

Professor Bozidar Krstić, Ph D, Faculty of Mechanical Engineering, Kragujevac, Serbia
Professor Vladimir Raičević, Ph D, Faculty of Technical Sciences K. Mitrovica, Serbia
Professor Dobrovoje Čatić, Ph D, Faculty of Mechanical Engineering, Kragujevac, Serbia
Professor Vukić Lazić, Ph D, Faculty of Mechanical Engineering, Kragujevac, Serbia

POSSIBILITY FOR APPLICATION OF SOME STRATEGIES BY MOTOR VEHICLE MAINTENANCE

1. INTRODUCTION

Path of development of motor vehicle maintenance may be divided in several stages and they are as follows:

First (from the first usage of motor vehicles to 1950), which main essence is to remove breakdown when it appears;

Second (from 1950 to 1980), which main characteristics are lower maintenance costs, longer durability and greater disposability of motor vehicles;

Third (from 1980 and now), which main characteristics are better relation of effect and cost, longer duration, conservation, higher reliability and disposability. Nowadays so-called classical strategies of maintenance are still dominating (corrective, preventive and its combination). Preventive maintenance is mostly performed according to time (vehicle is stopped – it does not transport, its technical state is defined, and necessary and planned replacements are done). Regarding primarily used techniques during maintenance management, several stages of its application may be noticed:

First (fix the breakdown when it appears);

Second (planning, introduction of system for planning and work control and introduction of information technology);

Third (taking care of reliability and facilities for maintenance during projecting of motor vehicles, development and follow-up of the condition of maintenance equipment, elaboration of risk study, usage of expert systems and microcomputer network, application of methods for vehicle analysis from the aspect of failure occurrence – FTA, FMECA, planned experiment and introduction of flexible service systems).

In the area of motor vehicle maintenance, importance of application of the theory of reliability, from the 40s of the 19th century, should be specially emphasized, esp. when it comes to defining regularity of breakdown appearance based on data about vehicle exploitation. Introduction of concept of integral logistic support and facilities of maintenance in the area of motor vehicle maintenance, during the 40s of the 19th century, is also significant for the development of science and maintenance practice. Introducing previous mentioned scientific knowledge enabled introduction of the strategy of maintenance according to reliability and total productive maintenance in the 70s of the 19th century.

Selection of maintenance procedures (preventive, corrective) that should be implemented during the motor vehicle maintenance, in order to provide their maximum reliability and disposability, is in literature often called conception of maintenance. Instead of term conception of maintenance, other terms are used as well: policy of maintenance, strategy of maintenance, system of maintenance. Nowadays many products are applied and their work is based on the fuzzy logic application.

It is performed in the field of forming fuzzy database, sample recognition, decision-making system, processing of native language, technology of development of fuzzy computers, fuzzy chips – fuzzy hardware, process and operation management in factories, realization of intelligent robots with the possibility to understand native language, understanding of

