

## DEVELOPEMENT OF AUTOMOTIVE RADIATOR COOLING FAN

*Branislav Popović<sup>1</sup>, Dragan Milčić, Miodrag Milčić*

**UDC: 629.1.06; 62-712.2**

**ABSTRACT:** System for motor vehicle cooling is one of the most important systems for safety of internal combustion engine (IC engine), and engine cooling fan motor is a key subsystem of this system. It ensures that engine operating temperature is within allowed limits and it protects engine from failure of entire internal combustion engine, and vehicle in whole. This engine cooling fan motor is a key subsystem for vehicle air conditioning as well, because it cools air conditioning system cooler at the same time. Radiator cooling fan motor consists from DC engine and radiator cooling fan. DC engine is a subsystem of mentioned systems which has the most important influence on no failure engine cooling fan work, and according to that, on no failure work of engine cooling system and vehicle air conditioning system. The main subject of this paper is development of engine cooling fan from the reliability aspect, in fact, according to required work life of 3000 hours.

**KEY WORDS:** radiator cooling fan, DC engine, new product development, reliability

### RAZVOJ VENTILATORA AUTOMOBILSKOG HLADNJAKA

**REZIME:** Sistem za hlađenje motora vozila je jedan od najvažnijih sistema za bezbednost motora sa unutrašnjim sagorevanjem (IC motori), i hladnjak motora jeste ključni podsistem ovog sistema. Ovo osigurava da radna temperatura motora bude u dozvoljenim granicama što štiti motor od otkaza i čitav motor sa unutrašnjim sagorevanjem, kao i vozila u celini. Ovaj motor hladnjaka je ključni podsistem vozila sa vazдушnim hlađenjem u vozilu, zato što se isti koristi i kod sistema za grejanje, hlađenje i kondicioniranje vazduha Motor hladnjaka se sastoji od DC motora i ventilatora za hladjenje. Motor DC je podsistem pomenutog sistema koji ima najvažniji uticaj na rad bez otkaza ventilatora motora, i prema tome, na motor sistema za hladjenje i sistem klimatizacije u vozilu. Glavna tema ovog rada je razvoj motora ventilatora sa aspekta pouzdanosti, u stvari, prema potrebi od 3000 časova radnog života.

**KLJUČNE REČI:** ventilator, DC motor, razvoj novog proizvoda, pouzdanost

---

<sup>1</sup> Received Septembar 2014, Accepted October 2014, Available online November 2015