

**TECHNICAL SERVICE CENTERS: CENTRALIZATION OF TECHNICAL SERVICE ACCORDING TO INDUSTRY DIRECTIONS**

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Abstract

The essence of this article is that there are problems in machine-building industries in our country with the installation of equipment imported from foreign companies, maintenance of their parts and mechanisms, and their repair or replacement. The importance of this problem in the localization of the automotive industry and the calculation of residual resources, new models and methods of accurate and perfect operation, replacement with new ones and the introduction of activities of centralization of their service have been highlighted. In addition to the article, there is talk about other methods in this field.

Keywords: equipment, bench, equipment, mechanisms, resources, improvement, prevention, diagnosis, systems, maintenance, spare parts, defective, defects, elimination, total production system, press, stamping, punch, matrix, non-metallic, steel, non-ferrous metal, alloys, elements, residue, replacement, adjustment, localization.

Introduction

Total productive maintenance (TPM), equipment general service. TPM is a management concept of production equipment aimed at increasing the efficiency of technical service. This concept is a method of taking care of the equipment, it is built based on stabilization and continuous improvement of maintenance processes, preventive diagnosis system, work on the principle of "zero defects" and systematic elimination of all sources of loss. TPM is loosely translated on an international scale as "Effective Maintenance of Equipment of General Technological Enterprises" [1,2]. In this case, "Universal" means not only effective and cost-effective maintenance but also the whole system of effective maintenance throughout the life of the equipment, as well as the inclusion of each employee and various departments in the process. In addition, TPM requires certain commitments from the management of the enterprise. The General Equipment Care(GEC) system is not about the single problem of keeping the equipment in good working condition but is broadly understood as the integration, and centralization of the operation and maintenance processes of production equipment maintenance, maintenance personnel from equipment development from its sales, logistics, installation, commissioning, amortization, ensuring productive operation during the service life, and planning the repair processes. Maintenance schedules and targeted maintenance consist of accurately taking into account the condition of the equipment and assigning tasks required in the normative technical documents, setting the responsibility in the right way [3,4].



TPM plays a particularly important role in managing production in an optimal way, based on time standards, because an entire enterprise related to maintenance can lead to financial and time wastage along the economic value chain, to the production of a cost-effective system of general technical maintenance of equipment (TPS- total productive system, Lean manufacturing) is shown in Figure 1.

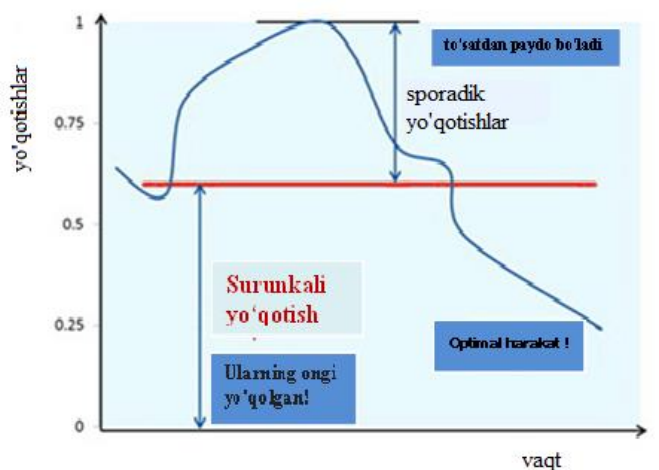


Figure 1. TPM loss problem solution graph

The goal of implementing TPM is to eliminate chronic losses:

- Failure and malfunction of the device;
- Plan for high replacement and setup times:
 - Idling and small faults;
 - Decrease in productivity (speed) in the operation of the device;
 - Faulty, defective parts;
 - Losses during start-up of equipment.

Implement TPM To eliminate targeted, chronic losses consists of:

- high time of replacement and adjustment of parts in case of failure of the equipment;
- jumps and small malfunctions decrease the performance (speed) of the device;
- defective parts cause losses during the start-up of the device.

The eight principles of TPM are continuously improved to achieve 7 types of loss reduction in practice.

Eight principles of TPM should be developed:

1. Continuous improvement to prevent 7 types of losses in practice;
2. Autonomous maintenance: perform operational independent inspection, inspection, cleaning, lubrication, as well as minor maintenance of the equipment;
3. Maintenance planning: ensuring 100% operational readiness of the equipment, as well as planning the implementation of systematic measures in the field of technical maintenance;
4. Education, training and practical training: To centrally organize the training and practical experience of employees following the requirements of training in the specialities of equipment use and technical maintenance;



5. Launch control: implement the vertical curve and step of launching new products and equipment;
 6. Quality management: technologies to implement the goal of "Zero defects in quality" of products and equipment;
 7. TPM in administrative areas: Reduction and elimination of loss and negative views in production departments;
 8. Labor and technical safety, environmental protection and health: it consists of introducing requirements to reduce safety and emergency situations to zero levels in production enterprises.
- The most autonomous method of maintenance is one of the important processes of TPM. Its purpose is to minimize efficiency losses caused by device failures, short stops, rejections, etc. An increasing number of maintenance activities required for this (cleaning, lubrication, tool maintenance, etc.) will be simplified, standardized, and phased into the duties of field personnel. As a result, the employees of the chief mechanical department, on the one hand, are freed from the current day-to-day work and spend more time developing and implementing improvement measures. On the other hand, individual maintenance of equipment (equipment) is now included in the work instructions, which previously were not included in the time standards for timely use at all or due to a lack of sufficient resources [5-8].

TPM concept In Japan in the late 1960s and early 1970s, Nippon Denso, an electrical supplier for the Toyota Corporation, introduced a system-wide (TPS) service along with the supply of Toyota production equipment. In the early 90s of the last century, TPM began to be systematically implemented in various versions in enterprises around the world. The founder of TPS, Taihiti Ono, said: "Toyota's strength is not about healing processes but about the correct, convenient use of equipment diagnostics and preventive maintenance tools." [9,10] Based on the experience of introducing and using the TPM system of Uzbekistan's automotive industry and international companies, it is possible to use their achievements in the "Management of Production" normative documents. The implementation of general equipment maintenance systems in TPS can be seen in the sequence shown in Figure 1.

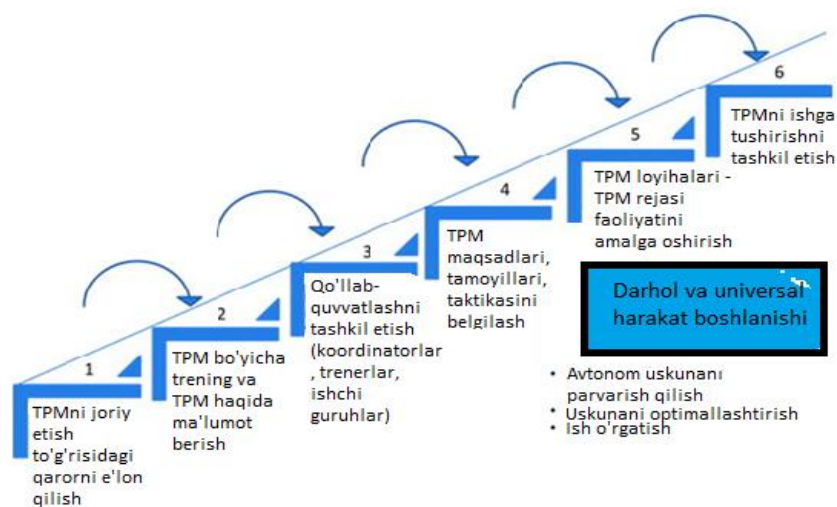


Figure 2. A systematic approach to implementing TPM in the Toyota production system



Technical service and repair - implementation of technological processes and organizational issues to ensure the object's purpose, plan, storage and transportation logistics activities, equipment operation or serviceability. Maintenance and repair can be planned (regulated) and unplanned (not regulated).

Content Plan:

- Maintenance and repair methods;
- Organization of maintenance and repair works;
- Maintenance systems;
- Reminder;
- Links.

The threshold value of the considered parameter is selected from the overhaul manual of the corresponding block, and the initial dimensions of the part are taken from its main working drawing. In this case, it is taken into account that the wear of the part does not exceed the amortization cost for its production. Therefore, taking the first neck size, the smallest limit size is taken as the starting size, and the larger limit sizes are taken for the repair surfaces.

Conclusions

Based on the essence of this article, with the development of the automotive industry in our country, the expansion of localization networks, the installation of equipment brought from foreign companies, the technical service of their parts and mechanisms, and their repair or replacement with another, and their technological development is to centralize the processes of systematic management of repair processes. From such equipment, the introduction of non-metallic parts production equipment and other large-scale production processes of press tandem lines, stamping equipment, casting production, welding systems, non-metallic parts production equipment and other large equipment used in the localization networks of automobile parts manufacturers in the republic.

References

1. Liu, H., Zhang, Y., Sang, Z., Wang, W., Zhang, L., & Li, M. (2022). Connection characteristics and hierarchical structure of China's Urban Network-Based on the communications technology service industry. *Complexity*, 2022.
2. Tadjikuziyev, R. M. (2022). Technology of repair of press molds for production of machine parts from steel coils, aluminum alloys. *American Journal Of Applied Science And Technology*, 2(04), 1-11.
3. Tadjikuziyev, R. M. (2022). Analysis of Pollution of Automobile Engines Operating in the Hot, HighDust Zone of Uzbekistan. *Eurasian Journal of Engineering and Technology*, 7, 15-19.
4. Mamatqulova, S., & Tadjikuziyev, R. (2020). Метод оцінки рівня кваліфікації ремонтних робітників підприємства автомобільного обслуговування. *Логос. Мистецтво Наукової Думки*, (10), 41-44.
5. Tadjikuziyev, R. M., & Mamatqulova, S. R. (2023). Metal kukunli (poroshokli) maxsulotlar texnologiyasi. *Science and Education*, 4(2), 650-659.
6. Zikirov, M. C., Qosimova, S. F., & Qosimov, L. M. (2021). Direction of modern design

- activities. *Asian Journal of Multidimensional Research (AJMR)*, 10(2), 11-18.
7. Tadjikuziyev, R. M., & Mamatqulova, S. R. (2023). Rezina va nometal qismlarni ishlab chiqarish texnologiyasi. *Science and Education*, 4(2), 638-649.
 8. Mamatqulova, S., & Tadjikuziyev, R. (2020). Метод оцшки рiВМ квалiфiкацiл ремонтних роботниюв тдприємства автомобильного облугування. *Логоо. Мистецтво Науково*, 41-44.
 9. Tadjikuziyev, R. M. (2022). Texnologik payvandlash jixozlari, vosita va uskunalari turlaridan ishlab chiqarish korxonalarida maxsulot ishlab chiqarishda foydalanish tadbiqlari. *Science and Education*, 3(11), 512-522.
 10. Setia, P., Setia, P., Venkatesh, V., & Joglekar, S. (2013). Leveraging digital technologies: How information quality leads to localized capabilities and customer service performance. *MIS quarterly*, 565-590.