

THE NEW GENERATION ELECTRIC POWERED MOTOR GLIDER AOS-71 - STUDY OF DEVELOPMENT

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Abstract: The AOS-71 two-seat electric powered motor glider represents a totally new approach to academic education, continuing at the same time best practices of the educational ULS (Ultra Light Sailplanes) program that has been pursued at the Faculty of Power and Aeronautical Engineering of Warsaw University of Technology for over 30 years. The outcome of the ULS program were number of designs, among them the well known PW-5 "Smyk" and PW-6 gliders that AOS-71 is derived from. The idea of the AOS-71 project was to create a demonstrator of two-seat composite motor glider with electric engine that will be used as a multifunctional flying laboratory to flight research and students education. The main innovations in this construction are ecological quiet electric engine retractable into the fuselage, spacious cockpit where seats are located side by side and the composite structure in 90% made of carbon epoxy composites. The AOS-71 project is the first one from the ULS program that has been completed in co-operation of two universities: Warsaw University of Technology and Rzeszow University of Technology. The project has been developed by the team consisting of employees and students from both universities. Currently the AOS-71 motor glider is being tested in flight conditions. The next step of the program is another AOS-71 versions development. The first one is a glider version, the second one is the motor glider with the innovative hybrid electric propulsion.