

F2

THE NEXT GENERATION



600kg UL

600kg LSA

650kg Part 23

flightdesign.com



FLIGHT DESIGN LIFTAIR®

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DESIGNED FOR YOUR MISSION

The F2 is the newest aircraft from Flight Design general aviation. One we think will define light aircraft safety, performance and comfort in a CS-23 certified aircraft, as an S-LSA and also as a 600 Kg Ultralight.

The F2 brings a fresh look at high-wing light aircraft design with class leading safety features and an innovative Garmin avionic suite.

The spacious ‘extra-large’ cabin of the F2 has been designed for extra rigidity and incorporates a combination of dynamically tested passenger seats, panel-mounted AMSAFE™ airbags and an Airframe Emergency Parachute System (AEPS) for your safety. The atmosphere inside the F2 is improved with many clever design features, the modern heating/fresh air system and comfortable leather covered, electrically-adjustable seating.

The structure of the F2 is manufactured to close tolerances in pre-impregnated carbon fiber for great structural strength and light weight. Flight Design general aviation has created an international team of light aircraft industry specialists and designers to collaborate on the F2.

The advanced features of the F2 will make all your flights safer and more enjoyable but also a better environment for learning how to fly.

Flight Design is committed to remain a leader in the Light Aircraft industry by employing progressive design concepts and modern safety features.

Since 1997, more than 1900 Flight Design CT aircraft have been delivered to customers worldwide. Evolutionary changes incorporated into the F2 makes it truly the ‘Next Generation’ and the logical addition to that popular line of aircraft.

It is our mission that the F2 will be a great airplane for the demands of flying clubs and flight schools as well as a joy for private owners.

Since 2017 Flight Design is a member of the innovative and successful LiftAir Group. This group provides the platform for further growth and development of Flight Design.

A modern aircraft should have all the features seeking to improve performance, situational awareness and reduce the pilot workload. The F2 includes:

*All Garmin avionics suite with G3X screens for synthetic vision, ADS-B weather, traffic, engine monitoring and maps

- * Single lever throttle and brake system
- * Advanced start system for the Rotax 912iS
- * Dynamically tested, electrically adjusted seats
- * AMSAFE airbags and inertial reel seat belts
- * No touch fuel system with electric fuel gauges
- * DLE outer wing optimized for spin resistance
- * Drag reducing sculpted winglets
- * Wide composite main gear
- * Massive center tunnel for cabin rigidity
- * Titanium firewall with soundproofing
- * Low drag cowling with easy-to-latch system
- * Heat exchanger heating system
- * Electric trim and pre-selector flap system.
- * Cavernous rear cabin for luggage, bicycles or pets!



The F2 cockpit has been designed following principles used in the passenger cabins of modern automobiles. Loads are transferred through the passenger area to the crush-zones at the front end of the vehicle. The rigid cabin cell area remains intact while the energy is absorbed in the peripheral areas. The following illustration shows the design of the cabin area of the F2:

- The engine area is separated from the cabin by a titanium firewall heat and sound insulated with a renewal material. The light and rigid engine mount transfers loads into the to the massive attachment to the center structural tunnel.
- The center of the cabin is stiffened with the structural tunnel from the nose gear area to beyond the luggage compartment.
- The area below the seats is reinforced with 'Pyramids' installed to the cabin floor, supporting the seats and further stiffening the floor.
- The outer skin is carbon fiber/honeycomb providing maximum stiffness and strength.

The suitability of this concept has been improved with data gathered from in service now for 17 years and further refined with full scale testing. Service history shows that the cabin concept provides a maximum of occupant protection.



Always pushing forward with new innovations to make flying more enjoyable and safer, Flight Design general aviation now has 'The Next Generation' closer to the ideal of Vision Zero. In 2016, a full-scale crash test on a Flight Design C4 prototype was performed with important data gathered. Lessons learned from that test have been applied to the F2 and all future Flight Design products. Vision Zero is our future vision that 'zero' occupants should face injuries even during a very serious incident.

This can be achieved by a combination of passive and active safety systems. A spin resistant airplane, with envelope protection provided by a pilot assistance system, a car-like simplified fuel system, panel mounted airbags, better passenger restraints, and as back-up to those systems a new generation of airframe parachute rescue systems must be developed and integrated to work together.

The development and certification will take time, but we are sure that important components could be retrofitted into our existing airplanes. No later than 2025, a huge step forward for Vision Zero should be accomplished. It is a challenge, where Flight Design will take the lead and all our customers will have the priceless advantages for them, their friends and their families. The safety of the occupants of our aircraft has always been a number one priority for Flight Design. In 1994, Flight Design, inspired by the car industry, implemented a safety cell concept into the then new CT series design.

As a modern and advanced light aircraft, the F2 uses propulsion systems that match the efficient concept of the airframe, the Rotax 912iS and Turbocharged 915iS. Both engines offer a high level of sophistication, redundancy and efficiency. With the Flight Design 'Smart Start' and CFD designed split flow cooling systems, the F2 starts easily and keeps it cool even in the hottest climates. Oil and Coolant thermostats complete the temperature management and all systems are easily accessible under the quick-to-remove cowling.

The New F2 comes with two of the most advanced engines for light aviation :

F2 912iS FUEL INJECTED

The 912iS features precisely controlled fuel-air mixture for ultra-smooth power delivery, improved high altitude performance, more useful torque and improved fuel economy.

- 100-hp Rotax 912iS with fuel injection
- 1352 c.c. 10.5 : 1 compression ratio
- Gearbox: 2.43 : 1 reduction ratio
- Fuel: Both engines use premium unleaded auto fuel or 100 LL Avgas

F2 915iS TURBO FUEL INJECTED

The 915iS is a new turbocharged engine from Rotax that matches the fuel injection of the 912iS to a powerful turbocharger and intercooler. Wherever you fly, the Flight Design F2 has the engine power choice best suited to your exact requirements.

- 141-hp Rotax 915iS turbo with fuel injection
- Turbo intercooled, electronic management system
- Max takeoff power up to FL15, Service ceiling FL25!

Happy landings

The wide-track composite main gear is extremely strong and rugged while also being flexible, absorbing landing energy and protecting the structure. Urethane polymer shock absorbers in the nose gear give high dampening and help to smooth out hard landings.

The single throttle and brake lever system developed by Flight Design, simplifies your power and braking management.

- Airframe Emergency Parachute System AMSAFE panel mounted airbags
- Inertial-reel automotive-style seat belts
- Rotax100 HP 912iS engine
- Stainless exhaust system
- Heat exchanger heat and panel ventilation
- PTT buttons on each control stick
- Electric stabilizer trim
- Electric pre-selector flap control
- Advanced DUC three-blade composite certified propeller
- Electrically adjustable, leather covered sport seats with Confor-foam padding for maximum comfort Two cockpit storage compartments
- Gigantic storage area behind the cockpit
- Extra wide cabin doors with gas springs
- One-piece panoramic windshield
- Two wing tanks with 130 l (34 gallon) capacity
- Fuel level gauges
- Composite main landing gear with MATCO hydraulic disc brakes, Steerable nose wheel, Wheel pants
- Fire Extinguisher and CO Detector
- A selection of optional graphic patterns
- Complete document package includes:
 - Flight, Maintenance, Transition training and Parts Manual

Production of the F2 is performed by our young and highly motivated staff in Germany, Ukraine and the Czech Republic. The development of the new F2 has also required a change in the production methods used to build it.

With expansion into EASA certified production authorization, we have been audited and shown compliance to the applicable aviation standards in all of our facilities.

F2 was designed and tested using the most advanced CAD programs available and these systems are also applied in production of the aircraft. Modern design tools such as CFD, FEA and CAM are used for close tolerance carbon production molds made with accurate 5-axis CNC mills.

We are proud to be at the vanguard of aviation technology and a leader in bringing that structural and aerodynamic technology to the light plane industry.

The F2 was designed specifically for CS-23 certification and to meet the ASTM F3180 low-speed flight characteristics of fixed-wing aircraft standard for departure characteristics, spinning, and stall warning. Sculpted winglets reduce induced drag, improve climb and cruising range.

The smooth cantilever strutless wing also reduces drag and allows maximum visibility from the cockpit. The highly optimized airfoil of the F2 allows generous internal volume for the fuel tanks and is also structurally efficient.

The elegantly sculptured Carbon Fiber fuselage of the F2 is designed for extra-large volume in the cabin and to reduce drag while providing cleaner airflow to the tail.

The large span stabilizer and separate elevator has been designed for optimum low speed control and better feel. In total, the aerodynamic features have significantly improved the F2's stability, control and its overall ease of flying. While the top speed of the unlimited F2 will be impressively high, the F2 flies with efficiency and low fuel consumption at all speeds. CFD based virtual wind tunnel design tools were used to complete the efficient and refined aerodynamic design.

The 1.3 m (51") Extra Large cabin width of the F2 has been designed to fit very tall and smaller people equally well. People with heights of 1.55 to 2.00 m (5' 1" to 6' 6") will sit more comfortably than ever. Ample storage space in the cockpit is provided by great access for bulky items stored aft of the cockpit. Four cabin windows and the sunroof in the rear give the cockpit an open feeling and improve overall visibility.

Large gull-wing doors held up by gas struts make entering and taking your seat easy. Three-point latches and door seals keep you secure inside. Comfortable leather covered seats with Confor-foam padding and electrically adjustable seat seats offer incomparable comfort and easy adjustment in height and leg length. From these seats, the remarkable visibility of F2 will give you the feeling that you are in a helicopter with a sweeping view of the world. The well-engineered engine installation reduces airframe vibration and cabin noise.

Full dual controls and centrally located single lever throttle/brake quadrant are features of this ergonomically arranged cockpit. Easy-to-reach storage spaces and convenient map holders are thoughtfully provided. Modern ventilation and heat exchanger heating allow you to fly comfortably in all 4 seasons. The F2 allows up to 50 kg (110 lb) of baggage (total) to be safely stored in the giant storage compartments aft of the cabin area. If you are finding it hard to find an Airplane that fits you, try the F2. We think you will be pleasantly surprised!

Flight Design has been in the vanguard of the avionics revolution in light aircraft. With the F2 we offer an expanded range of avionics to suit your personal aviation mission. The F2 features some of the most advanced, yet easy to use avionics from Garmin including the G3X Touch screens for unmatched situational awareness, integration of the Rotax® engine management system, checklists and diagnostic functions.

The bright, high-definition G3X panel includes PFD, EMS and Map functions with a battery backup. With the Garmin GTX 345 transponder the F2 is compliant with the FAA's ADS-B 2020 "Out" requirements and can also have the complete ADS-B "in" features like Satellite based weather, traffic and real-time TFR notices. Depending on your preferences, navigation is provided by optional Garmin GTN 650, GTN 750 or GNC 255 Nav/Com. The Garmin GFC 500™ Digital 2-axis autopilot with Level Button rounds out this well-balanced avionic suite.






1	Garmin G3X GDU 460 Screen (10.6" landscape format)
2	AMSAFE pilot and passenger Airbag
3	Garmin 225A COM
3a	Garmin 255A COM/NAV
4	Garmin GMA 340 stereo audio panel
5	Garmin 335 ADS-B 'out' or 345 ADS-B 'in and out' transponders
6	Garmin GFC 500 Digital autopilot 'mode controller panel'
7	KANNAD AF 406 Compact ELT 406 MHz with remote control
8	Optional Heated Pitot Probe switch
9	Fresh air and heating vents



ORACAL 951 series		070	Black
ORACAL 951 series		090	Silver grey
ORACAL 951 series		032	Light red



ORACAL 951 series		070	Black
ORACAL 951 series		090	Silver grey
ORACAL 951 series		093	Anthracite

