

Israel evaluates ultralight

by Arie Egozi
in Tel Aviv

The West German-developed "Delta Dart" ultralight will soon be evaluated in Israel as a basis for a military unmanned air vehicle (UAV) system and an unmanned remotely controlled crop-sprayer.

The Delta Dart was developed by Ulm-based Ritec as a high-speed long-range ultralight. Designer and company owner Klaus Richter told *Flight* while visiting Israel that the

prototype of the Delta Dart will begin test flights in Germany in December.

According to Richter the all-glassfibre ultralight, powered by a 36 h.p. Rotax engine driving a variable-pitch propeller, will have a cruising speed of HOKt second, the stalling speed is estimated at 33kt. Its empty weight is 308lb, and its maximum payload is 176lb.

The canard delta configuration of the Delta Dart will make it capable of "unequalled

performance", Richter says. The pilot's "motorcycle" position in the cockpit is described by Richter as "very comfortable" after ground testing. Richter says that the Delta Dart's construction allows reinforcement of the static structure so that more powerful engines may be installed. "We are talking of engines that will enable a 275kt-speed," says Richter. The new ultralight has retractable gear.

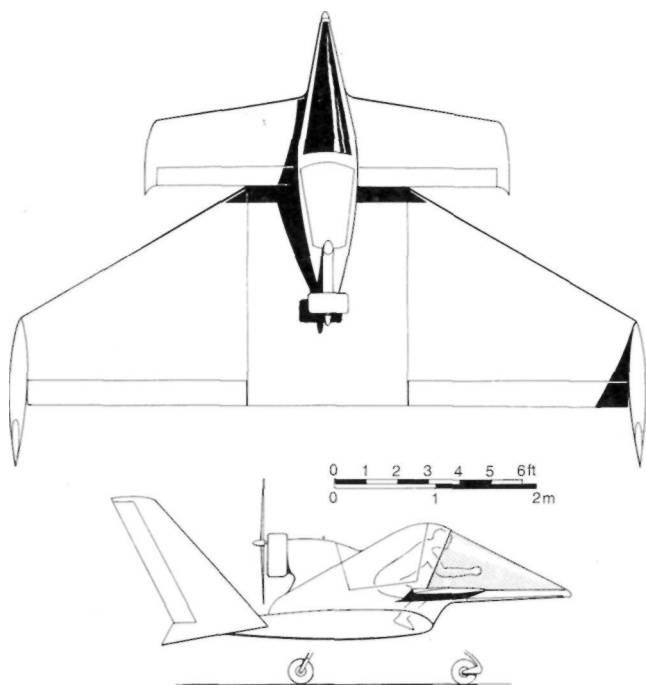
While visiting Israel, Richter gave a presentation of his ultralight to Israeli UAV manufacturers. He stressed the self-stability of the Delta Dart and its small radar cross-section. The Israeli companies will evaluate the prototype when it begins flying next month, and then decide whether the design can be used in developing

advanced UAVs. "If the projected performance is proved in the test flights, this is really a unique ultralight," an Israeli UAV expert told *Flight*.

The Delta Dart was also shown to an Israeli company involved in developing advanced cropspraying techniques. Dan Chamizer, managing director of Omni Horizon, a cropspraying company developing unmanned aerial spraying systems, said that the Delta Dart could be a breakthrough in this field. "We are very interested, and intend to fly it as soon as possible," he said.

Richter's design is one of a number of ultralight aircraft being considered for possible use as unmanned air vehicles, capitalising on their good payload, performance, and handling qualities.

The West German-designed Delta Dart ultralight is being reviewed by Israel. Test flights begin next month



First commercial launch scheduled

Space Services has received a \$1 million Nasa contract to launch microgravity experiments on a sub-orbital flight from White Sands, New Mexico, in March 1989. The launch vehicle will be a two-stage sounding rocket called Starfire, comprising a modified Terrier first stage and a Black Brant 9 second stage.

Receipt of the launch contract marks SSI's first definitive booking since its foundation in 1980. The company is still attempting to market variants of its Conestoga booster for low-Earth and geostationary-transfer orbit launches.

Starfire's payload will be six microgravity experiments funded by the Consortium for Materials Development in Space, one of 16 consortia supported by Nasa, industry, and university funds to co-operate on the development of space ventures leading to full commercialisation.

This consortium comprises the University of Alabama, McDonnell Douglas (which is packaging the payload for launch), Nasa's Marshall Space Flight Centre at Huntsville, Alabama, and Boeing, Martin Marietta, Wylie Laboratories, and other companies. The

272kg payload will be lofted to an altitude of 320km and exposed to eight minutes microgravity time.

Florida-based E Prime Aerospace may launch a solid-propellant booster, Loft 1 (for launch operations flight test), later this year, carrying several commercial microgravity experiments on a sub-orbital flight.

E Prime's Loft 1 will carry its recoverable microgravity payload to just 6 • 5km altitude. Loft 1 is a pathfinder for commercial launches, and the first to be subjected to all of the inter-agency Governmental regu-

latory assessments required for commercial launches. Once the regulatory processes have been ironed out by Loft 1, E Prime will be in a better position to process future commercial launches for its proposed, larger launcher fleet.

There will be four E Prime S-series boosters, each 3m in diameter and between 25m and 38m long, based on solid-propellant Peacekeeper missile technology and able to launch from 250kg into low Earth orbit to 3,000kg into geostationary orbit. Satellite launch prices will be as low as \$30 million," says E Prime.