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Ivan B. Krstić¹

Boban Bubonja², Vojislav B. Krstić³, Božidar V. Krstić⁴, Gordana Mrdak⁵

OPTIMIZATION THE PERIODICITY OF MANAGING OF PREVENTIVE MAINTENANCE OF TECHNICAL SYSTEMS

ABSTRACT: There is given methodology of determination the periodicity of managing the processes of preventive maintenance of electronic devices, within strategy of its preventive maintenance. This methodology is possibly to apply when there one can manage the revision which doesn't change intensity failure of analyzed part after every failure.

KEYWORDS: *motor vehicle, electronic devices, technical systems, preventive maintenance*

INTRODUCTION

Timely managing of preventive maintenance operations and quality of their conduction represent effectiveness of preventive maintenance of technical systems. Frequency of failure occurrence in vehicles dictates times of preventive maintenance operations. Quality of failure identification depends on kind of discovering of defective elements, applied methods of defects prediction and periods predicted for preventive maintenance. Efficiency of preventive maintenance depends in essence on skill of electronic devices usage.

Some of basic methods of failure prevention are:

- Quality control of devices functionality on the base of outgoing parameters. This method is based on the fact that change of intake parameters lead to interrupted functionality, which lead to changes of outgoing parameters. Here it is not straightforward possible to discover element which caused failure. For identification of defect is necessary to detect defective element and its maintenance.

- Use of statistical probability of part proper operation until first failure, obtained on the base of long term operation experience. In this case is possible, with certain probability, to predict moment of failure and to make steps to prevent it.

- Control of physically chemical changes of structure of considered parts if prediction devices are available.

Above methods are the most often applied for prevention of failures of electro mechanical devices and elements of technical systems, for which statistical rules of failure appearance are established.

ACUMULATION OF DEFECT TECHNICAL SYSTEMS

Planning of preventive maintenance on time mainly dictate its effectiveness in technical systems. Recognition of failure regularity of technical systems lead to schedule of execution of preventive maintenance. Too early maintenance causes unnecessary and irrational delays of technical systems, but too long period T_{pr} leads to increase of failures caused with unfixed defects. Thus there is optimal periodicity of preventive operations $T_{pr\ opt}$, which leads to the best results, that is to maximal effectiveness of system.

Depending on method of defects prevention character of defect accumulation process in time may be described as follows.

¹ Faculty of Tehnical Sciences, K. Mitrovica, Serbia

² Faculty of Engineering University of kragujevac, Kragujevac, Srbija

³ Faculty of transport and traffic engineering, University of Belgrade, Beograd, Serbia

⁴ Faculty of Engineering University of kragujevac, Kragujevac, Srbija, bkrstic@kg.ac.rs

⁵ Ser High School of Applied Professional Studies in Vranje, Vranje, Srbija

