low relative humidity, solar radiation, and other automotive, there are specific features of the hot climate zone that affect the reliability of the vehicle, to eliminate the loss of cooling fluid from evaporation, closed-type engine cooling systems should be developed, as well as oil radiators for cooling engine oil. Cars working in the steppe-sand zone require filtering of air, fuel, oil.

The rapid aging of fats in hot climatic conditions is due to the acceleration of oxidation processes under the influence of high temperatures, the ingress of edible particles of dust and edible parts, which are catalysts of oxidation processes, into the lubrication system. The preferred antioxidants and protective additives for these conditions are oils containing, and self-trucks, gidrotransformers, etc .

Conclusion / Recommendations. Since the oil is subjected to temperature influences from 50 to 250 °C, with high pressure and width of loads up to 100 MPA, the operating conditions of the oil in car engines are severe. In the Carter part of the engine, the oil is in the form of the smallest droplets, forming a greasy fog. A large clock of the oil surface is in contact with air oxygen, as well as with various metals, water, etc.

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