

Nidec Motor wins back-to-back titles at the Japan Championships!! - Radio control electric glider competitions -

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At the Japan Championship for the "F5B", the pinnacle of radio control electric glider radio control electric glider competitions, held in Kasaoka City in Okayama Prefecture last November 29th and 30th, models using motors developed by the Nidec Motor Engineering Research Laboratory won all top three places. Nidec followed up on its championship in its first appearance the year before to post a second consecutive top three sweep.



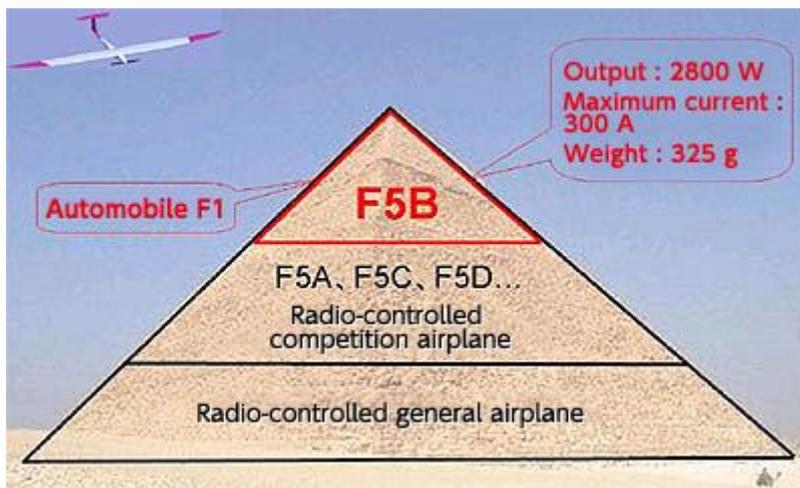
Nidec wins its second consecutive championship and second consecutive sweep of the top three places.

(1) About the "F5B" radio control electric glider competitions

The "F5B" radio control electric glider competition is to such competitions what F1 races are to automobile races.

The competition is made up of the distance task and the flight duration task and the total for the two tasks determines who wins. For the distance task, the glider climbs vertically under

motor power, then stops the motor and glides back and forth along a 150-meter distance. When it has lost altitude, its motor is started up again to make it climb. This is repeated for 200 seconds. The competition is how many times the glider can glide back and forth. During gliding, maximum speed reaches 300 km/h. After the distance task, the glider climbs to high altitudes and glides for 10 minutes without power.



▲ "F5B" is the pinnacle of radio control electric glider competitions.

(2) Motors for F5B

The glider has an airframe with a wingspan of 2 meters and weighs 2 kg. In order to fit into the glider fuselage, the motor must be less than 39 mm in diameter and due to the weight distribution of the airframe, batteries, etc., the motor must weigh no more than a mere 325 grams. Faced with these restrictions, Nidec motors secure the needed output by using inner rotors, raising the rotational speed high, and using planetary gears for the speed reduction.

In the power-to-weight ratio, which means the amount of output per unit of weight, one of the yardsticks for evaluating motor performance, Nidec motors achieve a power per unit weight of 8 kW/kg, which is higher than the 6 kW/kg of F1 engines.



▲ F5B brushless motors and the Electronic Circuit Unit (ECU)



▲ Glider with Nidec's motor

Building on this current success, Nidec will work hard to develop motors with even smaller sizes, higher performance, and higher efficiency that would also contribute to society by the reduction of the world's energy consumption; thereby, helping to prevent global warming.