



Stream



Stream

OUR HISTORY

In business since 1989

TL-ULTRALIGHT was established in 1989, and is currently among the leading manufacturers of UL and LSA aircraft. The aircraft carrying the TL-ULTRALIGHT brand are being used worldwide. Every single model is individually engineered and is given delicate attention during the entire manufacturing process.

The very first engine-propelled machine that I made was a glider. The next step was a motor tricycle. Both of these products became successful and sold really well. In 1991, TL-ULTRALIGHT began with series production of the first two-seater fixed-wing ultralight aircraft that carried the mark TL for TL 32 Typhoon. The aircraft went on to become a legend in the history of the Czech ultralight aviation. Aviation is a field that waits for no one. It is fast and dynamic. We reacted quickly, developed further, and gave birth to our affordable high-wing Condor aircraft. Then TL 96 Star was born in 1996. The Star was an aerodynamically clean, beautiful, all-composite low-wing monoplane. Thanks to its success I realized that the future in aviation belongs to composite materials. Our aircraft can be found around the world. After the TL Star came the generation of the Sting and Sirius. In 2015 we introduced brand new „air fighter“ Stream to the world.

Today we are one of the biggest and most eminent manufacturers of the UL and LSA aircraft in the world. Our aircraft are recognized and used around the world. This fact makes me very happy and motivates me to continue designing and manufacturing ultralight aircraft of the highest quality. Success and prestige mean that you have to be even more persistent with yourself and not let go. The most modern technologies are at my disposal and are utilized during the production of the aircraft that carry the TL signature. TL-ULTRALIGHT employees are dedicated, reliable and we put our hearts into every single aircraft we exclusively create. And this will never change.

Jiří Tlustý
Jiří Tlustý





STREAM

A fighter jet dream comes true



Following the great achievement with Sirius and Sting, the TL-ULTRALIGHT owner Jiri Tlustý felt driven to make yet another addition to his already successful Company's Portfolio. Together with his development team he ventured into designing the Stream, a childhood dream come true for many pilots – a dream about the fastest and luxurious aircraft in the UL and LSA categories. Mission accomplished. The first Stream model saw the light of the world in 2014 and immediately gained a lot of positive awareness. Toward the end of 2015 the Stream successfully carried out her maiden flight. In 2016 the TL-ULTRALIGHT were ready to receive first orders.



As soon as you sit inside one of our Streams you will get to experience the fighter jet pilot feeling. Tandem seating and sophisticated outline of the aircraft, state of the art glass cockpit and stick furnished with many control devices are just a few features that stand behind the impeccable design, aerodynamic purity and precision in steering and control. Robust landing gear, ROTAX 912iS engine and the PowerMax propeller can only mean the following – safety, high speed, and the incredible experience of flying! The Stream is the future. The Stream is setting a new trend in ultralight flying.

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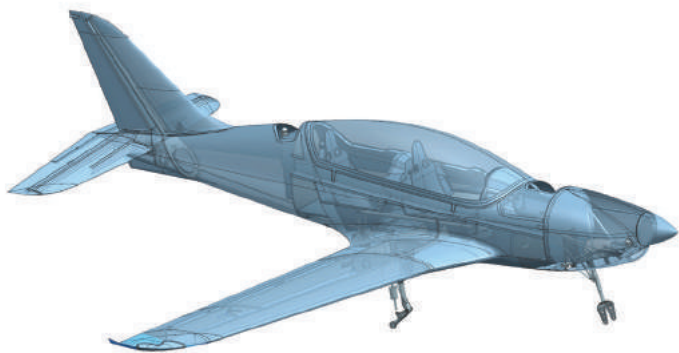
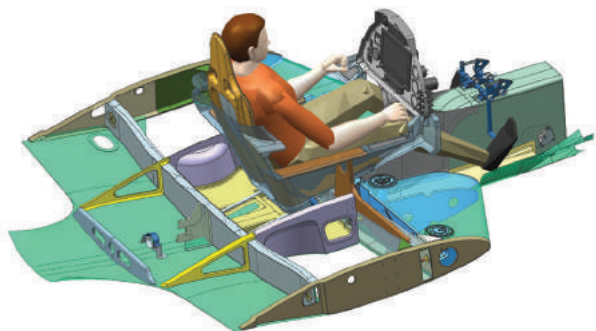
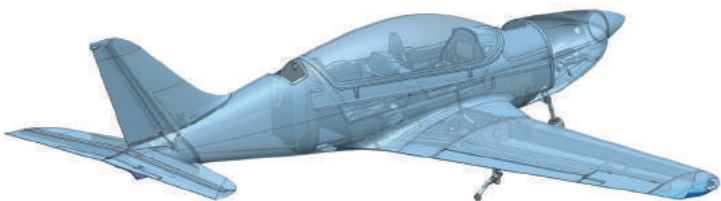
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CONSTRUCTION / DESIGN

The Stream aircraft design provides a balanced fusion of aerodynamic purity and performance with modern building technologies and materials. The aircraft also features exceptional user qualities, which include easy control, maintenance simplicity, safety and, last but not least, an ergonomically designed cockpit. Everything we do is aimed at providing the customer with a new generation of aircraft in a category of its own.

The all-composite airframe is made of carbon and kevlar fibres. The fuselage features a semi-monocoque frame. The engine is located in the front area. The middle part of the fuselage houses the tandem cockpit. Two luggage compartments, accessible from the outside are located behind and in front of the cockpit. An integral fuel tank is found in the centre-wing section. A rescue system is installed in the rear part of the fuselage. The cantilever wing is a self-supporting semi-monocoque structure with a main and rear spar. It features a unique two-slotted wing flap and ailerons. The tail of the aircraft follows the standard vertical and horizontal tail layout. A pair of sidesticks and electric adjustable pedals make up the primary control system of the aircraft. Longitudinal and lateral balance is controlled electrically via sidestick controls. The aircraft features full-hydraulic retractable three-point landing gear.

Composite components are processed in moulds created via CNC technology. The same technology is also used for manufacturing individual parts. Technologies used in manufacturing include water-jet and robotic composite cutting. Complex measuring methods with mechanical and optical probes are used as control measures. Metal components are produced on precision CNC machines.







COCKPIT AND SAFETY

A great deal of attention was paid to the cockpit and its interior layout. Space and seats ergonomics took on an entirely new meaning and became the definition for comfort, combined with a carefully selected design and positioning of control features. Garmin displays and control sidesticks provide for easy and convenient operation.

Tandem seating arrangement together with glass canopy only enhance the motive behind the existence of Stream – to fly the Jet Fighter experience...



The entire aircraft was designed with passive safety in mind.

The whole-plane ballistic parachute system looks very similar to other available products, but on closer inspection there are obvious differences in operation which make the GRS a superior unit. While it is unlikely that you will ever use the GRS in an aircraft, it is comforting to have a parachute system for an unexpected dramatic event.







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AVIONICS

Standard fitting of the Stream comes with the most modern glass cockpit of the GARMIN brand.

GARMIN G3X Touch

Pilots of larger aircraft know GARMIN well. Recently, a new system – the G3X Touch, suitable for use in ultralight aircraft has been introduced by GARMIN. That is why one of the best most reliable glass cockpit solutions of the highest quality is being currently offered to you by us.

Their very bright high resolution touchscreen displays that are easily readable even in direct sunlight ensure that all necessary data are only few touches away. 3D outside terrain viewing, various mapping options and surrounding traffic information – all of these and more are being delivered to you in the GARMIN G3X Touch!

Additionally, the G3X interfaces with GARMIN's GMC 305 autopilot, allowing pilots to control the autopilot via touch screen. The G3X can also incorporate GARMIN's transponder, communications radio and intercom, including 3D radio features that makes sounds appear in different areas of the headset. When incorporated with the communications system, the G3X also includes frequency identification on the screen. GARMIN's portable Virb camera can also be incorporated to show video in a window on the PFD screen.





ENGINE AND PROPELLER

ENGINE	PERFORMANCE			TORQUE			max. RPM
	kW	hp	1/min	Nm	t. b	1/min	1/min
912 ULS	73,5	100	5800	128	94	5100	5800
912 UL	59,6	80	5800	103	76	4800	5800



The ROTAX 912 UL/ULS series engine is 4-cylinder, 4-stroke, liquid/air-cooled engine with horizontally opposed cylinders, dry sump with forced lubrication and separate oil tank, automatic hydraulic adjustment of the valve tappets, 2 carburetors, mechanical fuel pump, dual electronic ignition, electric starter, propeller speed reduction unit (gearbox), engine mount assembly, air intake system, exhaust system and are available in either 80 hp or 100 hp versions.



The PowerMax is a three-blade tractor in-flight adjustable aircraft propeller. The aluminum alloy hub consists of top and bottom flange with lid. The blade adjustment mechanisms are located inside the hub. Increasing of the blade angle is done by the actuator. For the opposite direction, the blades are adjusted using the resistance of spring located inside the hub. The carbon fiber blade has got a steel root and is mounted onto the hub by a pair of axial bearings. Each propeller blade is designed with a special leading edge protection against accidental impact of small particles such as tiny rocks. The actuator is located outside the hub, above the engine reduction unit, and controls the blade adjustment by a hollow axis of the reduction unit and the propeller.



Sport AIRCRAFT



Stream

PRODUCTION / SERVICE

The TL-ULTRALIGHT company is located in its own buildings, offices and hangars at Hradec Kralove airport in the Czech Republic. Within these self contained facilities the entire design, production, testing and quality control of all aircraft are carried out.

An average production rate of 9 to 10 aircraft per month leaves final assembly line for the TL flight testing hangar. Repairs and services are provided for all previously completed aircraft. The staff consists of more than hundred employees focused on production. An additional team of more than ten employees care for sales, material supply, production management and quality control. At the Hradec Kralove airport all test flights, demonstration flights, training, warranty and after warranty repairs are done by highly qualified aircraft engineers. The TL production and quality control allow to track and backtrail any production stage of an aircraft and is sophisticated logistics system which complies with ASTM standards. Beyond this, each and every aircraft is personally test flown by the owner, Mr. Jiri Tlustý.

Aircraft shipped overseas are being packed and loaded into containers to over thirty dealers who distribute TL products. Currently, aircraft are delivered to the United States, the European Union, and other countries in the World.





TECHNICAL DATA

Engine	912 ULS	Length	6,88 m
Propeller	PowerMax	Wing span	9,00 m
V _{NE}	335 km/h	Height	2,48 m
Cruising speed	300 km/h	Max. crew weight	180 kg
Empty weight	297 kg	Min. crew weight	60 kg
Max. take-off weight	472,5 kg	Max. luggage weight	25 kg
Flying range	1700 km	Fuel	92 litres

