

## INSTEAD OF PUTTING A MAGNET ON THE OIL DIPPER, PLACE FOOD IN OIL.

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**Key words:** Hot climatic conditions, cylinder-piston group, mechanical wear, abrasive particles, lubrication system, dust, temperature, coupler, magnet.

**Abstract:** When operating cars in hot climates, atmospheric dust, i.e. quartz particles, through the engine breathing system are mixed with fuel in the engine along with the air flow, as a result of friction during the reciprocating movement of the piston, metal particles appear as a result of monitoring the processes mechanical corrosion and decay. Taking into account the fact that abrasive corrosion products have a very negative effect on engine efficiency, it is supposed to capture metal particles formed during corrosion by installing a magnet on the engine lubrication system dipstick.

## ВМЕСТО УСТАНОВКИ МАГНИТА НА МАСЛЯНОМ ЩУПЕ ПОМЕЩАЙТЕ ПИЩЕВЫЕ ПРОДУКТЫ В МАСЛЕ.

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**Ключевые слова:** Жаркоклиматические условия, цилиндропоршневая группа, механический износ, абразивные частицы, система смазки, пыль, температура, стяжка, магнит.

**Аннотация:** При эксплуатации автомобилей в условиях жаркого климата атмосферная пыль, т. е. частицы кварца, через систему дыхания двигателя смешиваются с топливом в двигателе вместе с потоком воздуха, в результате трения при возвратно-поступательном движении поршня появляются металлические частицы в результате наблюдения за процессами механической коррозии и гниения. С учетом того, что продукты абразивной коррозии весьма негативно влияют на показатели эффективности двигателя,

предполагается улавливание образующихся при коррозии металлических частиц путем установки магнита на шуп системы смазки двигателя.

### **Introduction**

The development of the automobile industry in our country is growing rapidly. Today, based on the localization program, many parts of automobile parts are produced in our Republic. In particular, "General Motors Powertrain-Uzbekistan" JSC, located in the Tashkent region, launched the production of car engines. 960 projects were implemented in Uzbekistan within the 2017 localization program. In the next two years, it is planned to implement about 1150 projects worth 3.4 billion dollars in Uzbekistan. This was announced at the press conference dedicated to the prospects for the development of industrial cooperation and localization processes at the Ministry of Economy of the Republic of Uzbekistan. In particular, in 2022, at the expense of the implementation of 960 projects, the production of localized products worth 6.5 trillion soums is set. In addition, 122 types of products that need to be localized based on domestic standardization have been identified. The process of studying additional reserves (reserves) for reducing the import of products showed that there is an opportunity to reduce imports by an additional 23% due to the expansion of inter-sectoral industrial cooperation and the organization of production of modern types of products that replace imports. The main reason for the increase of dust particles in the atmosphere is the change in the natural and climatic conditions. As a result of an increase in the air temperature from the normal level, due to a decrease in the relative humidity of the air in the atmosphere, dust particles on the ground rise into the atmosphere as a result of the wind. During the operation of vehicles, dust particles in the atmosphere together with the air flow through the respiratory system of the car, that is, 95-99% of the dust particles are retained by the air filter, and the remaining 1-5% are mixed with fuel. is introduced into the combustion chamber. As a result, during the reciprocating movement of the piston, the friction of dust, i.e., quartz particles, between the piston and the cylinder mirror causes corrosion and metal particles are separated. Separated abrasive wear

products, mixed with lubricants and falling into the crankcase, are collected at the bottom of the pallet. As a result, in the process of moving together with the oil, the friction working at high load lubricates the surface of the contact surfaces and takes away the excess heat with it. In this process, abrasive wear products cause rapid wear on contact surfaces that touch each other, such as cylinder-piston group, crankshaft and connecting rod necks. As a result of this, a gap appears between the sleeve and the piston, and during the compression stroke of the fuel-air mixture in the combustion chamber, the gases pass into the crankcase due to high pressure, and the oil enters the combustion chamber and burns together with the fuel. As a result, the power of the engine decreases, the consumption of fuel and lubricants increases, and indicators of durability and reliability decrease. In order to prevent this, by installing a magnet on the dipstick for measuring the level of oil in the crankcase, it is necessary to catch abrasive wear products in the oil. Trapped metal particles and crankcase oil are cleaned in the process of measurement. As a result, economic savings are achieved.

### **LITERATURE ANALYSIS**

In addition to Internet sites, I have reviewed and analyzed as many articles about vehicles as possible. In the course of reviewing several articles on the subject of Internet sites, it is assumed that in exchange for the installation of a magnet on the oil filter and crankcase bolt in the lubrication system, the abrasive wear products contained in it are retained. This is to improve the performance of the engine. The installation of a magnet on the dipstick for measuring the oil level in the crankcase has not yet been considered.

### **LEARNING STYLES.**

During the operation of vehicles, it has the ability to retain 95-99% of the dust particles in the air coming from the atmosphere to the air filter of the engine, in the process of passing through the air filter. The remaining 1-5% amount passes into the combustion chamber of the cylinder and during the reciprocating movement of the piston, mechanical corrosion occurs due to the quartz particles

causing friction during the piston and the mirror of the cylinder. As a result, corrosion products are formed. together with lubricants, it is collected as soon as it falls into the crankcase. Then the pump sucks the oil again through the oil receiver, and the metal particles in the oil, which has been cleaned through the oil filter, combine with the oil, through the main oil line, to the cylinder block head, i.e., the parts working under constant load in the gas distribution mechanism block, inside the gas distribution valve it is carried out in order to prevent core bearings, koromislo (pushers), and balls from heating up and eating due to friction through oil channels. During the lubrication process, abrasive particles can get into the friction parts together with the oil, causing further wear. As a result, it leads to a violation of the performance of the gas distribution mechanism. When the working resource of the parts deteriorates, malfunctions and breakdowns occur, their repair work is required, which leads to economic costs. Now, in the next step, we should study the influence of the crankshaft mechanism on the performance. The oil coming through the main oil line first lubricates the bearings of the crankshaft core and connecting rod necks through the oil channel located inside the crankshaft under pressure from the slot between the cylinders, and from the slot inside the core neck, the oil ri through the connecting rod, through the piston finger and through the oil suction ring during the reciprocating movement of the piston, as a result of the formation of a thin oil film on the cylinder mirror, as a result of the abrasive particles in the oil content, as a result of the piston rubbing against the cylinder , in the process of his participation, eating increases sharply. As a result, the gases formed during the combustion of the air-fuel mixture move to the crankcase, and the oil coming out of the oil ring enters the combustion chamber. As a result, the consumption of fuel and lubricants increases, the power of the engine decreases, the periodicity of current maintenance increases, and the work efficiency decreases sharply. In order to prevent all the above-mentioned shortcomings, in exchange for installing a magnet with a size of 50 mm around the part where the minimum and maximum marks are located on the oil level measuring stick in the crankcase (pan) of the engine lubrication system, measure

all abrasive wear products. As a result of maintenance, it is intended to extend the useful life of the engine. As a result, economic savings are achieved. It is also advisable to clean the metal shavings formed as a result of adhesion of abrasive particles from mechanical wear to the magnet on the oil level measuring stick every 5-10 days during the daily maintenance of vehicles. As a result, the operating time and distance of vehicles increases, the periodicity of TXK and JT decreases, fuel and lubricant savings are achieved.

### **CONCLUSION**

At the moment of the change of natural and climatic conditions, the influence of dust particles in the air in the atmosphere on engine indicators is very large. In order to prevent this, during the operation of vehicles, by installing a magnet on the dipstick of the engine oil in the crankcase, in order to retain the abrasive wear products resulting from the mechanical corrosion of the oil, improve the performance of the engine, increase the reliability and durability indicators. Improvements and economic savings were achieved.

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