

---

# Schedule maintenance and repair system of Locomotive

Valiev M.Sh  
Kosimov H.R

Tashkent state technical university, Tashkent, Uzbekistan  
Tashkent state technical university, Tashkent, Uzbekistan

To increase the efficiency and reliability of locomotives, it is necessary to constantly monitor the operation process. The introduction of modern automatic control and monitoring systems on locomotives is not only a departure from the established state of the equipment, but also an effective and efficient way of processing measurement information that can detect changes in the technical condition of key parts.

---

## Introduction

Locomotives are a technically complex, regenerative system, the successful operation of which depends on the implementation of a certain set of preventive and rehabilitative measures aimed at maintaining and restoring the working condition and the established resource.

At present, regular maintenance and repair is used to repair locomotives (Figure 1). Maintenance and repair is a set of activities performed to maintain and restore the locomotive's alignment and performance [1].

## Research and Analyses

The main task of the types of maintenance and repair is to eliminate natural bends that occur during operation, to prevent frequent failures, as well as to ensure the normal operation of the locomotive unit and units.

### Figure 1. Schedule of scheduled maintenance and repair

#### Figure 1.

The volume and order of work to be performed during the routine maintenance and repair, the signs of failure of the equipment, details and methods of restoration of assembly units in the prescribed manner and in accordance with the established procedure. The strength of the system of scheduled maintenance and repair is the ability to combine the sequence of repairs for different locomotive equipment, thereby reducing the overall service life of the locomotive during the given period of operation. In this case, the long-term planning of repairs of various sizes and the supply of spare parts and materials necessary for their implementation is easily carried out.

## Discussions

The disadvantage of this system is that the equipment, which is scheduled for repair or maintenance, can be dismantled (removed), regardless of its technical condition. Interference with the operation of a normal machine can, in some cases, even worsen its technical condition due to defects that occur after the repair process. In addition, the availability of various equipment on the locomotive during routine repairs leads to its sudden failure. All of this has led to an increase in the

---

number of unscheduled repairs and long delays in scheduled repairs, thus drastically reducing the effectiveness of scheduled repairs, which is one of the main advantages of regular maintenance and repairs.

## Conclusion

For some locomotive depots or locomotive groups, the periodicity of repairs depends on local conditions (road profile and plan, weight of trains and speed on the roundabout, length of the roundabout, number of locomotives per day). The time spent on the repair of locomotives is calculated in accordance with the instructions on the availability of locomotives, their condition and their use.

## References

1. Grachev, V.V., Valiev M.Sh. / Assessment of the technical condition of a diesel locomotive according to the data of the on-board microprocessor control system / V.V. Grachev, M.Sh. Valiev // *Izvestia PGUPSa / St. Petersburg State University of Railways*. - St. Petersburg. - 2010. - No. 1 (22). - from. 22 - 32.
2. Valiev M.Sh. Assessment of the technical condition of a diesel locomotive in operation. / M.Sh. Valiev., Sh.S. Fayzibaev. - *The future of Russian mechanical engineering. Collection of reports of the Eighth All-Russian Conference of Young Scientists and Specialists*. 2015.S. 796-798.
3. Baxtishodovich, B. S., Suyunovich, T. I., & Kholiqulov, A. (2017). The start-up of tourism in Central Asia Case of Uzbekistan. *World Scientific News*, 2(67), 219-237.
4. Tukhliev, I. S., & Muhamadiyev, A. N. (2019). SMART-TOURISM EXPERIENCE IN GEO INFORMATION SYSTEMS. *Theoretical & Applied Science*, (4), 501-504.
5. Suyunovich, T. I., & Nuraliyevich, M. A. (2020). General architecture of a geoportals system created for tourism. *International Journal on Integrated Education*, 3(2), 115-117.
6. Gulmira, T., Sobirov, B., Suyunovich, T. I., & Hasanovna, A. D. IMPLEMENTATION OF UP-TO-DATE INNOVATIVE APPROACHES IN A COMPETITIVE MERIT OF TOURISM INDUSTRY IN CENTRAL ASIA. THE CASE OF UZBEKISTAN. *Journal of Management Value & Ethics*, 4.