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ANALYSIS OF ADVANTAGES AND DISADVANTAGES OF ELECTRIC CARS

Muminjon Khonkeldiyev
Student, Faculty of Mechanical Engineering,
Fergana Polytechnic Institute, Fergana, Uzbekistan

Abdulatif Abdubannopov
Assistant, Fergana Polytechnic Institute, Fergana, Uzbekistan
Email: mominjonxonkeldiyev5@gmail.com

Abstract:

Traditional fuels are already a thing of the past. The transition to a new type of energy requires us to focus our future on a world dominated by renewable energy. This article provides information about the advantages, disadvantages, performance, and history of electric cars.

Keywords:

Electric cars, engine, batteries, accumulator, transport.

Introduction

An electric vehicle is a vehicle powered by one or more motors that use electrical energy stored in rechargeable batteries and converts it into kinetic energy. There are many types of motors and electric cars [1-4]. Did you know that the first vehicle invented was electric? Its production dates back to 1832-1839 when Robert Anderson developed the first electric motor vehicle. It works with a non-rechargeable battery and reaches 6 km per hour. Seeing that the efficiency of the vehicle is not a very good thing (you can go faster by walking) they abandoned the project. Until today, the most advanced technology of electric vehicles was discovered. There are lithium-ion batteries that provide a lot of autonomy. able to ride. Cars can reach high speeds [5-11]. Thanks to rechargeable batteries, electric cars are being produced in series and are becoming more economical and useful. The main features of this vehicle are its ability to run on electricity. This means no fossil fuels like petrol and diesel and in addition, let's not pollute the atmosphere [12-19].

The Main Part

Environmental pollution is a serious global problem driving climate change. In addition, it is responsible for millions of premature deaths per year from respiratory and cardiovascular diseases. Today you can find electric motors of different types and sizes. Some are more simple and add less weight. If they are so good, why not all cars are electric, it is quite normal to think. First, they are affected by a small autonomy compared to gasoline or diesel fuel [20-27]. They are not cheap either, as the technology is still developing and there is not much competition. Also, there is not enough charging in all places and it takes several hours to fully charge the batteries. Notwithstanding all the foregoing, electric cars are gradually approaching the common ones. If we start to

compare the internal parts of an electric vehicle with a conventional one, they are not much different [28-33]. Its operation is very similar. The main elements that make up this electric car are: Electric motor. It is responsible for converting electrical energy stored in batteries into kinetic energy. With this, the car can move. Engines can also do the opposite, that is, on downhill slopes, they use the captured kinetic energy and store it in the form of electricity. It is responsible for converting electrical energy stored in batteries into kinetic energy. With this, the car can move. Engines can also do the opposite, that is, on downhill slopes, they use the captured kinetic energy and store it in the form of electricity. It is responsible for converting electrical energy stored in batteries into kinetic energy [34-38]. With this, the car can move. Engines can also do the opposite, that is, on downhill slopes, they use the captured kinetic energy and store it in the form of electricity.

Something that collects electrical energy used to run a motor. Some vehicles have an auxiliary battery to keep them grounded. Loading port. What happened to the plug that connects to the power source that recharges the car battery? Transformers. They are responsible for converting the parameters of electricity into what is needed to charge the batteries. Some vehicles run on alternating current and others on direct current. They also serve to cool the car and prevent spills and explosions. They regulate the input of energy to the battery [39-42]. In this way, you can balance the charge appropriately to extend its useful life and not degrade it. Autonomous cars have some advantages over other vehicles. They are as follows: Because they are quieter, reduce noise pollution in cities. If all vehicles in the city centre were electric, there would be no such noise [43-48]. Of course, an electric taxi drove past you today and you didn't even hear about it. Noise also affects people's health. Therefore, it is important to reduce it. They do not pollute, which improves air quality in cities. During their use, they do not emit harmful gases that pollute the air in cities and increase the effects of climate change and global warming. Thousands of people die every year from respiratory diseases as a result of air pollution. Zero emission capability. To generate electricity, if we use fossil fuels, we emit gases not in use, but in production. Therefore, electric cars have the ability to be zero emissions. This happens when renewable energies like solar and wind are used to generate electricity. The engine is just as powerful and cheaper. They usually have almost the same power as conventional ones and are more compact and reliable. The problem is the autonomy of the battery. There are no elements that cause the engine to fail. More efficiency and less consumption. The efficiency of electric cars reaches 30% compared to 90% of conventional ones. They consume less and we save more. To perform the same effort, they require less energy, only batteries provide this energy for a short time. Currently, and even though they are developing a lot, they have many disadvantages. Some of them are Small autonomy. As mentioned several times throughout the post, the limited autonomy of these vehicles slows down their development. It is impossible to go on long trips without spending hours recharging the battery. For example, to travel from Seville to Madrid, you would have to stop about five times to charge. Each charge is a few hours of waiting.

Conclusion

Therefore, a relatively short trip becomes very long. Not enough charging points. There are still not enough charging points to be fully independent. Low power. The power of the car is very limited. It is being studied how to increase it because it is harmful to the car. Drivers cannot speed or approach normal vehicles. The cost of batteries is very high and they do not last more than 7 years.

With all this information, you can learn more about electric cars and prepare for the future that awaits us.

References

1. Ходжаев, С. М., Низомиддинова, М. С., Камбарова, Ч. О., & Ходжаева, Н. С. (2022). Организация станции технического обслуживания при Ферганском политехническом институте. *Science and Education*, *3*(10), 265-274.
2. Khodjaev, S. M. (2022). The main problems of organization and management of car maintenance and repair stations in the Ferghana region. *Innovative Technologica: Methodical Research Journal*, *3*(9), 1-10.
3. Maxmudov, N. A., Ochilov, T. Y., Kamolov, O. Y., Ashurxodjaev, B. X., Abdug'aniev, S. A., & Xodjayev, S. M. (2021). TiN/Cr/Al 2 O 3 AND TiN/Al 2 O 3 hybrid coatings structure features and properties resulting from combined treatment. *Экономика и социум*, (3-1), 176-181.
4. Xujamkulov, S., Abdubannopov, A., & Botirov, B. (2021). Zamonaviy avtomobillarda qo'llaniladigan acceleration slip regulation tizimi tahlili. *Scientific progress*, *2*(1), 1467-1472.
5. Xujamqulov, S. U., Masodiqov, Q. X., & Abdunazarov, R. X. (2022, March). Prospects for the development of the automotive industry in uzbekistan. In *E Conference Zone* (pp. 98-100).
6. Meliboyev, A., Khujamqulov, S., & Masodiqov, J. (2021). Univer calculation-experimental method of researching the indicators of its toxicity in its management by changing the working capacity of the engine using the characteristics. *Экономика и социум*, (4-1), 207-210.
7. Fayziev, P. R., Tursunov, D. M., Khujamkulov, S., Ismandiyarov, A., & Abdubannopov, A. (2022). Overview of solar dryers for drying lumber and wood. *American Journal Of Applied Science And Technology*, *2*(04), 47-57.
8. Masodiqov, Q. X. O. G. L., Xujamqulov, S., & Masodiqov, J. X. O. G. L. (2022). Avtomobil shinalarini ishlab chiqarish va eskirgan avtomobil shinalarini utilizatsiya qilish bo'yicha eksperiment o'tkazish usuli. *Academic research in educational sciences*, *3*(4), 254-259.
9. Khujamkulov, S. U., & Khusanjonov, A. S. (2022). Transmission system of parallel lathe machine tools. *ACADEMICIA: An International Multidisciplinary Research Journal*, *12*(2), 142-145.

10. Umidjon o‘g‘li, K. S., Khusanboy o‘g‘li, M. Q., & Mukhammedovich, K. S. (2022). The formation of tasks for overview of operating properties of vehicles. *American Journal Of Applied Science And Technology*, *2*(05), 71-76.
11. Khujamqulov, S. (2022). A method of conducting experiments on the production of car tires and the disposal of obsolete car tires. *Science and innovation*, *1*(A3), 61-68.
12. Qobulov, M., Jaloldinov, G., & Masodiqov, Q. (2021). Existing systems of exploitation of motor vehicles. *Экономика и социум*, (4-1), 303-308.
13. Khujamqulov, S. (2022). Analysis of Existing Methods and Means of Monitoring the Technical Condition of Motor Vehicles. *Eurasian Journal of Engineering and Technology*, *9*, 62-67.
14. Сотволдиев, У., Абдубаннопов, А., & Жалилова, Г. (2021). Теоретические основы системы регулирования акселерационного скольжения. *Scientific progress*, *2*(1), 1461-1466
15. Ismadiyorov, A. A., & Sotvoldiyev, O. U. (2021). Model of assessment of fuel consumption in car operation in city conditions. *Academic research in educational sciences*, *2*(11), 1013-1019.
16. Абдурахмонов, А. Г., Одилов, О. З., & Сотволдиев, У. У. (2021). Альтернативные пути использования сжиженного нефтяного газа с добавкой деметилового эфира в качестве топлива легкового автомобиля с двигателем искрового зажигания. *Academic research in educational sciences*, *2*(12), 393-400.
17. Abduraxmonov, A., & Tojiboyev, F. (2021). Korxonada shinalar va harakatlanuvchi tarkibni tahlil qilish va tekshirilayotgan harakat tarkibining xususiyatlari. *Academic research in educational sciences*, *2*(11), 1357-1363.
18. Omonov, F. A., & Dehqonov, Q. M. (2022). Electric Cars as the Cars of the Future. *Eurasian Journal of Engineering and Technology*, *4*, 128-133.
19. Базаров, Б. И. (2001). Работа поршневых двигателей на альтернативных видах топлива. *Ташкент: ТАДИ*.
20. Omonov, F. A., & Sotvoldiyev, O. U. (2022). Adaptation of situational management principles for use in automated dispatching processes in public transport. *International Journal of Advance Scientific Research*, *2*(03), 59-66.
21. Xusanjonov, A., Qobulov, M., & Ismadiyorov, A. (2021). Avtomobil Shovqiniga Sabab Bo'luvchi Manbalarni Tadqiq Etish. *Academic research in educational sciences*, *2*(3), 634-640.
22. Xusanjonov, A., Qobulov, M., & Abdubannopov, A. (2021). Avtotransport vositalaridagi shovqin so'ndiruvchi moslamalarda ishlatilgan konstruksiyalar tahlili. *Academic research in educational sciences*, *2*(3), 614-620.
23. Qobulov, M. A. O., & Abdurakhimov, A. A. (2021). Analysis of acceleration slip regulation system used in modern cars. *Academicia: An International Multidisciplinary Research Journal*, *11*(9), 526-531.
24. Khusanjonov, A., Makhammadjon, Q., & Gholibjon, J. (2020). Opportunities to improve efficiency and other engine performance at low loads. *JournalNX*, 153-159.

25. Мелиев, Х. О., & Қобулов, М. (2021). Сущность и некоторые особенности обработки деталей поверхностно пластическим деформированием. *Academic research in educational sciences*, *2*(3), 755-758.
26. Qobulov, M., Ismadiyorov, A., & Fayzullayev, X. (2022). Analysis of the braking properties of the man cla 16.220 for severe operating conditions. *European International Journal of Multidisciplinary Research and Management Studies*, *2*(03), 52-59.
27. Qobulov, M., Ismadiyorov, A., & Fayzullayev, X. (2022). Overcoming the Shortcomings Arising in the Process of Adapting Cars to the Compressed Gas. *Eurasian Research Bulletin*, *6*, 109-113.
28. Hurmamatov, A. M., & Hametov, Z. M. (2020). Results of preparation of oil slime for primary processing. *Academicia: An International Multidisciplinary Research Journal*, *10*(5), 1826-1832.
29. Hurmamatov, A. M., & Hametov, Z. M. (2020). Definitions the division factor at purification of oil slime of mechanical impurity. *ACADEMICIA: An International Multidisciplinary Research Journal*, *10*(5), 1818-1822.
30. Xametov, Z., Abdubannopov, A., & Botirov, B. (2021). Yuk avtomobillarini ishlatishda ulardan foydalanish samaradorligini baholash. *Scientific progress*, *2*(2), 262-270.
31. Fayziev, P. R., & Khametov, Z. M. (2022). Testing the innovative capacity solar water heater 200 liters. *American Journal Of Applied Science And Technology*, *2*(05), 99-105.
32. Siddiqov, B., Abdubannopov, A., & Xametov, Z. (2022). Gaz divigatelining termal yukini kamaytirish. *Eurasian Journal of Academic Research*, *2*(6), 388-395.
33. Abdusalom o‘g‘li, J., & Muxtorovich, X. Z. (2022). Yo‘l-transport hodisalarini rekonstruksiya qilish va ekspertizadan o ‘tkazish paytida transport vositalarining tormozlanish jarayonining parametrlarini aniqlash metodikasi. *Pedagogs jurnali*, *10*(4), 202-207.
34. Azizjon o‘g‘li, M. A., & Muxtorovich, X. Z. (2022). Yo‘l havfsizligi va uning ta’siri zamonaviy yo‘l va transportni rivojlantirish uchun. *Pedagogs jurnali*, *10*(4), 208-212.
35. Ergashev, M. I., Abdullaaxatov, E. A., & Xametov, Z. M. (2022). Application of gas cylinder equipment to the system of internal combustion engines in Uzbekistan. *Academic research in educational sciences*, *3*(5), 1112-1119.
36. Meliyev, H. O. (2022). Influence of soil and climatic conditions on the operation of universal ploughing tractors in agriculture. *International Journal of Advance Scientific Research*, *2*(12), 166-174.
37. Masodiqov, Q. (2022). Recommendations for handling old car tires and ways to remove them. *International Journal of Advance Scientific Research*, *2*(12), 175-182.
38. Tursunov, D. (2022). The main factors that increase the thermal load of gas engines. *International Journal of Advance Scientific Research*, *2*(12), 18-26.

39. Ergashev, M. I. (2022). Analysis of methodological approaches for technical evaluation of the level and quality of garage equipment. *Innovative Technologica: Methodical Research Journal*, *3*(10), 120-126.
40. Ogli, K. S. U. (2022). Analysis of passenger flow of bus routes of fergana city. *International Journal of Advance Scientific Research*, *2*(10), 32-41.
41. Базаров, Б. И., Калауов, С. А., Сидиков, Ф. Ш., & Усманов, И. И. (2016). Особенности использования диметилового эфира в качестве моторного топлива. *Химия и химическая технология*, *51*(1), 62-64.
42. Anvarjon, I. A. (2022). Research on polishing properties of gear oils and ways to improve them. *Innovative Technologica: Methodical Research Journal*, *3*(09), 13-21.
43. Канило, П. М., Костенко, К. В., Почаи, Э. А., & Беседина, В. А. (2010). Анализ эффективности использования нефтяных и альтернативных топлив в автомобильном транспорте. *Автомобильный транспорт*, (27).
44. Otabayev Nodirjon Ibragimovich. (2022). Mathematical model of diesel internal combustion engine subsystem. Innovative Technologica: Methodical Research Journal, 3(09), 22–28.
45. Masodiqov, Q. X. (2022). The study of theoretical and practical aspects of the occurrence of internal stresses in polymeric and paint-and-lacquer materials and coatings based on them, which have a significant impact on their durability. *Innovative Technologica: Methodical Research Journal*, *3*(09), 29-37.
46. Abdurakhimov, A. A. (2022). The basics of determining the braking of vehicles in road traffic. *Innovative Technologica: Methodical Research Journal*, *3*(09), 63-78.
47. Bazarov, B. I., Otabaev, N. I., Odilov, O. Z., Meliev, H. O., & Axynov, J. A. (2020). Features of Using Liquefied Petroleum Gas with Addition of Dimethyl Ether as Fuel of Car with f Spark-Ignition Engine. *International Journal of Advanced Research in Science, Engineering and Technology*, *7*(11), 15695-15698.
48. Tursunov, D. M. (2022). Study of the stages of development of a gas-cylinder engine supply system. *Innovative Technologica: Methodical Research Journal*, *3*(09), 79-84.