IMPLEMENTATION OF WIND ACCESSORIES IN VEHICLES

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ABSTRACT

The work aims to transform the kinetic energy of the flow produced by the displacement of a car with the use of an air collection system, which works to direct the flow direction in relation to the exploitation system. The air collection system was constructed to allow for greater collection of air at the inlet and the better direction of flow in the output order of difference cross-sectional areas with respect to input and output enabling power gain in the system. The energy conversion system is constructed from a cooler used in conventional computers, aimed at re-equipment, making it economically feasible design, and also present an induction motor of a printer, which proved during experimental tests better yields when prompted. The first analysis aimed at the possibility of power generation by a rotor had completed other in case of cooler, heat exhaustion processor. With the viability of power generation a second analysis was possible to quantify the amounts and enter the system in real situations. The whole system was built with inexpensive materials, such as, chipboard disposal, sheet metal to provide greater resistance to the flow efforts when requested and the hive. The beehive system was inserted in the system in order to filter a possible turbulent flow, turning it into a laminar, allowing greater interaction with the generation system. By submitting the system as a whole in real situations were adopted as parameters for testing where would occur obtaining data, vehicle speed, and the data obtained with ammeters and voltmeters installed the system. Were tested in different paths speeds of 50 km/h and 60 km/h, as were the most favorable results generation, such speed values affected in the values of power 5W order. With power supplied results was made possible by the total energy equation and the continuity equation to develop the flow values at the entrance of the collection system and output, demonstrating satisfactory and unexpected results, achieving ranges of up to 160km / h. With the continuity equation was possible to evaluate the energy gain due to convergence of the flow of twelve (12) times the flow velocity.