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THE TRANSPORT AND COMMUNICATION SYSTEM IN THE ECONOMIC LIFE OF THE REPUBLIC OF UZBEKISTAN, THE TECHNOLOGY OF RESTORING THE EATEN PARTS OF CARS BY THE METHOD OF GAS-THERMAL DUSTING

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Abstract:
This article provides detailed information about the rapid renewal of modern domestic and foreign car models in the Republic of Uzbekistan, comparison of the effectiveness of technologies for restoring and strengthening damaged parts.

Keywords: restoration, reinforcement, technology, worn parts, sliding, friction, circular friction, hydrostatic, elastic, gas-thermal, dusting, technology.

Introduction

One of the main problems is to reduce the number of people who are constantly killed and injured due to road traffic accidents worldwide. There are difficulties in providing services to the population and ensuring traffic safety on the roads. Road traffic accidents are causing economic and social damage.

The transport and communications system plays a crucial role in the economic life of Uzbekistan. Each of us has faced the difficult task of maneuvering in a tight space - for example, in the parking lot of a shopping center. The longer the car, the harder it is to stop. Therefore, cars with a small turning radius are most useful in cities. In addition to the wheelbase, other factors are important for him. The turning radius of the vehicle means the semicircle that describes the vehicle during the maneuver. In this case, the steering wheel turns completely to one side. Knowing this parameter is necessary to determine whether the car can turn completely on a certain section of the road or whether the driver needs to increase several times from the first speed to the opposite direction.

In particular, in the "Development Strategy of the New Uzbekistan for 2022-2026" great attention is paid to road transport:

- At present, by increasing the export potential of the Republic, in 2026, the export volumes of the Republic will reach 30 billion US dollars.
- To increase the export potential of the republic by actively continuing the system of supporting the activity of exporting enterprises.

- Further development of the export potential of local industries, making full use of existing opportunities.
- Implementation of standards that meet the foreign market and international requirements and attracting famous brands.
- To increase the share of the private sector in exports to 60 percent.
- Triple the export of motor vehicles and reach 1 billion US dollars.
- To increase the export of tourism, transport, information and communication, including software and other services by 1.7 times or to 4.3 billion US dollars.
- Improving the system of organizational and financial assistance provided to exporting enterprises.
- Increase the volume of finished and semi-finished products in export by 3.3 times and expand the export of finished products to European countries within the framework of the GSP+ system.
- To increase the number of exporting enterprises from the current 6,500 to 15,000, and the geography of export of goods from 115 to 150 due to the improvement of the system of assistance in the export of products produced by local manufacturing enterprises to foreign countries.
- To select 200 exporters on the basis of an open competition based on the idea of "New Uzbekistan - a country of competitive products", to turn them into leading exporters and to support them in every way.
- Establishment of free trade zones in border areas with neighboring countries.
- Development of a unified transport system that integrates all types of transport, creating the possibility of reaching and returning to the destination based on daily transport routes between large cities.
- Improvement of the public transport system and development of its infrastructure in Tashkent city and regions.
- Shaharlararo va shahar atrofi temir yo‘l qatnovlari jozibadorligini oshirish.
- Development of the market and infrastructure of transport and logistics services, raising the level of electrification of the railway infrastructure to 60% and rapid development of the highway network.
- Expansion of "green corridors" and transit opportunities for foreign trade in the field of transport and increase the volume of transit cargo to 15 million tons. [1]

It should be noted that increasing the maneuverability of vehicles makes it easier for cars to move on roads and creates convenience in movement.

The construction of the Foton plant in cooperation with the People's Republic of China in Pop district of Namangan region under the President of our Republic Sh.M. Mirziyoyev's "Establishment of Enterprises with the Support of Foreign Investment"

and put into operation on the 2019 Independence Day. It mainly produces small-sized cargo and passenger cars for our republic and Central Asian countries.[2]

Based on the decision "Establishment of enterprises with the support of foreign investment", starting the production of car components in our country first of all leads to saving of foreign exchange reserves, on the one hand, it allows to reduce the cost of car production, and on the other hand, the labor it will be possible to establish their seats. Joint ventures for the production of automobile components supply spare parts not only for the automobile factory, but also for the domestic and foreign markets.

Together with the development of the automobile industry, their extensive use and the organization, reconstruction and reconstruction of the technical base for the production of motor transport enterprises, technical re-equipment and design of new ones, ensuring the technical condition of automobile sheds, further improving the technical basis of production requires improvement. As a result, service enterprises providing technical service for modern automobiles are emerging in our republic, which shows that existing automobile enterprises need to develop and improve the processes of rolling stock renewal, service and repair.

Cars wear out during operation and lose their primary operational indicators. In this case, the state of every detail of the machine parts wears out and loses its ability to work. Their restoration makes it possible to use the car for a long time, and it is possible to achieve a high level of economic efficiency.

One of the main goals is the high development of the industry of restoration of vehicle parts, which is considered one of the most important industries in developed countries.

In today's world, the price of manufactured goods and products is constantly increasing, and the purchase of new car parts is an excessive economic loss for consumers. an effective way to prevent this is to restore the functionality of existing parts. The industry of detail restoration is not highly developed in our country. This industry is one of the most developed countries in the European Union and the United States.

Auto parts remanufacturing has several advantages. Most important is cost-effectiveness, with overhead savings in some cases up to 70% of total costs.[3] The advantages of buying remanufactured parts include:

- the purchased product is reliable in all respects;
- significantly less negative impact on the environment compared to the production of new spare parts;
- save raw materials and reduce the emission of carbon dioxide into the atmosphere;

- remanufacturing of parts, in contrast to assembly line production, where spare parts can be produced separately as needed.
- the quality of restored spare parts is not inferior to new ones, and due to the development of modern technologies, it sometimes surpasses them;

Currently, the leaders of the world's auto detailing industry have united to provide quality service to car users and have formed several large associations, which include:

- MERA (Motor and Equipment Remanufacturers Association) - the association of engine and spare parts manufacturers was founded in 1904 and protects the interests of the TV parts remanufacturing industry;
- ANRAP (Automotive Parts Remanufacturers National Association) - the National Association of Automotive Parts Remanufacturers of Brazil, cooperates with well-known organizations such as WABCO, Garrett, Schaeffler Brazil;
- CLEPA (European Automotive Suppliers Association) - European automotive suppliers association, includes more than 3000 companies with more than 5 million employees. Covers all products and services in the automotive supply chain. Headquartered in Belgium;
- APRA (Automotive Parts Remanufacturers Association) is an international trade association serving more than 1,000 companies that produce $35 billion worth of fully remanufactured parts annually.
- FIRM (European Organization for Engine Remanufacturing) - European organization for engine remanufacturing, founded in Vienna in 1958, with headquarters in Brussels. Federation members consist of 10 national trade associations and more than 1,000 companies engaged in engine repair and restoration.
- CPRA (Reproduction Committee of the China Automobile Manufacturers Association) is the Reproduction Committee of the China Automobile Manufacturers Association, which was established in Beijing in April 2010 with the approval of the Ministry of Civil Affairs of the People's Republic of China.

Major automotive technology manufacturers such as BOSCH and WABCO have their own manufacturing facilities for processing automotive parts. Many car manufacturers in Europe and the United States have technologies for restoring car details in their lineup. Examples of this are Robert Bosch GmbH, DelcoRemi, Cardone Industries, TRW, Delphi.

The largest profitable company in the United States is Cardone Industries. It holds 30% of the world market share and is a private independent organization founded in 1970. Cardone Industries manufactures more than 70 remanufactured parts for

popular automotive brands using state-of-the-art equipment. More than 5 thousand people work in the enterprise. [4]

As a European example of such a company, the ZF concern has been operating for more than 50 years. Currently, transmission spare parts for various models of cars are produced.

Most importantly, remanufactured TV parts use 85% less material and 55% less time than manufacturing a new part. It is possible to save 20,000 tons of raw materials annually, and as a result, significant economic benefits can be achieved.

All details of the car will have the dimensions specified in the technical documents. During the use of cars, depending on the durability of these details, different degrees of corrosion occur on their working surfaces over time. As a result, the main dimensions of the details change and cause various malfunctions.

In the process of repair, the correctness of the geometric shape of the details and the cleanliness of their surfaces are restored. In this case, the original dimensions of the details will not be preserved.

As a result of mechanical processing of the part, the eroded surface layer is cut, so that a new dimension appears in the part that is smaller than the previous one (in the shafts) and larger than the previous one (in the holes). Thus, predetermined repair dimensions are created on detailed surfaces. In this case, the details are processed according to the dimensions of the surfaces to be connected.[5]

There are three main standards used in car repair, regulated and free sizes.

The quality of the surface of the part is characterized by the roughness of the surface, and the roughness of the surface is characterized by linear expansion, physical-mechanical and chemical compounds, as well as the amount of residual stresses.

Another main reason for the sharp increase in the surface curvature of the detail surfaces is that the oil film on the surface is not uniformly provided or the viscosity of the oil decreases due to the liquefaction of the material used.

A small curvature on the surface of the detail leads to erosion of its surface. Therefore, the smoother the surface of the part, the less surface the bullet eats.

The quality of the surface layer partially affects the condition of the part in use.

During the processing of moving surfaces, the surface roughness squeezes the oil, which breaks the oil film, heats the surface of the workpiece, and causes more wear. This is mainly due to the increased friction of the part after the oil film is broken on the moving surface.

In addition, in addition to the unevenness of the surface of the detail, as a result of the decay of the detail, linear waves appear on its surface, these waves cause the decay of the detail.

The quality of the surface of the parts, as well as during their assembly, affects the quality of partial assembly, especially in the combination of parts connected to each other.

Determining the quality of the surface curvature is carried out in two ways:

• in the first method, the curvature is determined by comparing and adjusting them to the standards;

• in the second method, the first method is used to determine the curvature of the detail surfaces. Also, the surface quality of the detail is compared with the standard, the main one is visible to the naked eye.

Compared to the eye, polished surfaces can be class 1-6, or when observed with a microscope, polished surfaces can be compared to 7-13.

The unevenness of the detail means the sum of small steps, unevenness and the unique appearance and structure of the surface of the detail. The curvature of the detail surface depends on its exact size, the high accuracy of the detail is not related to its curvature and linearity.

The quality of the detail surface is evaluated by these two factors. The curvature of the surface of the part leads to an increase in its tension. On the surface of the workpiece with curvatures, large corrosion occurs, which leads to erosion of the workpiece, which reduces the durability of the workpiece. Roughly, the durability of a polished detail surface is reduced by more than 40% compared to a rough cleaned surface. Fatigue of the part on such a surface leads to its erosion, so the fatigue of the surface of the part creates a residual stress that compresses it on the outer surface of the part. This stress can manifest itself in various forms, such as fatigue, cracking, splitting of the surface of the part, etc. Depending on the exact size of the surface of the part, its curvatures can be determined, and also, depending on the necessary conditions, the permissible height of the curvatures can be determined.

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