



# SILENT 2 TARGA

## SILENT 2 TARGA FUEL-INJECTED SELF-LAUNCH SAILPLANE



## SILENT 2 TARGA ADVANCED QUICK-BUILD KITS



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# FUEL-INJECTED SELF-LAUNCH SAILPLANE

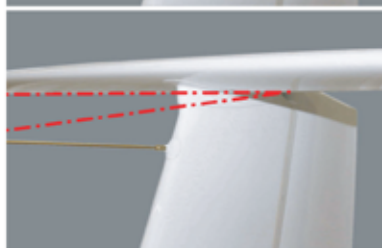
The class-leading **Silent 2 TARGA** is a high-performance light self-launching **sailplane for recreational and sport flying**, powered by the proven "Alisport A302efi" engine producing 28hp at 6200rpm. This single-lever FADEC **engine** has electronic ignition, fuel-injection, electric start, and flywheel generator. The patented counterweighted **monoblade carbon-fiber propeller** has a swept diameter of 1.4m and electrically **retracts** into the fuselage along with the engine pylon.

The wings have an elliptical planform, **vertical design winglets**, and a span of 13.3 meters. The wing structure includes **extensive use of carbon fiber**, both in the sandwich skins and in the tapered I-beam wing spar which uses pultruded carbon rods for the spar caps. The wing geometry is unique in that it varies non-linearly from the root to the tip, both in overall planform shape and in wing section profile. The **flaperons** stretch for 11.0 meters of the full wingspan and their range of motion varies from positive landing L, to +1 for thermalling, to 0, -1, and S reflex positions for cruising.

The sailplane is trimmed in pitch via an **innovative variable-position horizontal stabilizer**. The stabilizer position is governed by the flaperon setting: the five settings of the flap control produce corresponding changes to the stabilizer incidence, thus defining the trim airspeed in relation to the flap requirements. The conventional elevator remains in trail, minimizing trim drag. The ingenious trim system, the elliptical planform geometry of the tailplane, the vertical design winglets, and the retractable landing gear all combine to yield improved performance over a wide range of airspeeds.



*The incidence of the variable-position horizontal tailplane is ingeniously governed by the flaperon setting. The more negative the flap setting, the greater the angle of incidence. The conventional elevator remains in trail resulting in minimal trim drag.*



## TECHNICAL DATA

Wing span	13.3 m	43.6 ft
Length	6.35 m	20.8 ft
Height	1.25 m	4.1 ft
Aspect ratio	20.0	20.0
Wing area	8.9 m <sup>2</sup>	95.7 ft <sup>2</sup>
Planform	elliptical	
Profile	IMD 050 (16%)	
Empty weight (without fuel)	185 kg	407 lbs
Maximum payload	105 kg	231 lbs
Maximum takeoff weight	300 kg	661 lbs
Wing load factors	+4.6 g / -2.65 g (at 150 km/h)	+4.6 g / -2.65 g (at 93 mph)
	+4.0 g / -1.5 g (at 220 km/h)	+4.0 g / -1.5 g (at 136 mph)
Wing loading at 300 kg	34 kg/m <sup>2</sup>	6.96 psf
Flaperons	L +1 0 -1 S	
Fuel capacity	16 liters	4.2 gal
Fuel consumption 75% power	5 liters/h	1.3 gal/h
Fully automatic control connections		
Conventional air brakes		
Counterbalanced monoblade propeller		

## PERFORMANCE

Stall speed (V <sub>s</sub> )	< 65 km/h	< 40 mph (pylon retracted)
Maneuvering speed (V <sub>A</sub> )	150 km/h	93 mph
Maximum speed (V <sub>NE</sub> )	220 km/h	136 mph
Maximum L/D	40 at 90 km/h	40 at 56 mph
Minimum sink rate	0.60 m/s at 85 km/h	118 fpm at 53 mph
Takeoff distance ~	140 m	460 ft (on asphalt)
Takeoff distance ~	170 m	560 ft (on grass)
Landing distance ~	100 m	330 ft
Climb rate with engine ~	2.5 m/s	490 fpm





The pylon takes 14 seconds to deploy and the engine can be started almost immediately

## STANDARD CONFIGURATION

Carbon and glass fiber composite **FUSELAGE** with epoxy resin. Composite **SANDWICH WING SKINS**, pultruded carbon spars. **HORIZONTAL TAILPLANE** of elliptical planform, variable-incidence stabilizer and conventional elevator.

**T-TAIL** and large rudder surface.

Generous 11m **FLAPERONS**; the flap range is L + 10 - 1 S.

Fully automatic control **CONNECTIONS** for wings, fuselage and horizontal tailplane.

Removable **VERTICAL-DESIGN WINGLETS**.

One piece hinged tip-up **CANOPY**, side window with air vent.

Main wheel **BRAKE** activated via air-brake control aft travel.

**AUTOMATIC TRIM** connected to the flap lever to get the ideal trimming.

Polymer **WING-TIP WHEELS** with fairing, for taxiing on asphalt or grass.

**RETRACTABLE** main wheel, 4.00x4" 6-ply tire with tube.

Steerable **TAIL WHEEL** with fairing.

**VENTILATION** system with canopy de-fogging and nose mounted cockpit vent.

In-flight adjustable **RUDDER** pedals.

Central **INSTRUMENT POD** and engine control panel.

**ENGINE INSTRUMENTS**: electric switches, fuse and indicator lights, tachometer, rear-view mirror.

**BASIC FLIGHT INSTRUMENTS**: 80mm altimeter, 57mm air-speed indicator, compass, Winter 57mm variometer, total energy probe (Althaus).

4-point **HARNES** with quick-release.

Cockpit side **POCKET**, head rest, seat-pan **LINER WITH CUSHION, TOOL POUCH**.

Two-stroke, 28hp, internal combustion **ENGINE**, with fuel-injection, electronic ignition, electrically retractable into the fuselage. Electric starter and flywheel generator.

Composite mono-blade **PROPELLER** with patented counter-balance system.

**AUTOMATIC** locking of engine bay doors.



*Protective covers  
Wing and fuselage  
protective covers protect  
all exposed surfaces from  
inclement weather, UV*

*radiation, moisture, dust, and bird droppings. The multi-piece covers join together with Velcro, and are held in place with elastic cords. When not in use, the covers store conveniently in two fabric bags.*



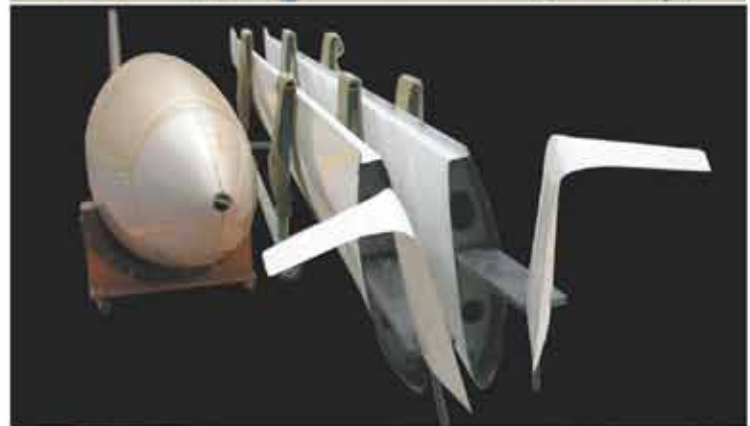
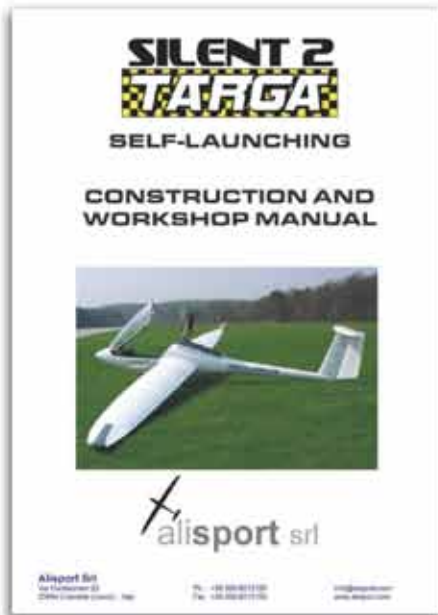
# ADVANCED QUICK-BUILD KITS

**Silent 2 TARGA Quick-Build Kits** are amongst the most complete available. Alisport is pleased to offer two versions:

- PERFORMANCE SAILPLANE (meets FAI Class DU)
- FUEL-INJECTED SELF-LAUNCH SAILPLANE

Everything required to build your sailplane is included in the kits except upholstery, paint, and tools. A complete **Upgrade Kit** (including engine, propeller, belt-reduction drive, fuel-injection & mapped electronic ignition system, pre-welded and painted pylon, screw-jack, fuel tank, battery, and wiring harness) is available for builders who would rather convert their Silent 2 TARGA to the self-launch version at a later date. In all cases, critical and difficult-to-make components are prefabricated using Alisport factory tooling/jigs and supplied in ready-to-use or near ready-to-use condition. This leaves the less-critical construction steps, assembly, & finishing to the builder. For example, the fuselage halves are joined, tubular steel structures are pre-welded and powder coated, the spars are complete with precision jigged spar-pin bushings, and the sandwich wing skins are bonded to the spars and ribs. This approach has the advantage of assuring those builders without previous construction experience that their **Silent 2 TARGA** will have the structural integrity and performance capability as intended by the factory.

A very detailed and extensively illustrated **Construction & Workshop Manual** is supplied with the Kit. We conservatively estimate that a first-time builder can complete a **Silent 2 TARGA** in about 500 hours; another 150 hours are required to complete a **Silent 2 TARGA** self-launch version.



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