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The Design of Cars in Automobile Industry

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Cars of the twenties

The twentieth century will undoubtedly go down in history as the century of the car. In the beginning of the century, at the dawn of the age of the car was the slogan “a Car is not a luxury but a means of transportation”, now this slogan has become a reality. The car has become for most people an integral part of life that many cannot imagine life without a car. Trace the development of this industry through the years by the example of vehicles made by FORD.

The first cars if in our understanding it is possible to call them cars, were more similar to carriages, the first models "F o r d A" and "F o r d T" can be an example. The reasons of a similar form of a body can be different: first in sheathe old stereotypes of the designers who have got used that carriages were the weight open. Secondly the small speed of the car didn't cause the necessity in more streamline shapes. If to consider technical features of the first cars, then it is better to pay attention to "F o r d A" or "F o r d T", older models of the 20th years old. The first that draws attention - it is angular forms and standard, for the subsequent models ever produced under the name of FORD, an arrangement of units in forward part of the car. The second can note total absence of a body per second, that is it exists but in more simplified form, in the form of a lonzheronny frame. It means that all details of a body fastened not on sheathe to a body frame, and were fastened among themselves but only after that a peculiar cover put on on

the lonzheronny chassis on which the engine, "coupling", "transmission" has been already strengthened.

Small power of cars was one of the first a problem with which designers have stumbled need of reduction of weight or increase in power followed from her. Safety of passengers and the driver became the second problem, this problem was resolved and till today. Then there were problems of durability and corrosion firmness of metal details of cars [1].

Car of the sixties

New fuel-efficient models. All American passenger cars produced between 1960 and 1969 have the classic scheme of location of units i.e. the engine block with the clutch and gearbox are located at the front of the chassis and rear drive wheels driven through PTO shaft. One example of this arrangement of units is the automobile concern ford "F o l k e n". The rear suspension is of the conventional type with semi-elliptic leaf springs, transmitting the pushing force and perceiving the reactive moments from the rear axle. Front suspension is independent, spring with torque rod, its construction is similar to that used on the FORD cars produced worldwide. Transmission in standard 3-speed (automatic). Six seater car weighs 550 kg less than the standard FORD "F e i r l a n d", which is achieved mainly due to the 50% savings in engine weight and the use of load-bearing structure of the body. The front wings are attached to the body by bolts to facilitate repair and replacement. On the car "F o l k e n" minimized decorative ornaments. The grille is made of aluminum.

The types of bodies used on passenger cars has remained unchanged and is characterized by an overwhelming proliferation of closed models such as a sedan or coupe (2 or 4 door). There has been a further increase in the application of the closed body type H a r d T o p, not have an intermediate stand between the front and rear doors, as well as versatile

cargo and passenger bodies of various kinds. The external shape of cars, as already mentioned, have been in the 60-ies of the next upgrade. It can be noted a further decrease in the height of the vehicle, lowering and extension utrirovannye “aviation” forms of stabilizers in the rear of the car (for example FORD “G a l a x y”) and mitigate the harsh eye-catching decorative profiled plates on the side panels of the body. Almost all firms have changed the shape and size of the radiator grille [1].

Improving safety and comfort. Improving the safety and comfortableness of cars in the 60 years and now was in the spotlight with the release of new models and upgrading old ones.

The generalization of the design of cars 60-ies. Analyzing the model 60-ies for the case of one model (the FORD “F o l k e n”) you can set the main points of “evolution”, American cars in particular cars of FORD:

1.Improving traffic safety, and thus attracting more buyers cisl.

2.The cessation of the race for power vehicles, increasing in size, weight reduction, approaching the prices of cars to the average buyer – the car stops being a luxury, is becoming a means of transportation, to which both aspired in the beginning of the century.

3.Activities in the field of engineering and technology, aimed at increase of longevity, durability and economy cars. The major problem was working on all firms is the transition for aluminum engines, lighter and more economical. By 1969 almost all the models of FORD and had aluminum engines.

Cars of the 90-ies

Consideration of the design models of FORD 90 years you can spend on the model a FORD “Monode”. Body of this model although similar to its predecessors, such as FORD “S i e r r a”, but also much different from them. The type body can

be defined as a multi-purpose sedan, but there are also universal “M o n o d e”. The main distinctive feature of new models of 90-ies can be called a desire to bring the car to the person owning them. The body of the new “M o d e o n ” has become more obtekaemo the drag coefficient CX is noticeably decreased to 0.28. To obtain such a low coefficient of firm FORD were applied aviation technology.

The Ford company was always in search of new technologies, especially in the production process, design and security. Advanced technology that the Ford company has acquired also gives the company a competitive advantage in terms of packaging, driving dynamics, comfort, efficiency and cost of ownership. The three most important goals to reach by Ford because of the technology are: quality, cost and speed.

Quality: the new processes help Ford designers to test the vehicle several times in order to experiment with all its different parts. Cost: designers have the ability to test the vehicle on the screen with maximum accuracy in the shortest possible time. Another important advantage in the composition of labor used for these operations. Prior to the introduction of these new processes, the time required to do all these operations was 12 weeks and needed the 12 designers. Speed: Ford also has the ability to deliver their products to market in a very short period of time. This Ford allows to anticipate the General market and to exceed customers ' expectations.

References:

1. Mode of access:

<http://bibliofond.ru/view.aspx?id=25295>. – Date of access: 29.03.2016.