

Analysis of Differences in Evaluation and Management Between Traditional Fuel-Powered Used Cars and New Energy Used Cars

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Abstract

With the rapid growth of new energy vehicles in China, the used-car market is experiencing a transformation. This paper analyzes the differences in evaluation and management between traditional fuel-powered used cars and new energy used cars. The evaluation criteria differ significantly in terms of core components, endurance capacity, usage costs, technological upgrades, market recognition, and detection standards. Traditional fuel-powered used cars focus on engine and transmission performance, while new energy used cars emphasize battery health and efficiency. Moreover, new energy vehicles require specialized detection tools and evolving evaluation standards. Transaction policies and residual value trends vary significantly between the two categories. Understanding these differences is crucial for used-car dealers to adapt to the evolving market and enhance their competitiveness.

Keywords: used-car, new energy vehicles, residual value, market recognition

With the increasing popularity of new energy vehicles in China, a large number of new energy used cars have started to circulate in the national used-car market. This has brought new challenges to traditional used-car dealers, especially in the evaluation and management work. There are many differences between new energy used cars and traditional fuel-powered used cars in terms of evaluation content, evaluation standards, and evaluation methods. The specific analysis is as follows:

Evaluation of Core Components

Traditional Fuel-Powered Used Cars: Mechanical components such as the engine and

transmission are the key evaluation objects. It is necessary to check the engine's power output, the presence of abnormal noises, oil leakage, etc. Also, check whether the transmission shifts smoothly and if there is any jerking. Their performance and condition have a significant impact on the vehicle's value.

New Energy Used Cars: The three-electric system, namely the battery, motor, and electronic control, is crucial. Among them, the battery is the most important. It is necessary to evaluate the battery life, health, and degree of degradation, etc. For example, use professional equipment to detect parameters such as battery capacity and internal resistance, and check the

number of charge-discharge cycles of the vehicle, changes in cruising range, etc. to estimate the battery state.

Evaluation of Endurance Capacity

Traditional Fuel-Powered Used Cars: Generally, this factor does not need to be considered. Refueling is convenient, and the cruising range is relatively stable. As long as components such as the vehicle's engine are normal, there is basically no significant change in endurance caused by the vehicle's own problems.

New Energy Used Cars: The cruising range is an important evaluation indicator. It is affected by various factors such as battery degradation, usage environment, and driving habits. It is necessary to comprehensively consider the vehicle's indicated cruising range, actual cruising range test results, battery capacity, etc. For example, cold weather or long-distance high-speed driving will shorten the cruising range.

Evaluation of Usage Costs

Traditional Fuel-Powered Used Cars: Usage costs mainly include fuel consumption and maintenance costs. Fuel consumption is related to factors such as engine displacement and vehicle weight. Maintenance requires regular replacement of parts such as engine oil, oil filters, and spark plugs. The maintenance interval and costs are relatively fixed.

New Energy Used Cars: The power consumption cost is low, but the availability of charging facilities and the time cost of charging need to be considered. For example, if there is no private charging pile, relying on public charging piles may increase time and cost. In addition, the quality assurance policy of new energy vehicles and the battery replacement cost also need to be taken into account. The battery replacement cost is relatively high outside the warranty period.

Evaluation of Technological Upgrades

Traditional Fuel-Powered Used Cars: The technology is relatively mature and stable. The basic technical architecture of models in different years does not change much. When evaluating, the focus is mainly on conventional items such as the vehicle's appearance, interior, and wear of mechanical components.

New Energy Used Cars: The technology is updated rapidly, and new functions and performance improvements emerge

continuously, such as advanced driver-assistance systems and intelligent interconnection systems. When evaluating, it is necessary to consider whether the vehicle has the latest technology and the impact of the degree of technological advancement on the value. Newer new energy used cars with high-tech configurations are more popular in the market.

Evaluation of Market Recognition and Residual Value

Traditional Fuel-Powered Used Cars: The market recognition is high, and the residual value is relatively stable. Some classic brands and models have a high residual value. Although affected by new energy vehicles, the residual value of some fuel-powered vehicles has declined, but there is still market demand.

New Energy Used Cars: The market recognition is gradually increasing, but overall, the residual value is lower than that of traditional fuel-powered used cars. Moreover, there are large differences in the residual value of different brands and models. The top brands and popular models have relatively good residual value, while niche brands or models with immature technology have a lower residual value.

Evaluation of Detection Standards and Tools

Traditional Fuel-Powered Used Cars: There are mature detection standards and tools. For example, the combustion condition of the engine is judged through exhaust gas detection, and professional equipment is used to detect the performance of components such as the chassis and suspension. The detection process and methods are relatively unified. Evaluators usually feel the vehicle's acceleration, braking, steering, etc. through a road test, check the operation of the engine and transmission under different working conditions, and then combine with the maintenance records to understand the vehicle's historical maintenance situation and judge whether there have been major accidents or fault repairs.

New Energy Used Cars: The detection standards and tools are still being improved. Although relevant specifications have been introduced, they have not been fully popularized. During the evaluation, professional battery detection equipment, diagnostic software, etc. are required. Some detection items rely on the support of manufacturers or professional institutions, such as detecting the internal

structure and performance of the battery. In addition to the routine road test to evaluate the basic performances of the vehicle such as power and braking, evaluators also need to use professional equipment to read the fault codes of the battery and motor, and detect the health status of the battery. Some may also analyze the charge-discharge data of the battery through specific software to evaluate the remaining life and performance of the battery.

Transaction and Transfer Policies

Fuel-Powered Used Cars: The transaction process mainly follows the traditional motor vehicle transaction management regulations, with an emphasis on aspects such as the transfer of vehicle property rights and transfer procedures. It is necessary to ensure the legality of the vehicle and the completeness of the procedures.

New Energy Used Cars: In some regions, subsidy policies have been introduced for new energy used cars to promote the circulation and consumption of new energy vehicles. At the same time, there are specific regulations regarding battery recycling and disposal, requiring the proper recycling and environmentally-friendly treatment of batteries.

In the new situation, facing new challenges and opportunities, every used-car dealer needs to continuously learn new knowledge and methods, improve management capabilities, and pay attention to management details in order to adapt to the new situation and remain invincible in the competition.

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