

# CT Super Series

THE ULTRALIGHT



600kg ready Ultralight

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**FLIGHT DESIGN** LIFTAIR®



# DESIGNED FOR YOUR MISSION

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The Flight Design Ultralight Series has defined performance, safety and comfort in the Ultralight classes from the very beginning. The current Super Series as a derivate of the well known and successful CT Series is also the one of the most popular ultralight aircraft in the world due to it's innovative design, advanced safety features and state-of-the-art avionics. The Super Series was designed specifically for the Ultralight category and offers many features as standard equipment that are optional on other aircraft. The flexibility and durability of the basic airframe design is evident from that fact that it can be flown as an FAA/ASTM SLSA, with a EASA Restricted Type Certified aircraft or as a 600 Kg Ultralight!

Flight Design has continuously improved the CT - Series since its introduction in 1997 it has flown around the world 3 times. Flight Design used industry specialists and advanced design tools including full-scale wind tunnel testing in the Mercedes-Benz wind tunnel to further refine the aerodynamic design. Computer based flight test systems were used to develop and test the flight dynamics in a first for the Ultralight industry. Flight Design is committed to remain the leader in the Ultralight industry by employing progressive design concepts and modern safety features.

The CT Super Series are aircrafts capable of flying non-stop from London to Frankfurt or Munich to Rome...flights of 1,800 km (1,000 miles). The large comfortable cabin and excellent visibility makes all your flights more enjoyable and a better environment for learning how to fly.

In production since 1997, more than 1900 Flight Design CTs have been delivered to customers worldwide. By operating the CT in some of the most challenging conditions on earth, Flight Design team members continue to learn and improve the aircraft. The CT Super Series incorporates evolutionary changes that make it a great airplane for the demands of flying clubs and flight schools as well as private owners. A modern aircraft should have all the safety improvements available for protecting the pilot and passenger. Every CT has a time-proven rigid carbon fiber cockpit forming a safety cabin plus four-point harnesses. The standard airframe parachute system is an important addition to the list of safety features on all CT's.

The CT first earned its German Airworthiness Certificate in 1997. Compliance of the CT family of aircraft is verified by numerous independent design organization and production audits annually. Since the first flight, more than 1900 owners have loved the high cruise speed, low stall speed, and the spacious cabin of all CTs.

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.





The carbon/aramid fuselage on the CT is optimized for large internal space for the cabin and to reduce drag while providing cleaner airflow to the stabilizer. The smooth cantilever strutless wing also reduces drag and gives maximum visibility from the cockpit. The proprietary airfoil of the CT allows generous internal volume for the fuel tanks and is also structurally efficient. Advanced winglets reduce induced drag, improving

climb, cruising range and aileron control at low speeds. The electrically driven stabilizer trim tab has improved gearing for finer control and better trim feel. In total, the aerodynamic features have significantly improved the CT's stability, control and its overall ease of flying. While the top speed of the unlimited CT Super Series is impressively high, all CT's fly with efficiency and low fuel consumption at all speeds.

Urethane polymer shock absorbers in the nose gear give high dampening and help to smooth out hard landings. The advanced composite main gear is extremely strong and rugged while also being flexible, absorbing over 50% of landing energy on the first rebound.

The brake system developed together with our partners give the correct balance of durability, performance and light weight.





The Flight Design engineering staff created the CT Series with safety, performance and comfort in mind. A new aircraft should employ modern construction techniques for many reasons. The cockpit's carbon-aramid composite safety cabin helps to protect you and your passenger. The engine mount and carbon fuselage attach points reduce the possibility of engine intrusion into the cabin area. Standard four-point harnesses along with crushable elements of the fuselage construction absorb energy and reduce possible loads to the pilot and passenger. Strong windshield uprights and massive upper construction complete the protective environment. Fuel tanks are sensibly located in the wings, well away from the pilot and passenger. Numerous improvements to the CT fuel system are incorporated to give proper fuel flow even in extreme conditions while maintaining the safety of single lever operation.

The wide speed range and high structural margin of the CT gives you peace of mind even in the strongest conditions. Tested airframes to perform up to 600 kg with a generous safety margin, the CT Super Series can take you, your passenger and baggage safely as well. The CT and its derivatives has been subjected to numerous static tests and complete flight-testing as a part of certification to major Airworthiness Standards including ASTM-FAA Light Sport Aircraft requirements, CAAC type and production certificates, EASA CS-LSA and German LTF-UL 2003. Each CT is fully flight tested by our engineering test pilots and flown again after being reassembled and checked by factory-trained experts in the country of destination.

A modern airplane should be built with modern technology. Carbon fiber-epoxy aircraft construction offers unparalleled strength, durability, corrosion and fatigue-resistance. Despite high material and labor costs, carbon fiber construction is being used more widely every year. Due to its advantages, carbon fiber construction has been incorporated in all new military and commercial aircraft replacing older aluminum & rivet construction. Repair costs with carbon fiber construction are typically far less than those for conventional metal or tube and cloth aircraft. New core foam which is now used is much more resistant to environmental damage.

Repairs can be locally performed by our factory trained and approved technicians. The CT Super Series is finished in a durable, two-part polyurethane paint, which is very UV-resistant. Beautiful and easy to take care of, the CT's polyurethane finish will last years when properly maintained.



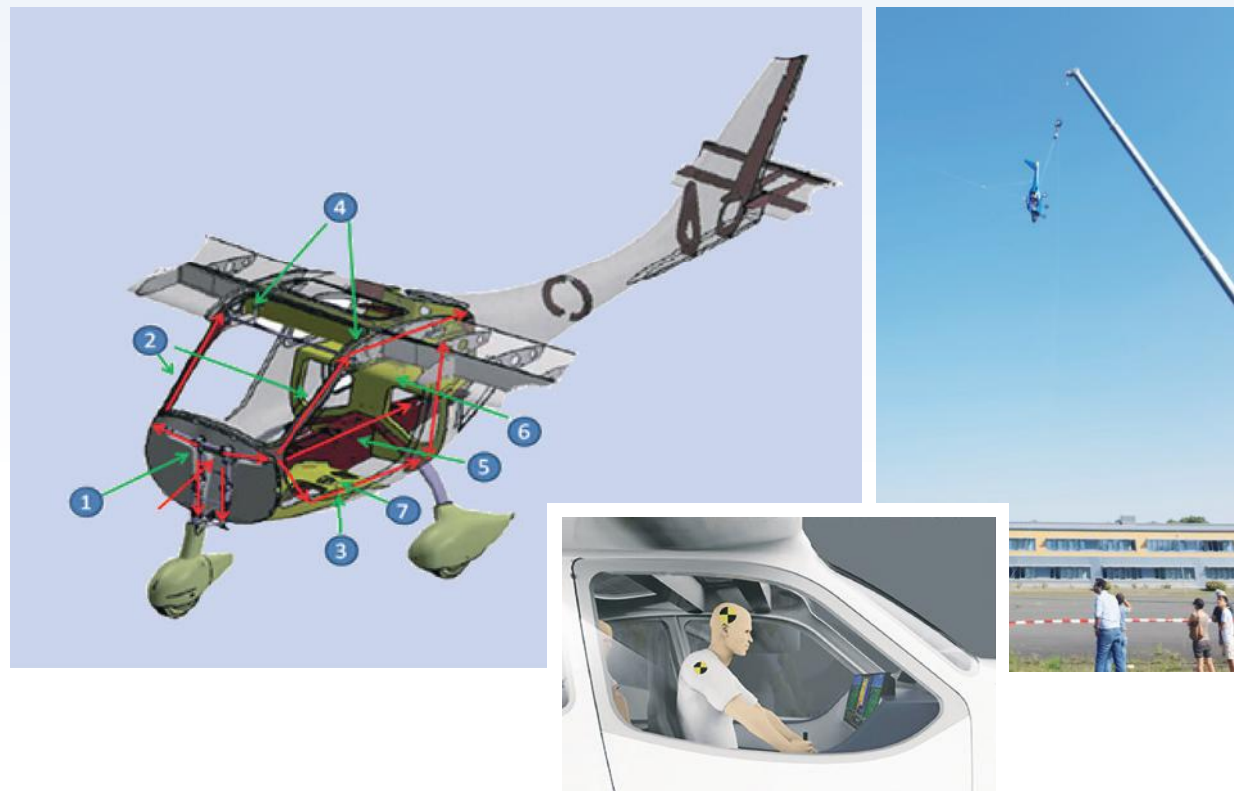


The CT cockpit has been designed following principles used in the passenger cabins of modern cars. Loads are transferred through the passenger area to the crush-zones at the end of the vehicle. The cabin area remains intact while the energy is absorbed in the peripheral areas. The following illustration generalizes the flow of force in the CT:

- Forces in an impact start from the engine area through the engine mount (1) into the strong A-pillars (2) and to the center structural tunnel (5).
- The door sills (3) are designed to transport the loads backwards and into the composite shell.
- The fuselage root rib area (4) is designed as a stiff roof rail to transports the loads backwards.
- The center of the cabin is stiffened with a structural tunnel (5) from the nose gear area to beyond the luggage compartment.

- The cabin is closed at the end with the main bulkhead (6) that serves together with the door sill as B-pillar.
  - The area below the seats is reinforced with “Pyramids” (7) installed to the cabin floor, supporting the seats and stiffening the floor.
  - The inner laminate of the cabin skin is aramid, providing protection against splintering.
  - The outer skin is carbon fiber providing maximum stiffness and strength.
- The suitability of this design has been proven in service now for 14 years. Accident history shows that the cabin provides a maximum of occupant protection.

Before

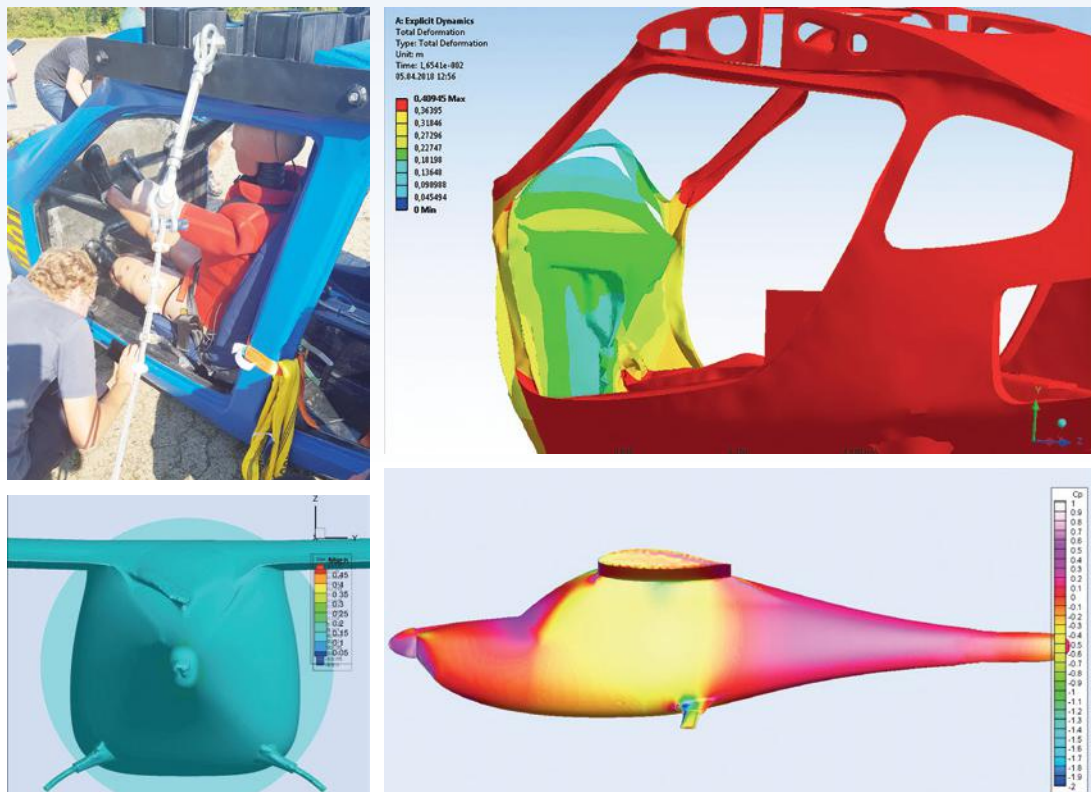


Always pushing forward with new avionics, now the ‘level button’ which is used to automatically recover the aircraft back to level flight from unusual attitudes is the next step to safer flying. In 2016 an automotive-type crash test of a full scale C4 prototype was performed. Lessons learned from that test will be applied to all future Flight Design products. Vision Zero It is our future vision that "zero" occupants should face injuries during a very serious crash. This can be achieved by a combination of passive and active safety systems. A spin resistant airplane, with a car like fuel system, airbags as a standard, better passenger restraints, pilot assistance systems and as back-up to those systems, a new generation of 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.

After







Production of the CT is performed by our young and highly motivated staff in Germany and Ukraine. Along with development of the original CT our own R&D and manufacturing company was created. We are constantly expanding our production capabilities to meet growing worldwide demand for our products.

With expansion into certified production authorization, which standards are also applicable for the CT Ultralights, we have been audited and shown compliance to the applicable aviation standards at both facilities. Modern design tools such as CFD, FEA, laser scanning and production molds made with 5 axis CNC mills are now used to make components.

The balance of safety and performance is attained through rational design, well organized manufacturing and the use of dependable Western materials.

CT was designed and tested using the most advanced CAD programs available and these systems are also applied in production of the aircraft. 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 CT requires only a minimum of ongoing maintenance. At our Service Centers worldwide you can have this work done by our properly trained staff. You can also participate in a two-day owner-training course at one of our Flight Design Service Centers. This course will enable you to do

simple maintenance yourself supported by our detailed maintenance manual and parts manual supplied with each CT. Our Service Center technicians are available for specialized work and repairs or to assist local mechanics on the basic maintenance of the CT.





The 1.24 m (49") cabin width of the CT 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") sit more comfortably than ever. Big outside baggage doors give great access for bulky items stored aft of the cockpit.

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 seats with molded foam padding and pneumatically adjustable seat cushion and lumbar sections offer incomparable comfort and easy adjustment in height and length. From these seats, the remarkable visibility of CT 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 throttle quadrant are features of this ergonomically arranged cockpit. Easy-to-reach storage spaces and convenient map holders are thoughtfully provided. Standard ventilation and cabin heating allow you to fly comfortably in all 4 seasons. The CT allows up to 50 kg (110 lb) of baggage (total) to be safely stored in the dual storage compartments aft of the cabin area.

If you are finding it hard to find a Ultralight that fits you, try the CT Super Series. We think you will be pleasantly surprised.

Flight Design has been in the vanguard of the avionics revolution in light aircraft. We now offer an expanded range of options to suit your personal aviation mission. The CTLS now features some of the most advanced, yet easy to use avionic suites from Dynon to meet your needs. The Dynon SkyView system offered by Flight Design for the CT which features Dynon SkyView HDX or Touch screen for unmatched situational awareness, integration of the Rotax® engine management system, checklists and diagnostic functions.

The bright, high-definition HDX or Touch screens feature redundant PFD, EMS and Map functions with smart reversionary modes and battery backup. A Dynon Mode S Class 1 transponder and a Dynon Radio and Intercom complete the modern Glass Cockpit.



Four models, Four engine choices: CT Super Club/ Rotax 912 UL, CT Super Sport/ Rotax 912S, CT Super Sport Injection/ Rotax 912 iS SPORT and CT Super Sport Turbo / Rotax 914 UL

Depending on your specific requirements and preferences, choose either the well-proven, industry-standard Rotax 912UL(S), developing a reliable 80 or 100 hp with twin carburetors, or the fuel-injected, Rotax 912iS, featuring a robust 100 hp with the fuel/air mixture precisely computer controlled for ultra-smooth power delivery, improved high altitude performance, more useful torque, reduced emissions and improved fuel economy. The 912iS modern fuel injection also results in surer, easier starts, lower maintenance and lower operating costs all the way to its 2000-hour TBO.

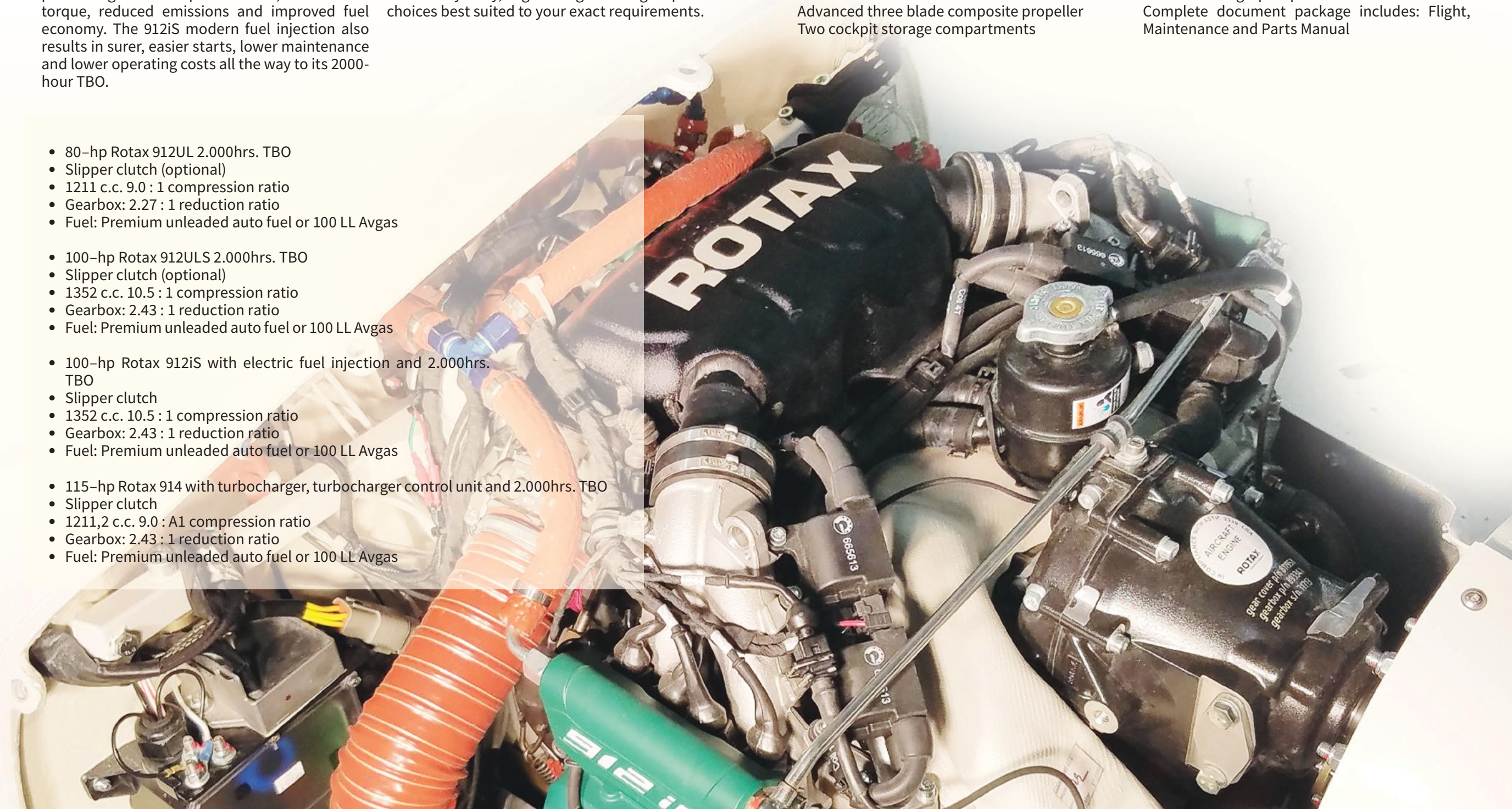
For flying in “hot and high” conditions, where a normally-aspirated engine will be challenged to maintain power at altitude, Flight Design offers the advantages of turbocharging with the Rotax 914 Turbo engine, able to maintain its 115 hp in altitude.

Wherever you fly, Flight Design has engine power choices best suited to your exact requirements.

- 80-hp Rotax 912UL 2.000hrs. TBO
- Slipper clutch (optional)
- 1211 c.c. 9.0 : 1 compression ratio
- Gearbox: 2.27 : 1 reduction ratio
- Fuel: Premium unleaded auto fuel or 100 LL Avgas
- 100-hp Rotax 912ULS 2.000hrs. TBO
- Slipper clutch (optional)
- 1352 c.c. 10.5 : 1 compression ratio
- Gearbox: 2.43 : 1 reduction ratio
- Fuel: Premium unleaded auto fuel or 100 LL Avgas
- 100-hp Rotax 912iS with electric fuel injection and 2.000hrs. TBO
- Slipper clutch
- 1352 c.c. 10.5 : 1 compression ratio
- Gearbox: 2.43 : 1 reduction ratio
- Fuel: Premium unleaded auto fuel or 100 LL Avgas
- 115-hp Rotax 914 with turbocharger, turbocharger control unit and 2.000hrs. TBO
- Slipper clutch
- 1211,2 c.c. 9.0 : A1 compression ratio
- Gearbox: 2.43 : 1 reduction ratio
- Fuel: Premium unleaded auto fuel or 100 LL Avgas

Airframe Parachute  
Rotax engine  
Stainless exhaust system  
Cabin heater and ventilation  
Dynon SkyView HDX or Touch screens  
Dynon SV-X83 (8.33 Mhz) Com radio  
Dynon SV-261 Class One Mode S Transponder  
Wireless Connection to the Dynon flight systems  
Kannad or Artex Compact 406 MHz ELT  
PTT buttons on each control stick  
Electric stabilizer trim  
Advanced three blade composite propeller  
Two cockpit storage compartments

Electric pre-selector flap control with LED  
Four-point harnesses  
Two large baggage compartments  
Extra wide cabin doors with gas springs  
One-piece windshield with light color tinting  
Two large wing tanks  
Composite main landing gear: 4.00 - 6” main  
Wheels with hydraulic disc brakes  
Steerable nose wheel 4.00 - 6”  
Fire Extinguisher and CO Detector  
A selection of graphic patterns  
Complete document package includes: Flight, Maintenance and Parts Manual





The further you fly, the more the CT Super Series show superiority. With the CT's comfortable cabin and molded foam seats and large baggage compartments, countrywide flights become an achievable and affordable adventure!

Flight schools & Photography

Remarkably slow landing speed, controllability and rugged landing gear make the CT the right choice. Due to its modern strutless (cantilevered) wing design and contemporary good looks, the CT is the right choice for Flight Schools seeking a way to attract new students. This class of aircraft has revolutionized flight training in lightplane schools.

Without a strut to block the view aerial photography is a joy. An optional 16.5 x 25.4 cm (6-1/2 x 10") photo window is available, too. With its

The CT gives you the performance and freedom to make your flying dreams a reality!

roomy cabin and superb visibility, the CT is an ideal aircraft in the agricultural world for the inspection of animals and crops and other survey tasks.

- \* With its short field performance and rugged optional tundra gear, a careful landing for inspection is easily performed.
- \* Get approval from local authorities on legality of all unusual or commercial operations.

CT was built to get up and go. With low fuel consumption and low operating costs, you can afford to fly as much as you want.

Hours per year	100	250	350	500	750
Total direct operating costs	38.13 €	38.13 €	38.13 €	38.13 €	38.13 €
Total indirect operating cost no hull insurance	42.00 €	16.80 €	12.00 €	8.40 €	5.60 €
Total indirect operating cost	73.25 €	29.30 €	20.93 €	14.65 €	9.77 €
Total operating cost including hull insurance	111.38 €	67.43 €	59.05 €	52.78 €	47.89 €







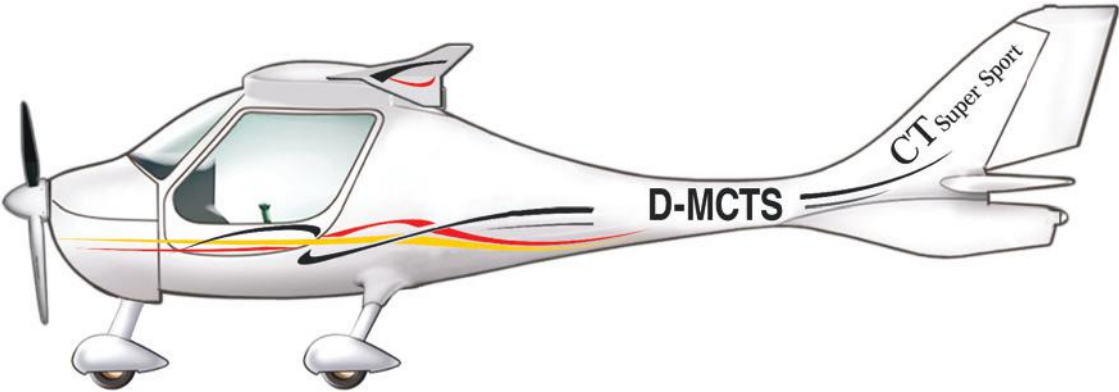
1	Dynon SkyView SV-D1000 Touch Displays (10" landscape format)
1a	Dynon SkyView SV-HDX1100/A Touch Displays (10" landscape format)
2	Dynon Skyview COM Radio SV-COM-X83 (8.33 kHz channel spacing)
3	Dynon Two-Place Stereo Intercom SV-INTERCOM-2S
4	Dynon SV-XPNDR 261 Mode S Transponder
5	Wi-Fi function for transferring data from popular flight planning apps
6	USB Socket
7	Constant speed controller, 2 1/4"






8	Analog airspeed indicator (small)
9	Analog one pointer altimeter (small)
10	KANNAD AF 406 Compact ELT 406 MHz with remote control
11	Dynon Display SkyView SV-D700 7" lanscape format)
12	Traffic Monitoring Function
13	Dynon Autopilot
14	Dynon AP panel (included in HDX firmware)
15	Dynon "Level Button" (included in HDX firmware)







Wave 1



ORACAL 951 series		070	Black
ORACAL 951 series		209	Maize yellow
ORACAL 951 series		032	Light red
ORACAL 951 series		090	Silver grey

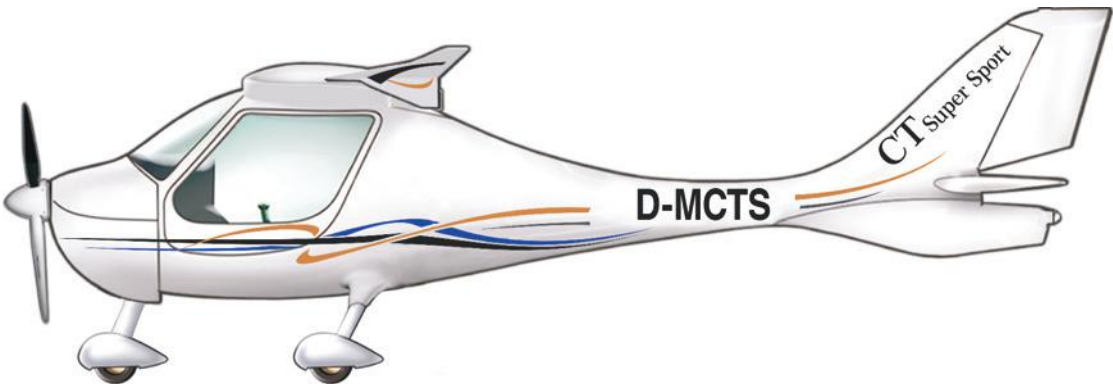
Wave 2


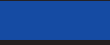




ORACAL 951 series		811	Sahara beige
ORACAL 951 series		070	Black
ORACAL 951 series		032	Light red
ORACAL 951 series		090	Silver grey

The colors reflected on the brochure are only approximations of the original colors.





Wave 4



ORACAL 951 series		811	Sahara beige
ORACAL 951 series		509	Sea blue
ORACAL 951 series		070	Black
ORACAL 951 series		093	Anthracite

Wave 5

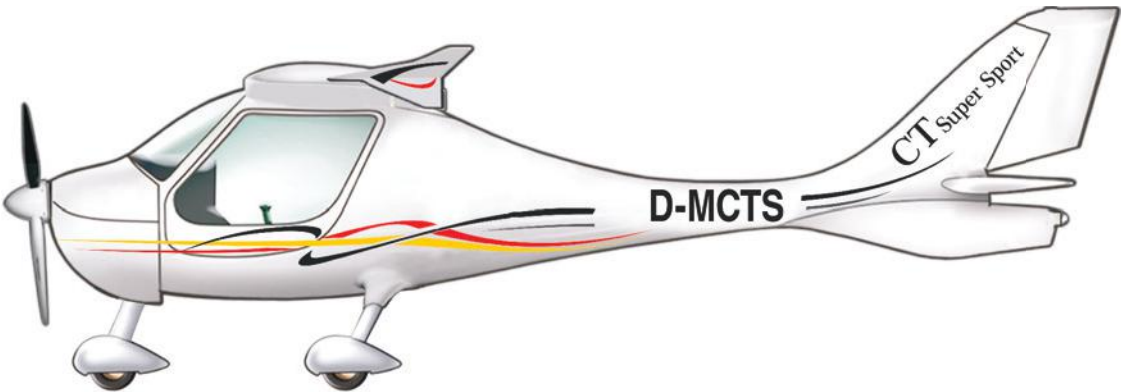


ORACAL 951 series		026	Purple red
ORACAL 951 series		509	Sea blue
ORACAL 951 series		090	Silver grey
ORACAL 951 series		093	Anthracite

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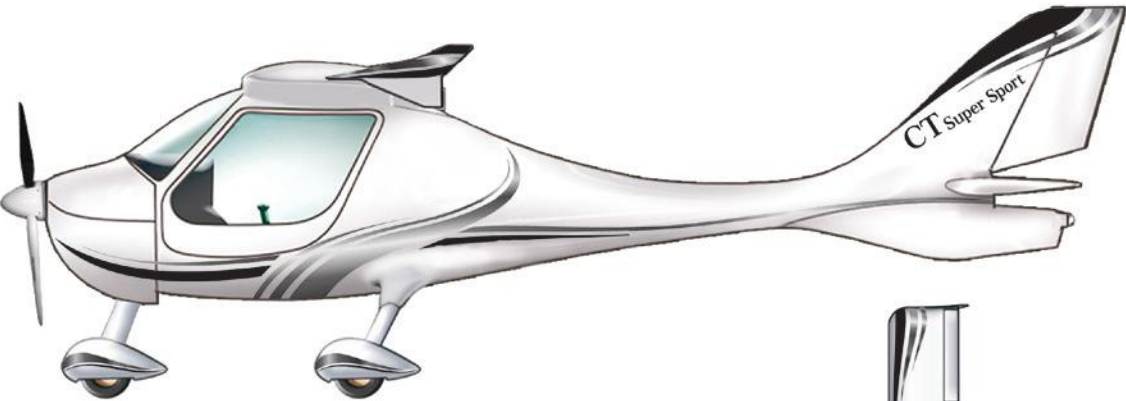


Storm 1

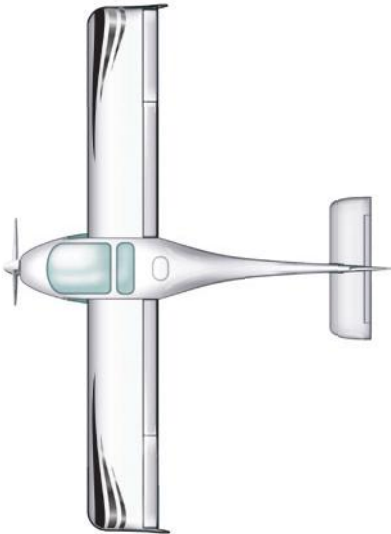


ORACAL 951 series		070	Black
ORACAL 951 series		209	Maize yellow
ORACAL 951 series		032	Light red
ORACAL 951 series		090	Silver grey

Jubilee Design

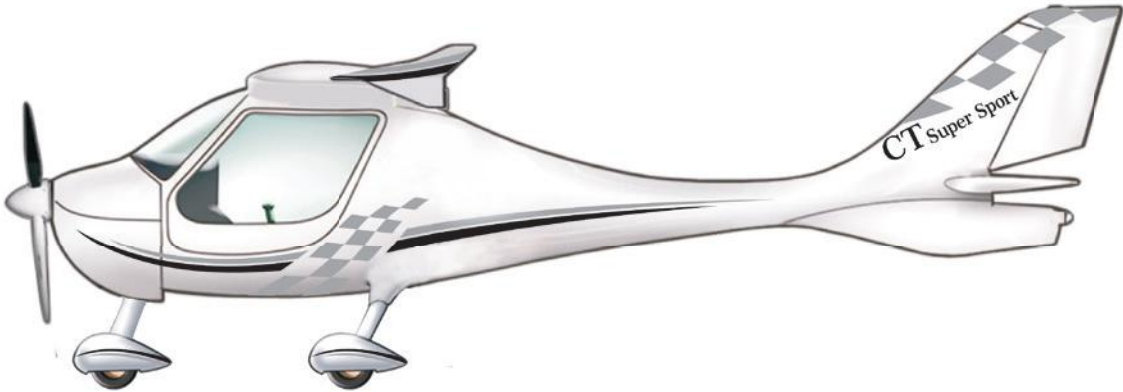


ORACAL 951 series		070	Black
ORACAL 951 series		090	Silver grey



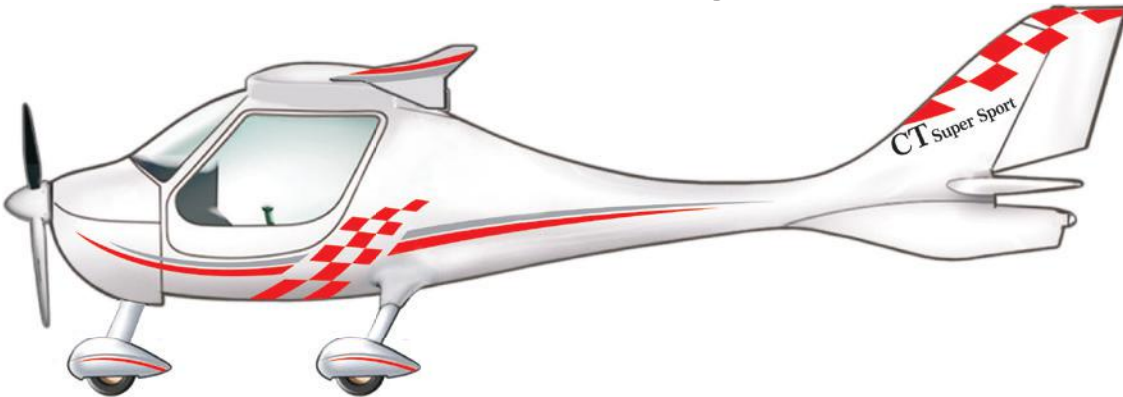
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Checkered Flag 1



ORACAL 951 series		070	Black
ORACAL 951 series		090	Silver grey

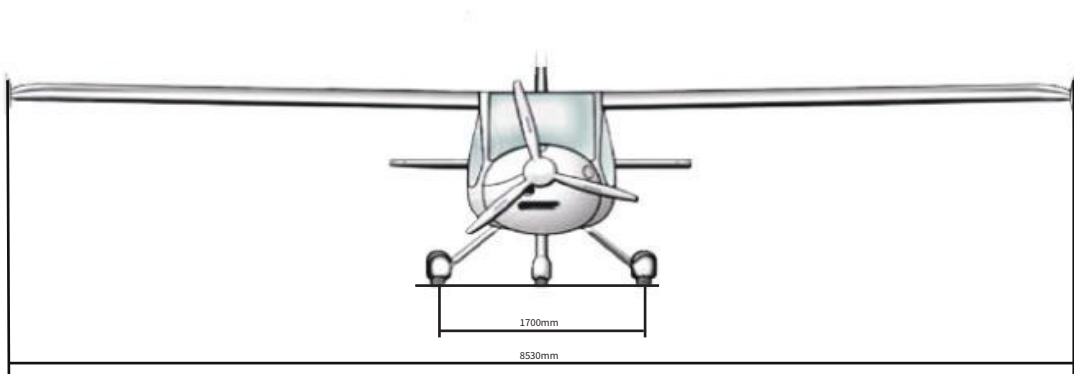
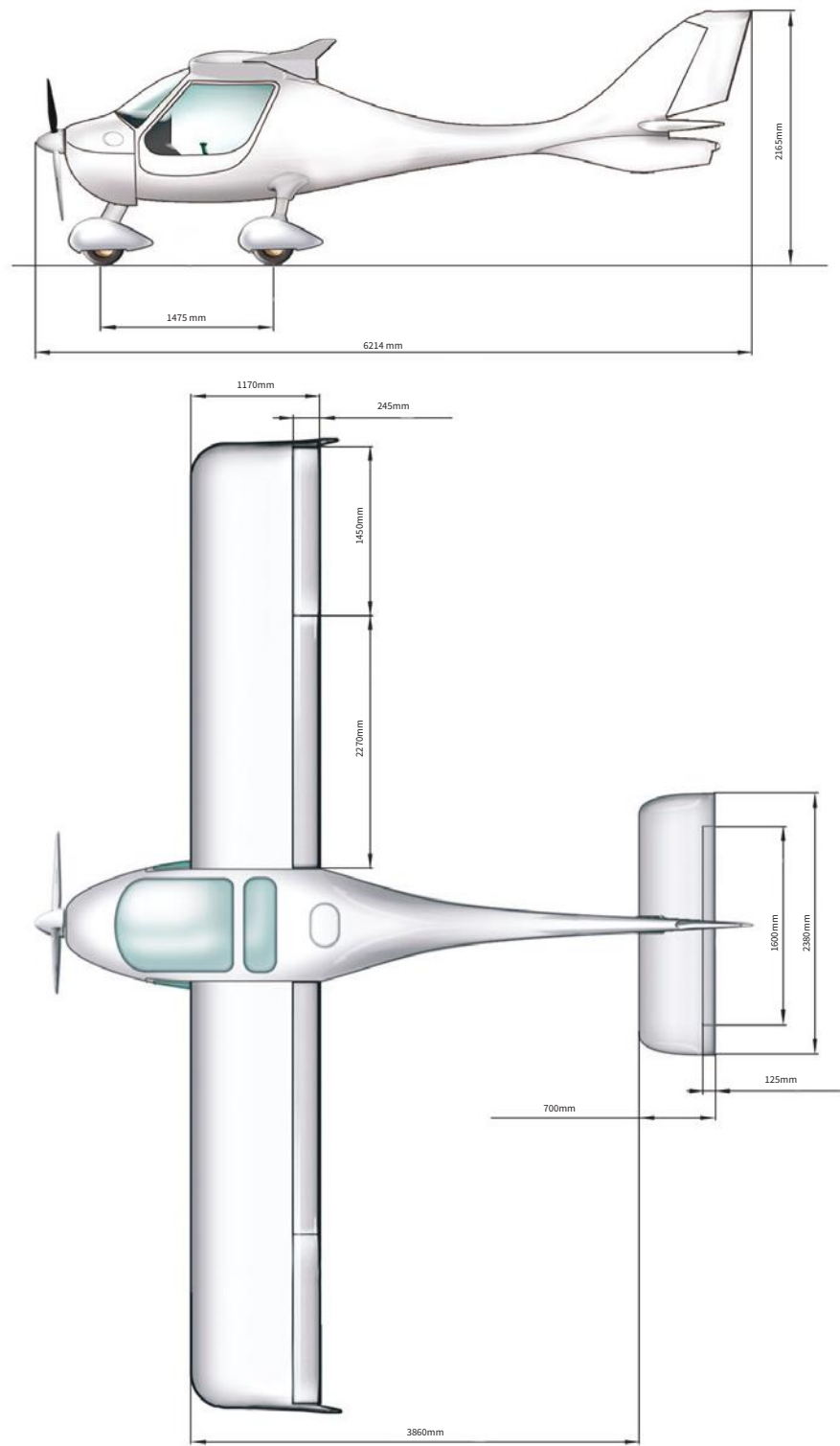
Checkered Flag 2



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

The colors reflected on the brochure are only approximations of the original colors.





Performance at MTOW	472,5 kg	
VH: maximum horizontal speed	240	km/h
VNE: maximum permissible airspeed (red line)	300*	km/h
Take-off run (flap +15degree)	140	m
Take-off distance over 15 m obstacle	250	m
Max. range (30 min reserve)	2000	km

Performance data may deviate with the selected engine option.

\*The never-exceed speed (VNE) demonstrated during flight testing is 300 km/h but is limited in the individual case by the ballistic recovery system installed or national regulations.

Weights and Dimensions

Typical empty weight (equipped with rescue system)	290 kg
Max. take-off weight	472.5 kg(600kg)
Fuel capacity	130 l





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