

DETERMINATION OF THE OPTIMAL STRATEGY FOR PREVENTIVE MAINTENANCE THE STARTERS OF APPLICABLE MOTOR VEHICLES

Krstić B.¹, Demić M.¹, Lazić V.¹, Raičević V.², Todić T.², Krstić P.², Krstić V.³

SUMMARY

There is only one optimal solution of the maintenance, for given motor vehicle and given exploitation conditions in that case, it can be attained the best values of the readiness, reliability, minimum costs of the exploitation and maintenance and therefore reduction the total costs of the life cycle. The task of motor vehicles maintenance system optimization consists of the looking for that optimum. This study also has got that goal.

In this work are presented the results of determining reliability parameters starter of special applicable vehicles on based which is done the value of optimal period his maintenance for criterion maximal reliability and for criterion minimal costs of maintenance. As well, it is consider the possibility seeking trade off solution between this two criterions. With regular forming models of maintenance is possible to make optimisation, regarding, to use the best maintenance system. If the all important requests and limits are precisely given then it is possible to solve this kind of problem. The base of presented methodology is presenting with reliability parameters of analysed vehicles given from vehicle behaviour following, from aspect of failure happen, in real conditions of exploitation and costs of theirs maintenance. These two criterions are leading to several solutions of maintenance system of vehicles. From that reason it is necessary seeking to a trade off solution.

Key words: Motor vehicle, Maintenance, Optimization, Reliability, Availability, Costs

INTRODUCTION

In this paper are presented results of determination the reliability parameters of the starter vehicles, based on which the optimal value of the starter vehicles maintenance periodicity was determined, for the criteria of the maximal availability and the minimal maintenance costs. By correct forming of the maintenance model it is possible to perform the optimization, namely to select the most favorable maintenance system. Such a problem can be solved if all the important requirements and restrictions are precisely determined. As the optimal periodicity of the preventive maintenance procedure of the analyzed technical system, determined according

¹ Božidar Krstić, Miroslav Demić, Vukić Lazić, Fakultet inženjerskih nauka u Kragujevcu

² Vladimir Raičević, Tomislav Todić, Ivan Krstić, Fakultet tehničkih nauka u K. Mitrovici

³ Vojislav Krstić, Saobraćajni fakultet u Beogradu

