

**ASPECTS OF CONNECTION BETWEEN AUTOMOBILITY AND TPM (TOTAL  
PRODUCTIVE MAINTENANCE)**

**N. S. Sotvoldiyeva**

Assistant Andijan State Technique Institute

**Abstract :** The enterprise efficiency many consists of factors : process efficiency, personnel, equipment. Downtime, speed reduction, the need for repairs and re-equipment directly affect the company's profit. One of the modern methods that allows minimizing the negative impact of these factors is the TPM system, a tool for lean production.

**Key words :** equipment , system , economical , employee , speed

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**TPM equipment performance** It focuses on preventive maintenance and technical support to maximize uptime. It eliminates the distinction between production and maintenance roles, with the focus on empowering operators to maintain their equipment.

TPM (Total Productive Maintenance) is one of the cost-effective production tools, the use of which allows you to reduce losses associated with downtime due to equipment failures. [1]

**Key aspects of TPM**

- increase the productivity and service life of equipment through good maintenance and careful attention to operating requirements;
- improving the efficiency and quality of equipment maintenance by increasing worker training and motivation;
- looking for opportunities to improve efficiency by collectively identifying the causes of failures, redesigning work areas, and changing replacement operations [2].

The implementation of the TPM system was to determine the areas of responsibility of the departments and determine the role of each participant. From the very beginning of the project, the main goal was to maximally involve employees of the relevant departments and form a cross-functional team from among them to develop standards for inspecting and reviewing equipment, rules for interaction between services . It included a TRM project specialist, site foreman, top operator, chief mechanic, engineer and technologist; if necessary, an electrician was also involved. By involving employees of different departments in joint activities, it was possible to establish constructive cooperation between departments at the main level.

The result of the work of the cross-functional group is a developed and agreed-upon continuous diagnostic system, which includes an algorithm for interaction between services, a standard for checking equipment by a mechanic, and, accordingly, a visual aid in the form of a check board, shown in Figure 1.

**Automotive industry** The relationship between TPM (Total Productive Maintenance) and TPM (Total Productive Maintenance) plays an important role in improving production efficiency and quality, especially in the automotive industry. TPM is a methodology that aims to optimize production processes, ensure equipment operates at maximum efficiency, and encourage employee participation. In the automotive industry, efficient production systems are necessary to produce high-quality and reliable vehicles.

**Effective management of equipment and technology**

In the automotive industry, production processes are carried out using high-tech equipment and automated systems. The TPM method is aimed at constantly monitoring the technical condition of this equipment and ensuring its full functionality. In this case:

- Keeping equipment in perfect condition,

- Carrying out preventive maintenance,
- Regularly check the operation of equipment and systems.

This increases the efficiency of the automotive manufacturing process and reduces production failures.

Employee engagement and training; One of the key components of the TPM method is to actively involve employees in the production process and train them in the necessary skills. In the automotive industry, employee skills and motivation directly affect product quality. TPM helps to:

- Involving employees in optimizing equipment and processes,
- Ensuring high levels of efficiency through education and training programs.

Short-term fault detection and elimination; The main goal of TPM is to detect and quickly eliminate faults in equipment and systems. This prevents downtime in the automotive industry and ensures production continuity. Processes in automotive production require speed and accuracy, so constant monitoring of equipment and lines is essential . important .

#### **. Production release efficiency increase**

**TPM** — production release equipment maximum at the level effective work in the case of hold to stand goal does . In **the automotive industry** and this very important because :

- Every how of the equipment stop    collection line slows down or stops .
- Large car working manufacturers (Toyota, Ford, Volkswagen and others ) minutes and seconds based on working release efficiency evaluates .

**Dependency** : Using TPM    working release in the process equipment complete work in the case of storage in the automotive industry working release duration provides .

#### **" Zero " "failure " and " zero " " stop " principle**

TPM main from the principles one — **malfunctions prevent to get** , that is proactive service show

#### **Car working in output :**

- Stops    and malfunctions many in quantity damage brings .
- "Just-in-time" system works — that is parts and materials same at the time necessary to the place arrived goes , so for every how stop    whole the process from the trail Operators **participation and knowledge level**

TPM is usually **operators to equipment technician service in showing active participation to reach** encourages .

#### **In the automotive industry this how manifestation will it be ?**

- Workers own    working equipment or line deep understands .
- Malfunction early clearly , big of the problem took is taken .
- Production release quality increases .

### **OEE (Overall Equipment Effectiveness) monitoring**

Within TPM the most many used from indicators one is **OEE** . These are the 3 main factor measures :

- Performance time ( Availability ),
- Work speed ( Performance ),
- Product Quality .

### **OEE in the automotive industry via :**

- Which on the line efficiency low is determined ,
- How reasons to efficiency impact what is doing analysis will be done

### **5. Continuous improvement (Kaizen)**

TPM — **Kaizen ( continuous improvement ) improve )** on the principle is based on .

In the automotive industry :

- Every one small change general quality and expenses to reduce service does .
- Production in the output the most small waste or malfunction to the system impact to do possible , therefore in the TPM tool for permanent optimization important .

### **Conclusion**

By implementing TPM in the automotive industry, it is possible to increase production efficiency, extend equipment life, and improve product quality. The connection between these two areas helps to improve production processes, reduce failures, and increase the economic efficiency of the company.

### **Used literature:**

1. TRM system (English) - More than a quarter of a century in Russia. Japanese theory. Russian practice. Experience of the TAIR consulting community / TM Kupriyanova, VE Rastimeshin. - M.: OOO "Buki Vedi", 2019. - 644 p.
2. Vader, M. Lean Tools: a mini-guide to implementing lean production methodologies: trans. from English / M. Vader. - M .: Alpina Business Books, 2015. - 125 p.