Callsign: N992PM

Serial no 1857 Dated 24 September 2018

AEROPILOT SRO

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LEGEND 600

Pilot Operating Handbook and Flight Training Supplement

Airplane model:	L600
Manufacturer:	Aeropilot-SRO, Czech Republic
Airplane Serial Number:	1857
Date of Construction:	09/24/2018
Registration:	N992PM
Airworthiness Category:	Special Light Sport Aircraft (S-LSA)
Issue Date of POH:	09/24/2018

This airplane must be operated in compliance with information and limitations contained herein. This pilot operating handbook and Flight Training Supplement must be available on board of the airplane at all times.

Record of Revisions

Any revisions to the handbook must be recorded in the following table. The responsible airworthiness authority must endorse it where applicable.

Revision #	Section	Pages	Date of Issue	Approval	Date of Approval	Date Entered	Signature

INTRODUCTION

Instructions for use

- This Manual is issued by aircraft manufacturer and must be kept on board of the aircraft during each flight.
- Records shall be made legibly and indelibly; no page may be torn out of the Manual.
- Manual with complete records form a part of the aircraft technical documentation.
- This manual provides the reference material for a pilots training in the aircraft's safe operation
- Total number of landings and operating time shall be recorded and transferred from old into new logbook, along with the information about latest service bulletin performed.
- The aircraft's owner is responsible for correctness of operation records.

Important information

Changes and Amendments to this Manual

Any changes to applicable regulations or to this aircraft's construction will be published in the form of a bulletin. It is the responsibility of each aircraft owner to implement the change (or to have it implemented) and to record the change in the respective part of this Manual.

Any damage to the aircraft shall be reported to applicable inspector-technician. The inspector-technician will recommend the method of repair, supervise the repair and will make a technical inspection after the repair has been completed. A record shall be entered into the aircraft documentation. Any damage which potentially compromises the airworthiness of the aircraft must be reported as per FAA regulations.

Advisory Notice

THIS MANUAL IS WRITTEN FOR THE 912iS POWERED L600 SLSA, AS MANUFACTURED ON PREMISES BY THE AEROPILOT SRO.

AIRCRAFT THAT DIFFER FROM THE PRODUCTION STANDARD, IN WHATEVER WAY, ARE NOT ADDRESSED IN THIS MANUAL, EXCEPT TO THE EXTENT SAID AIRCRAFT CORRESPOND WITH THE PRODUCTION STANDARD.

THIS EDITION OF THIS MANUAL IS APPLICABLE TO AIRCRAFT REGISTERED IN THE UNITED STATES OF AMERICA.

GENERAL INFORMATION

Introduction to Airplane

The L600 LSA aircraft is a two-seat, strutted high-wing monoplane of all-composite structure designed for sport, recreational or tourist flying. Favorable flight characteristics make the aircraft suitable for flight training. The aircraft features spacious crew and baggage compartments. Large doors provide for comfortable boarding of crew and loading of baggage. Adjustable seats allow the pilots of all heights to find comfortable position. A stiff Kevlar cabin, four-point seat harnesses and rocket assisted rescue system provide maximum safety of crew in emergency situations.

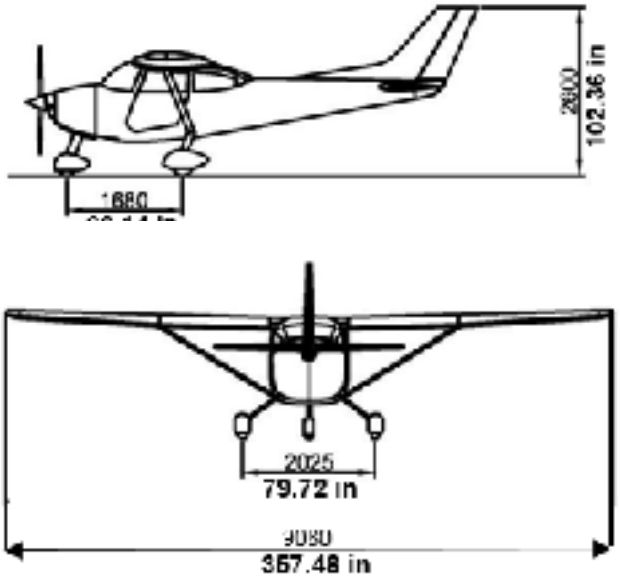
Cautionary Notes

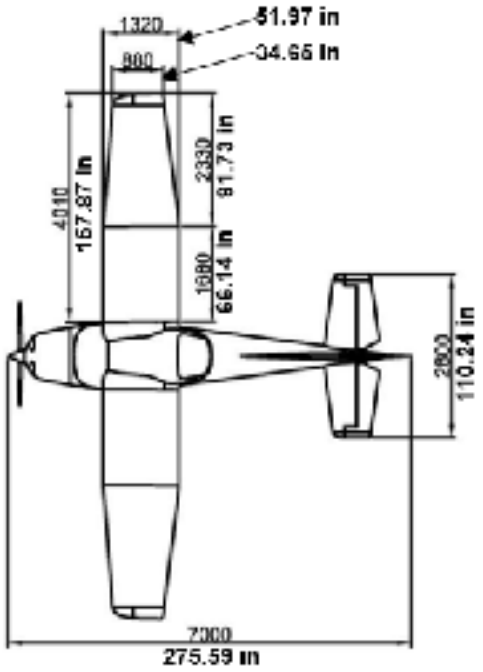
Owner of the aircraft and every operator of the aircraft shall read this Manual carefully and familiarize themselves with its contents.

This aircraft is not subject to the certification in the 'Standard Category' by the Civil Aviation Authority of the Czech Republic and it is operated entirely on the user's own risk.
Deliberate spins and aerobatics are prohibited.

Aircraft Drawing

Measurement in Inches and Millimeters





L600 Aircraft Data

Aircraft data				
Model	**Airframe LSA 600**	**Engine**	**Propeller**	**Rescue**
Manufacturer	AEROPILOT SRO	Rotax 912 iS	Woodcomp Propulse 3PA	GALAXY 6/600 SD
Serial No.	1857	7.704.508	1810269	8803
Place & Year of Manufacture	2018-Čáslav (Czech Republic)	2018	2018	2018
Other Data				

Data Summary for L600 S-LSA

Wing

Wing span	29.84 feet
Length	23.13 feet
Height, total	9.59 feet
Wing surface	116.7 ft^2
Wing aspect ratio	7.64
Depth of MAC (mean aerodynamic chord)	3.93 feet
Wing profile	MS 313 B
At root	4,27 feet
At tip	3,15 feet
Wing flaps surface	11.83ft^2
Flaps deflections	15° / 30° / 40°

Tail

Horizontal tail plane span	9.19 feet
Horizontal tail plane surface	24.1ft^2
Vertical tail plane surface	11.2ft^2

Weights

Empty weight	766 lbs
Take-off weight, maximum	1320 lbs

Engine

Type (brief description): Rotax 912 iS – four-stroke, four-cylinder engine, air-cooled cylinders with water-cooled heads, integrated reduction gearbox, dual electronic ignition and tuned inlet manifold.

Engine Displacement	1400ccm
Take-off power, max.	98.99kW@5800rpm
Cruising power, max.	93.81kW@5500rpm
Dry weight	123 lbs
(Including accessories)	159 lbs

Fuel (See Rotax Manual)	MOGAS 91 Octane min, 100LL AVGAS
Oil (type)	SHELL HELIX H x 7 AV 10 W - 40
Oil capacity	3L
Reduction gear (gear ratio)	2.43:1
Fuel tank volume – main tank	34 Gallons (130L)

Propeller

Diameter / pitch at 75%	'Propulse 3PA' ground adjustable
Weight	6 lbs (3kg)
Material	Composite

Performance Summary

SUMMARY OF PERFORMANCE SPECIFICATIONS

Call Sign: N992PM

Type/Name	L600
Serial No./Year of manufacture	1857/2018
Empty weight	766 lbs
Max. Take-off weight	1320 lbs
Useful Load	554 lbs
V_Y (Best Rate of Climb)	65KT
V_{so} (Stall Speed, Full Flaps)	38KT
V_{FE} (Max Flap Extension Speed)	72KT
V_A (Maneuvering Speed)	97KT
V_{NO} (Max Struc. Cruising Speed)	108KT
V_{NE} (Never Exceed Speed)	120KT
V_H (Max Speed @ 5800rpm for 5 minutes)	120KT
Fuel tank capacity – 34 Gal	Useable 34 Gal
Take-off power. (Max.)	98.99kW@5800rpm
Cruising power. (Max.)	93.81kW@5500rpm

Terminology

Aviation Acronym	Description
A/C / ACFT	Aircraft
A/P	Autopilot
AC	Alternating Current
ACP	Audio Control Panel
AFIS	Airborne Flight Information System
AFM	Aircraft Flight Manual
AGL	Above Ground Level
AHRS	Attitude Heading Reference System
AMP / Amp / amp	Ampere
ANN	Annunciator
ANT	Antenna
AOA	Angle of Attack
AP	Autopilot
AS	Airspeed
ASL	Above Sea Level
ASSY	Assembly
AT	Antenna
ATC	Air Traffic Control
ATIS	Automatic Terminal Information Service
B/A	Bank Angle
B/CU	Battery/Charger Unit
BIT	Built-In-Test
CAS	Calibrated Air Speed
CFI	Certified Flight Instructor
CFII	Certified Flight Instructor/Instrument
CFR	Code of Federal Regulations (FAA)
CG	Center-of-Gravity
DIST	Distance
ECU	Electronic Control Unit

EFIS	Electronic Flight Instrument System
EGT	Exhaust Gas Temperature
ELT	Emergency Locator Transmitter
EXT	Extinguisher
FAA	Federal Aviation Administration
FCU	Fuel Control Unit
GPS	Global Positioning System
IAS	Indicated Airspeed
ISA	International Standard Atmosphere
KIAS	Knots Indicated Airspeed
KTAS	Knots True Airspeed
Kts	Knots
L/D	Lift-To-Drag (Ratio)
MAINT	Maintenance
MFD	Multi Function Display
OAT	Outside Air Temperature
OBS	Omni Bearing Selector
RCVR	Receiver
STBY	Standby
TAS	TRUE Air Speed
TEMP	Temperature
TOC	Top-of-Climb
TOD	Top-of-Descent
VFR	Visual Flight Rules
VMO	Maximum Allowable Airspeed
VOR	Very High Frequency Omni directional Range Radio
VORTAC	Collocated VOR and TACAN Stations
VS	Vertical Speed
VSI	Vertical Speed Indicator
WT	Weight
XMIT	Transmit
XMTR	Transmitter
XPDR	Transponder
Z	Zulu Time (GMT) or Zero

Crosswind / Headwind Determination

The crosswind and headwind component chart allows for figuring the headwind and crosswind component for any given wind direction and velocity.

Sample Problem

Runway.....17
Wind.....140° at 25 knots

First, determine how many degrees difference there is between the runway and the wind direction. It is known that runway 17 means a direction of 170°; from that subtract the wind direction of 140°. This gives a 30° angular difference or wind angle. Next, locate the 30° mark and draw a line from there until it intersects the correct wind velocity of 25 knots. From there, draw a line straight down and a line straight across. The headwind component is 22 knots and the crosswind component is 13 knots

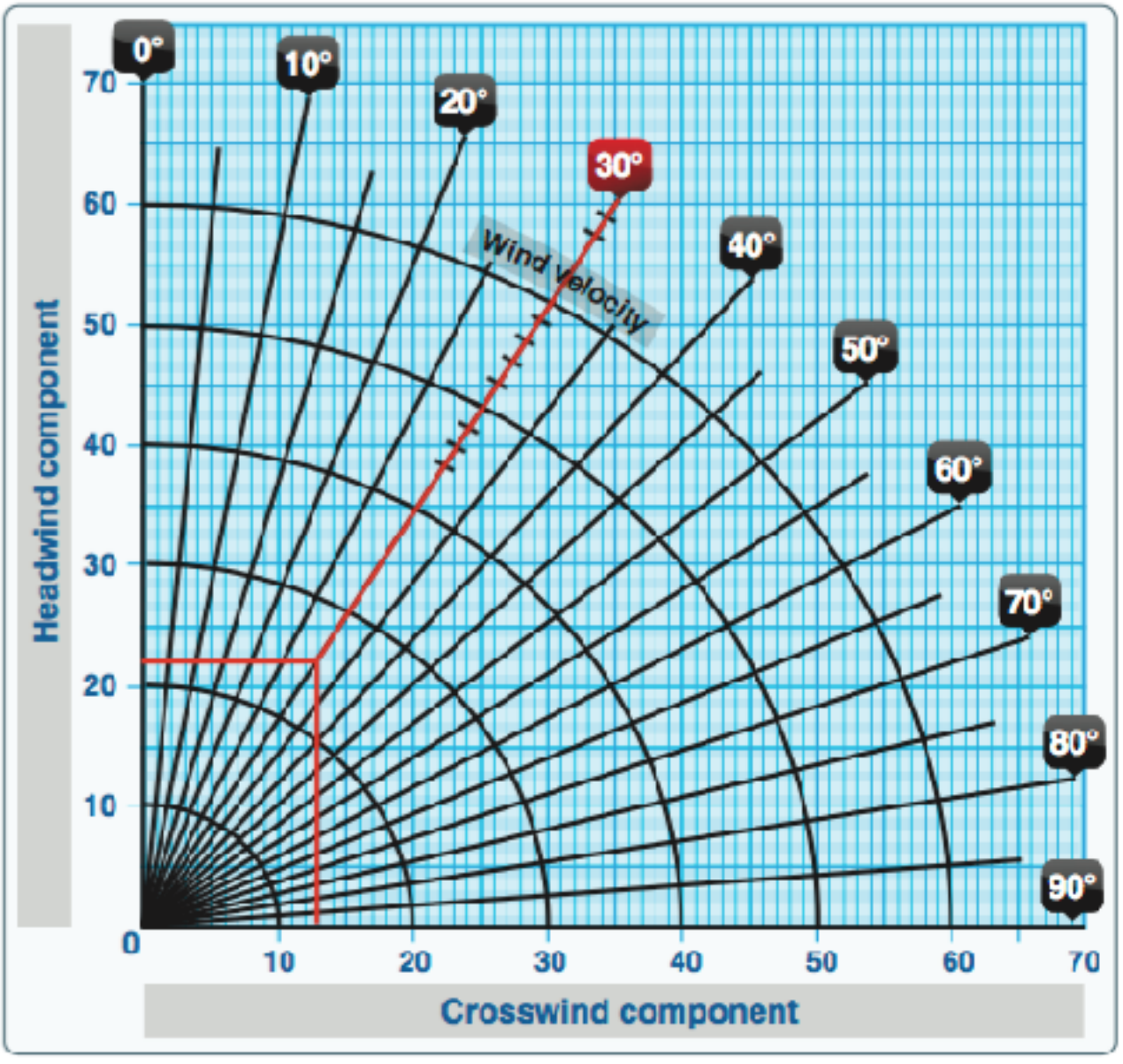


Figure 1Crosswind Calculation Chart (Source ---FAA Pilot Handbook Of Aeronautical Knowledge)

Supporting Documentation

The following documents are regarded as supporting documents to this Pilot Operating Handbook:

For aircraft fitted with 912 ULS engines: latest revision / edition of the Operators Manual For Rotax® Engine Type 912 Series, Ref No.: OM-912.

Latest revision / edition of Rotax, SD-912-064UL, as applicable (to type of engine fitted).

Operator manual for GPS, Flight and Engine Instruments, COM radio, transponder and GPS:

SkyView SVHDX – Version 15.0
SkyView SVD700 – Version 15.0 (Document 101321-016, Revision Q - For use with firmware version 10.0)

Reference should be made to these documents for operational guidelines and instructions. These should be incorporated into the normal and emergency procedures for the aircraft as applicable.

Limitations

Introduction

This section includes operating limitations, instrument markings and basic placards necessary for the safe operation of the Aeropilot L600, its engine, systems and equipment.

Warning decal visible to the passenger containing the following words is required:

THIS AIRCRAFT IS MANUFACTURED IN ACCORDANCE WITH THE LIGHT SPORT AIRCRAFT AIRWORTHINESS STANDARD AND DOES NOT CONFORM TO STANDARD CATEGORY AIRWORTHINESS REQUIREMENTS

Location: right part of instrument panel, above center.

Registration decal

OPERATING DATA AND LIMITATIONS

Call Sign	N992PM
Type/Name	LEGEND 600
Manufacturer	AEROPILOT SRO
Serial No./Year of manuf.	1857/2018
Empty weight	766LBS
Max. Take-off weight	1320LBS
Payload	554LBS
Stall Speed	38 KT
Never Exceed Speed V_{NE}	130 KT
Max. Speed In Turbulent Air - V_{NO}	108 KT
Max Speed With Flaps - VFE	72KT
Fuel Tank Capacity	34 Gal.

Location: Left part of instrument panel

USA REGISTRATION DECAL

Call Sign	N992PM
Type/Name	L600
Manufacturer	AEROPILOT SRO
Serial No./Year of manuf.	1857/2018
Empty weight	766 LBS
Max. Take-off weight	1320 LBS
Payload	554 LBS

Location: center tunnel, in front of central control.

Airspeed Limits

All speeds stated in this Manual are Indicated Air Speeds IAS!

V_Y (Best Rate of Climb)	65KT
V_{so} (Stall Speed, No Flaps)	33KT
V_{so} (Stall Speed, Full Flaps)	28KT
V_{FE} (Max Flap Extension Speed)	72KT
V_A (Maneuvering Speed)	97KT
V_{NO} (Max Struc. Cruising Speed)	108KT
V_H (Max Speed @ 5800rpm for 5 minutes)	103KT
V_{NE} (Never Exceed Speed)	130KT

The V_{NE} speed must not be exceeded under any circumstances!

V_A - Do not apply full deflections above this speed

Wind speed limits

Maximum allowed headwind speed	20kn
Maximum allowed crosswind speed:	8kn (inexperienced pilot)
	15kn (Experienced pilot/Instructor)

Tailwind take-off and landing should be avoided.

Power plant limits

Maximum allowed speed:	5800rpm for 5 minutes
Maximum continuous speed:	5500rpm
Idling speed, approximately:	1400rpm
Maximum cylinder head temperature:	266 deg F
Maximum oil temperature:	275deg F
Minimum air temperature at starting:	13deg F
Maximum air temperature at starting:	122deg F
Oil pressure:	16.7psi

Weights

Minimum crew weight:	132 lbs
Maximum take-off weight:	1320 lbs
Empty weight (typical)	766 lbs
Maximum COG locations from front edge of wing:	
Forward limit	26% MAC
Aft limit:	34% MAC
Max. Baggage weight	33 lbs

Payload decal

Fuel tank capacity / Max. Payload		
	Gal	Pilot, Pax and Baggage -Lbs
Full tanks	33	356
3/4 of tanks	26	398
1/2 of tanks	17	452
1/4 of tanks	8	506
30min. fuel reserve	2	N/A

Location: right part of right instrument panel.

Maneuvers

Turns up to 60° banking angle, climbing and diving up to 30° from horizontal plane.

INTENTIONAL SPINS, AEROBATCIS AND FLIGHT IN IMC PROHIBITED!

Load factors (per UL-2 regulation)

Maximum positive load factor in the centre of gravity:	4.0
Maximum negative load factor in the centre of gravity:	-2.0

Types of operation

Sport Pilot

Only daylight flights are allowed under VFR (ground contact) conditions.

Other

Only flight conditions that the aircraft is equipped and the pilot properly certified for**.**

Emergency procedures

This section describes recommended procedures for resolving emergency situations, which could occur during operation.

Strict adherence to inspection and maintenance schedule prescribed by the manufacturer reduces the probability of a failure to absolute minimum.

Engine failure

During take-off run

- Throttle to idle
- Ignition switch off
- Brake according to actual conditions

During take-off (in air)

- Maintain speed 65kts minimum
- Less than 300ft above terrain – land in the direction of flight, maneuvering the aircraft out of obstructions
- Detect wind direction and speed
- Apply flaps as necessary
- Shut off fuel cock
- Shut off the ignition
- Tighten safety harnesses
- Main switch off

In flight

- Dive and glide, maintain speed 65kts minimum
- More than 300ft above terrain –: select suitable landing location
- If cause of engine failure is discovered (e.g. empty fuel tank) and flight altitude allows it, try restarting the engine according to the procedure below:
- If engine does not restart or if flight altitude drops below safe level, select suitable landing location and proceed according to previous section.

NOTE: IF A SUCCESSFUL EMERGENCY LANDING IS IN DOUBT DUE TO OBSTRUCTIONS, LENGTH OF LANDING SITE OR TERRAIN – USE THE EMERGENCY PARACHUTE

Restarting engine in flight

May be only performed at safe flight altitude to allow safe emergency landing with engine off.

- Fuel cock — open, check amount of fuel in selected tank
- Fuel pump — switch on
- Ignition — switch on
- Throttle — up to 1/3 of throttle, not more
- Flight speed — 65-75knots
- Press start button

Flying with engine off

If the engine fails, it is necessary to maintain best glide speed - 65knot

Safety landing

Safety landing is generally made in case of loss of orientation, worsening of weather, low fuel, and/or sudden incapacitation of pilot. Always follow the recommendations listed below:

- Select suitable landing location depending on wind direction and terrain/cover
- If possible, communicate your intention to land
- Fly above right side of selected landing area in the direction of planned landing, maintaining horizon at approx. 150ft altitude.
- Apply “take-off” flaps, maintain speed 65knots
- Carefully check the location.
- Climb a little, maintaining ground visibility if conditions permit, fly small left circuit.
- Perform landing approach and then land.

Check selected area throughout the safety landing procedure.

Emergency procedures of the Legend 600 aircraft with the engine Rotax 912 iS

Rotax 912 iS engine

The Rotax 912 iS produces more heat than the standard 912UL or ULS so the pilot has to monitor the engine temperature when running on the ground for extended periods of time. When 175 F (80 0C) temperature is reached, the pilot has to switch off the engine to allow it to cool for a later start or, increase the rpm from 2500 to 3000 rpm if it is still needed to hold on the ground, or commence take off at full revs.

1. **Critical fuel - the red light**

When the fuel level drops in the fuselage collecting tank the red panel light will turn on and a transport pump will activate, switched by a relay automatically. In this case a pilot will use the fuel selector valve to select a wing tank containing adequate fuel. When the fuel has completed transferring the light will turn off. The pilot will turn on a pump switch on a switchboard for 5 minutes. In the case there is no fuel in any wing tank the pilot has 15 minutes from the red light indication to make a landing. After refueling and turning on the master switch the transport pump will work automatically and fill in a collecting tank in a fuselage. The pilot must wait until the red light turns off. Then it is needed to turn on the pump switch for at least 5 minutes. The aircraft is then ready for takeoff.

2. **Failure of ignition or injection of engine**

The red ignition warning lights indicate a failure of ignition A or B. If illuminated, the pilot will need to make an immediate precautionary landing. In the case the both red lights are illuminated, a failure of A and B is indicated and the engine may turn off. The pilot will then activate the emergency ignition switch. The switch restore ignition and restart the engine. If the engine restarts successfully, the pilot should make an immediate precautionary landing in 15 minutes. However, if the engine does not restart the pilot will make an emergency landing or use the parachute rescue system.

Oil preheating

If a pilot wants to reduce the time for the engine Rotax 912 iS oil heating to reach 120 F (50° C), they should close the heater flap (on the left-hand side), by pulling the heater cable control handle. Once the 120 F (50° C) temperature has been reached, it is necessary to push the heater control cable in and open the flap for normal cooling. Do not fly with a closed

heater flap or use this control if you do not require oil heating, as there is a risk of the oil overheating and potential engine damage.

WARNING: When the L600 aircraft is fitted with the fuel injected Rotax 912iS engine, the standard Andair fuel control valve must **NEVER** be set to the **OFF** position in aircraft fuelling and operations – refer the warning label. This requirement is due to the fuel supply and fuel venting design required in the aircraft for the injected engine.

The Fuel valve **OFF** position may **ONLY** be used in maintenance operations e.g. replacing a wing mounted inbuilt fuel tank.

Failure to observe this warning will result in significant damage to the wing mounted fuel tanks and fuel delivery system and possible wing structure damage. Also refer the 912iS fuel circuit for detail.

In case of fire

On ground, during starting

- Release starter button
- Shut off fuel cock
- Switch off ignition
- Main switch off
- Exit the aircraft
- Try to extinguish the fire

On ground, engine running

- Shut off fuel cock
- Switch off ignition
- Main switch off
- Exit the aircraft
- Try to extinguish the fire

On ground, during take-off

- Speed 65knots
- Shut off fuel cock
- Switch off heating, if switched on
- Switch off ignition
- Main switch off
- Land and exit the aircraft
- Try to extinguish the fire

In flight

- Speed 65knots
- Shut off fuel cock
- Open the throttle as much as possible
- Switch off heating, if switched on
- Switch off ignition after all fuel in the carburetors is consumed and engine stops
- Main switch off
- Perform emergency landing and exit the aircraft
- Try to extinguish the fire

Consuming all fuel in the carburetors takes approx. 30 seconds.

Do not try to restart the engine in this situation.

In case of vibrations

Proceed as follows should any unnatural vibrations occur:

- Adjust engine speed to a value which minimizes the vibrations
- Land at nearest airport or perform safety landing
- If vibrations keep increasing, turn engine off and land with engine off

Icing of carburetor

Icing of carburetor manifests itself by reduced engine power and increased temperature; sometimes, light vibrations also occur.

The following procedure is recommended to try to restore engine power:

- Flight speed 75knots
- Throttle adjust to maintain level flight
- Carburetor heating where fitted - switch on
- Fly away from icing area - if possible.
- After 1-2 minutes, gradually increase throttle to cruising power

If engine power cannot be restored, land at nearest airport (if possible), or perform safety landing.

Only switch on carburetor heating for minimum time necessary to fly away from icing location. Switching on carburetor heating leads to reduced engine rpm (by 100–200 rpm) and thus to reduced engine power.

This aircraft is approved for VFR flights only.
Flights without sufficient visibility and IMC flights are prohibited.

Landing gear failure

- If main gear leg is damaged, land with the lowest speed possible, keeping the aircraft on undamaged leg for as long as possible. Begin braking intensively as soon as the damaged leg touches the ground, trying to relieve it as much as possible.
- If nose gear leg is damaged, use elevator to keep the nose up for as long as possible, without the use of brakes if possible.
- Always try to land with headwind and with engine off.

Recovering from unintentional spin

Intentional spins are prohibited. The aircraft has never been tested in this flight regime.

The L600, if flown in normal conditions, keeping with operating limits and with careful piloting, does not exhibit tendency to spinning.

- Throttle idle
- Rudder fully opposite to spin direction
- Ailerons maintain center position
- Elevator gradually push fully forward (dive) without moving the ailerons
- Rudder neutral position immediately when rotation stops
- Elevator gradually pull back to recover from steep dive

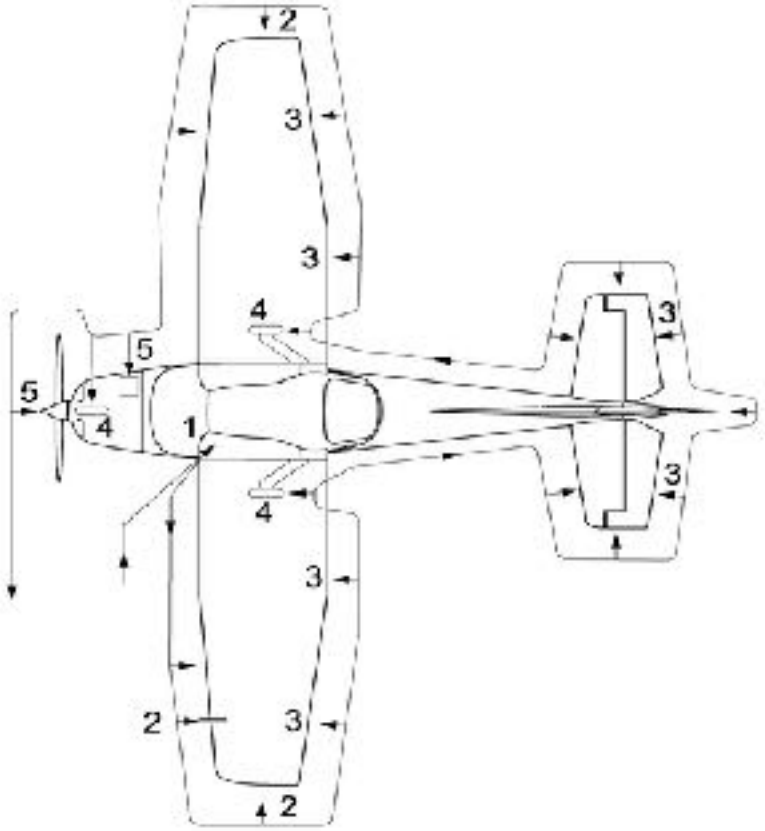
Using the rescue system

In emergency, if control of the aircraft has been lost:

- Switch off the ignition
- Tighten up safety harnesses
- Activate the rescue system

In case of landing with very short distance available, when there is imminent danger of crashing into obstacle at high speed, activate the rescue system to decelerate the aircraft. In such case, damage to aircraft is likely.

Pre-flight inspection



1. Cabin
    - Ignition off
    - Main switch on, check fuel level, check instruments
    - Main switch off
    - Check range of movement of all controls, condition of safety harnesses
    - Remove loose objects from cabin, check canopy – cleanliness
    - Check rescue system - must be locked to prevent inadvertent activation

2. Fuselage, wings and tail surfaces
    - Check surface condition, leading edges
    - Check Pitot tube

3. Control surfaces, wing flaps
    - Range of movement and free play of all control surfaces

4. Landing Gear
    - Check wheels for free rotation, tire inflation 2,3 bar (34psi), attachment to airframe, check brakes, attachment of wheel fairings, check tire is correctly seated and not slipping around the rims

5. Engine, propeller, fuel system
    - Check fuel level and cleanliness, check propeller and attachment to engine
    - Check oil level (according to engine manufacturer's manual), check coolant
    - Check engine cowling fastening
    - Check tightness of fuels hoses, tank caps, fuel filters
    - Check fuel filter for impurities and water

Refueling

- Rotax 912 engines are designed for automotive lead-free gasoline. Temporary limited use of AVGAS is possible. See Rotax 912 UL, Rotax 912 ULS, Rotax 912 iS Operating manual for more details.
- The aircraft has two fuel tanks, capacity 17 gallons each.
- There are two methods of refueling LEGEND aircraft.

Refueling from fuel station (dispenser)

- Fuel station must be certified for aircraft refueling.
- Always neutralize electric potentials of aircraft and station.
- The L600 aircraft has two grounding points for this purpose. One of them is copper grounding strip at landing gear leg. The other is exhaust manifold, which is better suited for attachment of grounding clip of refueling station. **Do not handle fuel dispenser before completing the grounding.** Open fuel cap and insert filling nozzle into tank. It is not necessary to use strainer, as certified refueling stations always include it.

Refueling from storage containers

- Position stairs or chair next to wing.
- Protect wing surface by suitable mat.
- Fuel containers, if made of metal, must be connected to grounding point of aircraft.
- Open fuel tank.
- Use hose with built-in strainer and self-priming pump (ball valve) to pump fuel from container to fuel tank.
- If hose is not used, use a funnel with wire strainer (mesh).

Fuel Consumption Notes:

During flight, fuel consumption from tanks is not regular. Better leave fuel selector on BOTH.

If one of the tanks becomes empty - 10 liters or less (marked on the fuel gauges) – select the other tank with the fuel valve and continue flying, until fuel levels in both tanks equalize.

If both fuel tanks become empty - 10 liters or less (marked on the fuel gauges) – select the BOTH position on the fuel selector and turn on the electric pump

It is not recommended to take-off when both tanks contain less than 10 liters of fuel.

If the procedures above are not adhered to, air may enter the fuel system and the engine may stop.

Engines Start Procedures

Checks on entering the cabin

- Check free movement of pedals and hand controls, check brakes and fuel level
- Check the instruments, set the altimeter for current field setting
- Fasten and tighten seat harnesses
- Check that the ignition switch is in OFF position
- Close and latch cabin doors

Starting the engine

- Apply parking brake
- Main switch on
- Fuel selector on BOTH
- Choke - activate only when starting cold engine; close gradually when engine warms up
- Throttle - idle setting when starting cold engine; up to 10% throttle when engine is warm
- Electric AUX fuel pump turn on
- Check area in front and around propeller, declare intention to start loudly!
- Switch both ignition switches on.
- Start the engine.
- **Only press starter button for 10 seconds or less; if engine does not start, wait 2 minutes before starting attempts.**
- **As soon as engine starts, set it to 2000–2300 rpm, BUT NO HIGHER THAN 2500 RPM IF THE ENGINE OIL TEMPERATURE IS LESS THAN 120^{O} F. It should run without vibrations**
- **Check oil pressure – it must reach normal operating value within 10 seconds**
- Turn AUX pump off to determine that the engine pump is operating properly

Engine test

- Always start to warm up the engine at approx. 2000rpm for approx. 2 minutes. Do not exceed 2500rpm until cylinder head and oil temperature reaches 122deg F minimum.
- Test maximum rpm; check transition from minimum to maximum rpm and back.
- Check function of both ignition circuits by switching off the first and then the second circuit at 4000rpm. Max. permitted drop of rpm when switching is 300rpm, with no more than 150 rpm differential between sides.
- Fuel pressure must not drop below 2,9 psi throughout the test (with secondary fuel pump switched off); oil pressure must not drop below 11.6 psi
- Note: it is recommended to have a fire extinguisher available.

DANGER! Nobody is allowed to be present in the vicinity, especially not in the Propeller rotation

Do not perform the engine test with the aircraft placed on the loose ground. Loose material, if drawn in by the propeller, may cause personal injury and/or damage to propeller.

Mandatory actions before take-off – on runway holding point

- Check free movement and function of all controls
- Check fuel level, valve position
- Check instruments, adjust altimeter if necessary.
- Check engine-operating values (temperatures and pressures).
- Check the cabin – tighten seat harnesses, unlock rescue system, close door, remove/secure loose objects.
- Apply flaps – 15° position
- Center the trim

- Unlock rescue system
- Switch on secondary fuel pump
- Check that the runway, including final approach, is clear
- Radio - check frequency setting, report readiness for take-off
- GPS - switch on, activate planned route

Flight Procedures

Take-off

- Set throttle to full take-off power
- Engine rpm: 5500 rpm minimum
- Instruments: check values
- Keep yoke control in central position
- Pull yoke control slightly on reaching 33kt to lift off nose wheel
- On reaching 43-45kt lift the aircraft off the ground and hold it in level flight just above the runway
- On reaching 60kt, start climbing, maintaining a 65kt climb speed

Do not take off when:

- Engine does not run smoothly
- Instrument readings are not within prescribed operating limits
- Wind speed is not within prescribed operating limits
- Runway or final approach is not clear

Climbing

- Best climbing speed is 65 knots.
- If cylinder head temperature or oil temperature reaches maximum operating limit, you must reduce engine power and climbing rate
- Climb to altitude necessary for subsequent flight
- Mandatory actions after take-off

(Height above terrain 150ft)

- Retract flaps
- Reduce engine throttle to below the Rotax ‘max continuous performance limit – 5,500rpm, e.g. 5,000rpm
- Adjust the propeller pitch (if an in-flight adjustable prop is fitted) to “level flight” or Cruise

During flight

- Check that flaps have retracted
- Trim aircraft to cruising speed
- Flight speed 80-105 knots
- Instruments – check at normal operating values

Flying in turbulent air

- In strong turbulence, we recommend maintaining flight speed above 60 knots but less than 90 knots
- When making a turn, do not bank more than 30°.
- Do not use more than 1/3 rudder deflection at speed above 95 knots; or reduce speed accordingly

Descent

- During descent from higher altitude and/or during approach, it is not recommended to reduce engine rpm to idle; this could lead to excessive temperature drop, carb icing and reduced engine power. Glide at increased idle speed, approx. 3000 rpm, and maintain engine temperatures within operating limits.

Final approach

- Speed 65-70 knots
- Throttle As necessary
- Flaps Set to 15° - 40° position and continue to final maintaining speed at 60-65 kt.
- Trim As necessary

Landing

Speed	50-55Knots
Flaps	40° position
Trim	As necessary

- At approx. 15 ft. height above runway, start pulling the yoke to reduce descent rate; at approx. 1 ft. above runway, let the plane loose speed gradually, until the main wheels touch down.
- Always touch down on main landing gear wheels.
- Pull up yoke gradually to maintain nose gear above ground for as long as possible.
- When nose gear finally touches down, apply brakes as necessary.
- If runway is short or clearway is high, extend the flaps to 40°. With the flaps in this position, descend rate increases markedly. Maintain speed 50 knots.

Go-around

Throttle	Full engine power (5700 rpm max.)
Flaps	Retract to “take-off” position
Start climbing	Speed at least 55 kt. IAS
Trim	As necessary
Adjust speed for	65 knots IAS climbing
Flaps	Retract, at the minimum height above ground of 150-200ft
Trim	As necessary

Actions after landing

Serial Number

Flaps	Retract
Trim	Middle position
Engine rpm	as necessary
Observe taxiing rules	Speed up to 5 knots

Stopping the engine

Rpm	Idle
Instruments	Observe if engine instrument needles are within limits
Avionics	Switch off
Ignition	Switch off
Section switches	Switch off
Main switch	Switch off
Fuel cocks	close

Stopping the aircraft, parking

- Taxi very carefully before stopping the aircraft, paying attention to obstacles and terrain
- Brake the aircraft and shut off the engine
- Secure the rescue system
- Secure the aircraft against movement (use wedges, anchors, brakes)

Flying in rain, snow

- There are no special requirements during flying in rain or snow. Aircraft handling and performance does not change. After landing, always check for water in speed measurement system, and empty the water trap if there is water present.

Performance

Speed measurement system calibration

The following table contains test derived data for the determination of Calibrated Airspeed from Indicated Airspeed

Airspeed Conversion Table

KNOTS IAS	*KNOTS CAS*
35	43
50	58
60	67
70	74
80	84
90	93
100	101
110	111
120	120

Stall speeds

Conditions: Max. TOW, engine at idle	**Flaps deflection**	**Knots IAS**	**Height loss during recovery**
Horizontal flight	**0°**	47	26
	15°	41	38
	30°	36	50
Turn with 30° bank angle	**0°**	50	36
	15°	44	50
	30°	40	60

Take-off performance

RUNWAY SURFACE	**Take-off run *[ft]***	**Take-off distance over 50 *ft* obstacl**
PAVED	90 (ft)	650 (ft)
GRASS	350 (ft)	750 (ft)

Landing Performance

RUNWAY SURFACE	Landing distance over 50 *ft*	Braking distance *[ft]*
PAVED	450(ft)	300(ft)
GRASS	450 (ft)	200(ft)

Climbing Performance

Conditions: *Max. Continuous power 5500rpm, aircraft weight 600kgs*	**Ideal climbing speed/rate**	
	Knots IAS	***Ft/Min***
1500ft ISA	65	1100
4000ft ISA	65	850
8000ft ISA	65	650

Cruise Flight

Performance data corresponding to inlet manifold vacuum pressure 24Hg.

Altitude [ft ISA]	**Engine speed [rpm]**	**Flight speed**
		Knots IAS
1500	4000	89
	4400	96
	4600	105
	4800	108
	5000	110
	5200	114
	5400	117
	5600	123
6000	4000	82
	4400	88
	4600	91
	4800	96
	5000	97
	5200	101
	5400	105

	Serial Number	111

Endurance and range

The table lists fuel consumption, range and endurance.

Altitude	[Ft ISA]	3000 ft				
Fuel on board	Gal	34 total avail				
Engine speed	[Rpm]	**4400**	**4800**	**5000**	**5200**	**5500**
Fuel consumption	[Gph]	3.2	3.7	4	4.8	5.2
Flight speed	Knots IAS	86	97	102	105	113
Endurance	[hh:mm]	10:00	8:34	8:00	6:40	6:00
Range	[Nm]	817	782	765	700	678

Verified performance with crosswind

Max. allowed headwind for take-off and landing	20 Knots
Max. allowed crosswind for take-off and landing	8 knots (novice pilot) 15 knots (experienced pilot)

Optimum gliding speed

Optimum gliding speed	60 knots IAS

Ceiling

Operating ceiling	14000ft

REMEMBER: FAR 61.315, (B), (11) STATES THAT SPORT PILOT LICENSE PRIVELEGES DO NOT ALLOW FLIGHT AT AN ALTITUDE OF MORE THAN 10,000 FEET MSL OR 2,000 FEET AGL, WHICHEVER IS HIGHER

Weight and Balance, and Equipment List

The following information will enable operation of the Legend 600 within prescribed weight and balance and center of gravity limitations. The methodology and calculations for the determination of the C.G. limits are shown in the Weight and Balance Record of the Legend 600 Aircraft section. This shows the movement of the C.G. from empty weight to gross weight.

Weighing for aft centre of gravity

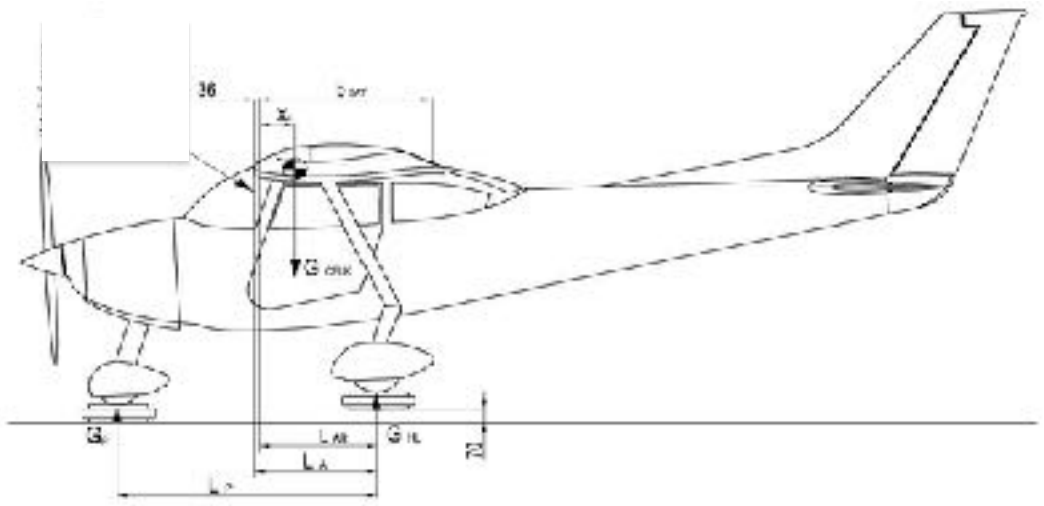
- Move seats to rearmost position
- Fill baggage compartment with maximum allowed load
- Empty fuel tanks

Weighing for forward centre of gravity

- Empty baggage compartment
- Move seats to foremost position
- Full fuel tanks

Weight and balance record of the aircraft LEGEND 600

Configuration		Aircraft	Engine	Propeller	Rescue system
	TYPE	L600	ROTAX 912 iS	Woodcomp Propulse 3PA	Galaxy 6/600 SD
	Serial number	1857	7704508	1810269	8803



C.G. position calculation

$$X_T[mm] = L_{AR} - \frac{G_P * L_P}{G_{total}}$$

C.G. Centre of gravity calculation

$$X_T[\%] = - \frac{X_{T[mm]}}{} *$$

Weight calculation Gp.Lp

$$G_{[CELK]} = G_P + G_{HL}$$

L_A [mm] = 795 **L_{AR} = 759** **b_{SAT}[mm] = 1200** **b_k = 1300 mm**

Load	Nose wheel G_P	Main gear G_{HL}	Total weight G_{CELK}	C.G. from the wing leading edge

	[lbs]	[lbs]	[lbs]	X_T[inch]	X_T[%]
Crew/Fuel/Baggage	180.8	585.3	765.9	14.45	30.8
Crew/Fuel/Baggage	213.6	754.2	967.8	14.33	32.9
Crew/Fuel/Baggage	272.5	1039.8	1312.4	16.38	34.7

Calculated position of C.G. is within a permitted range of 21,6-35,6 % $b_{SAT.}$

To calculate weight and balance for an actual flight, follow the process shown in the Sample Loading Problem shown below.

Loading Provisions and Calculations

Figure 1 shows the distance or "ARM" from the datum point, (set at the leading edge of the aircraft) for the Pilot/ Passenger seats, the Fuel Tank and the Aft Baggage Compartment. (NOTE: Items stored in the armrest will be added to the Pilot/Passenger weight.

	Weight (lbs)	Arm (inches)	Moment (weight x Arm) (Inch-lbs)	Maximum Allowable (inch-lbs)
Pilot and Passenger (to include center console and door pockets)		20.0		
Baggage		50.5		1667
Fuel		13.2		2614
Aircraft Typical Empty Weight (includes oil and unusable fuel)	766	14.45		11069
Total				

Calculation of C.G. Position

$$\text{C.G.(inches)} = \frac{\text{MOMENT}}{\text{TOTAL WEIGHT}}$$

Calculation of Percent of Mean Aerodynamic Chord

$$\%\text{MAC} = \frac{\text{C.G.}}{47.244 \text{ (inches)}}$$

%MAC – (Percent Mean Aerodynamic Chord)

Maximum Gross Weight	1320 lbs
Minimum %MAC (Forward C.G.)	21.6 %
Maximum %MAC (Aft C.G.)	35.6 %

Aircraft equipment

(a)

Instruments

Instrument	Type	Serial Number
Air Speed Indicator	Winter	TBD
Altimeter	Winter	TBD
Compass	Winter Model CM24	TBD
Dynon	SkyView 10” SVHDX	TBD
Radio	SkyView SV-Com-C25	TBD
Transponder	Trig Avionics TT22	TBD
Dynon GPS	SkyView 7” SVD700	TBD

Galaxy Rescue System

Model, manufacturer, serial No.	GALAXY 6/600 SD
Activation	By pulling the handle on central panel
Descent speed, max. (m/s)	6,6m/s
At take-off weight	600 kg
Maximum Speed at activation, max.	170kt (310km/h)

Battery

Type	508 901
Voltage	12 V
Ah rating	8
Weight	2.9 kg
Location	On firewall, at the highest point of engine compartment

Notice:	Only the ground chargers designed for gel batteries be used to charge the battery. Use of other chargers will destroy the

Description of Airplane and Systems

Characteristic

The L6 0 0 LSA aircraft is a two-seat, strut high-wing monoplane of all-composite structure designed for sport, recreational or tourist flying. Favorable flight characteristics make the aircraft suitable for flight training. Sufficient performance allows glider towing. The aircraft features spacious crew and baggage compartments. Large doors provide for comfortable boarding of crew and loading of baggage. Adjustable seats allow the pilots of all heights to find comfortable position. A stiff Kevlar cabin, four-point seat harnesses and rocket assisted rescue system provide maximum safety of crew in emergency situations.

Technical description of aircraft components

Airframe

- The fuselage is made of carbon composite. Bulkheads are bonded into integrally stiffened skin to receive forces from the landing gear, rescue system, stabilizer, rudder, safety harnesses, and wings. There are two doors with a central-lock system mounted on flush hinges on the sides of fuselage, opening against flight direction.
- Sandwich-type single-spar wings made of carbon-composite house two fuel tanks within leading section. Wings are fitted with a slotted Fowler flaps. Wings have rectangular centre section with trapezoidal tips. MS 313 wing profile is used. Banking control by ailerons with differentiated deflection 10° down and 23° up . With aileron deflection up, a nose rises from profile, providing favorable yawing moment. The wing strut is made of aluminum profile.
- Trapezoidal fixed part of elevator is fixed into the fuselage bulkheads by pins and screws. Aerodynamically balanced elevator has electrically servo-actuated trim tab. The elevator deflection is 21° up and 13° down.
- Fixed part of trapezoidal swept vertical tail is offset from a longitudinal axis to eliminate an angular propeller flow. The elevator deflection is approximately 24°.
- Rudder and ailerons have dual cable control, elevator is rod-operated. Yoke controls, Rudder and nose landing gear are operated by pedals with top-mounted shafts, which greatly improve the kinematics of controls. Combined central controller panel allows control of the engine, landing gear brakes, parking brake, and wing flaps, the flaps being driven by central actuator through Bowden cables.
- Tricycle landing gear with steerable nose wheel. Main wheels - size 15x6-6 - are provided with hydraulic disc brakes. Theses are carried on an all-composite leg. The nose wheel is fitted with spring and hydraulic shock absorber. The front wheel has size 12 x 4 – 4. All wheels provided with fairings. Tire inflation of all wheels is for 2,3 bar (33psi) pressure.

Power plants

Rotax 912UL and 912ULS engines are used most frequently, providing excellent dynamic and flight characteristics. Rotax 912UL and 912ULS engines are four-stroke, four-cylinder engines of “boxer” configuration, having air-cooled cylinders with water-cooled heads, an integrated reduction gearbox, and two carburetors. For more information, see the ROTAX engine operating manual supplied.

Caution!

Neither of the engines mentioned above is certified as an aircraft engine. Even with utmost attention during engine manufacture, engine failure may occur at any time during flight and the pilot bears full responsibility for the consequences. According to Light Sports and Ultralight regulations, the pilot must always select bearing and altitude allowing him/her to glide down and land safely at suitable location.

Propeller

A Woodcomp 'Propulse' ground adjustable propeller, as well as VARIA 170/2R adjustable-pitch propeller or a Fixed-pitch PESZKE propeller may be used. For the description of the propeller delivered with your aircraft, see the instructions for the propeller installation and maintenance, delivered along with the aircraft

Equipment

The aircraft may be optionally equipped with traditional analogue instruments, together with GPS navigation, or a glass cockpit incorporating flight, engine and navigation instruments, including a transponder. When delivered serial #1646 was equipped with analogue instruments for Airspeed and Altitude, plus a SkyView SVD700 glass panel for navigation.

Controls

Pedals – pressing left pedal turns aircraft left both on the ground and in the air, and vice versa.

Hand controls – pulling the yoke backwards, towards the pilot, raises the nose of aircraft (the angle of attack increases) and the aircraft climbs. Pushing the yoke forward dives the aircraft. Turning the yoke to the left banks the aircraft to the left, and vice versa.

Engine throttle – moving combined controller located on the middle-panel forward from its central position, in the flight direction, increases engine output, and vice versa.

Brake control – pulling combined controller backwards, in the opposite direction of taxiing, brakes the aircraft. Moving the controller backwards and pressing the detent locks the brake (parking brake). To release the parking brake, pull brake lever or combined controller backwards.

Engineering data

Dimensions

Wing span			29.84 feet	
Length			23.13 feet	
Height, total			9.59 feet	
Wing surface			116.68 ft^2	
Wing aspect ratio			7.64	
Depth of MAC (mean aerodynamic chord)			3.93 feet	
Wing profile			MS 313 B	
At root			4,27 feet	
At tip			3,15 feet	
Wing flaps surface			18.84 ft^2	
Flaps deflections			15° / 30° / 45°	
Horizontal tail plane span			9.19 feet	
Horizontal tail plane surface			24.11ft^2	
Vertical tail plane surface			11.19 ft^2	
Control surface deflections:				
Ailerons	up	23°	down	12°
Elevator	up	21°	down	10°
Rudder	left	23°	right	25°

Weights

Empty weight, per UL–2	766 lbs
Take-off weight, maximum	1320 lbs as an LSA

Engine

Type (brief description): Rotax 912 iS – four-stroke, four-cylinder engine, air-cooled cylinders with water-cooled heads, integrated reduction gearbox, dual electronic ignition and tuned inlet manifold.

Swept volume	1352ccm
Take-off power, max.	73.5kW@5800rpm
Cruising power, max.	69kW@5500rpm
Dry weight	123 lbs
including accessories	158.73 lbs

Fuel (fuel grade, octane index)	Automotive pump fuel minimum 95 RON
Oil (type)	SHELL HELIX H x 7 AV 10 W - 40
Oil capacity	3L
Reduction gear (gear ratio)	2.43:1
Fuel tank volume – main tank	130L

Propeller

Diameter / pitch at 75%	'Woodcomp Propulse 3PA' ground adjustable
Weight	3kg
Material	Composite

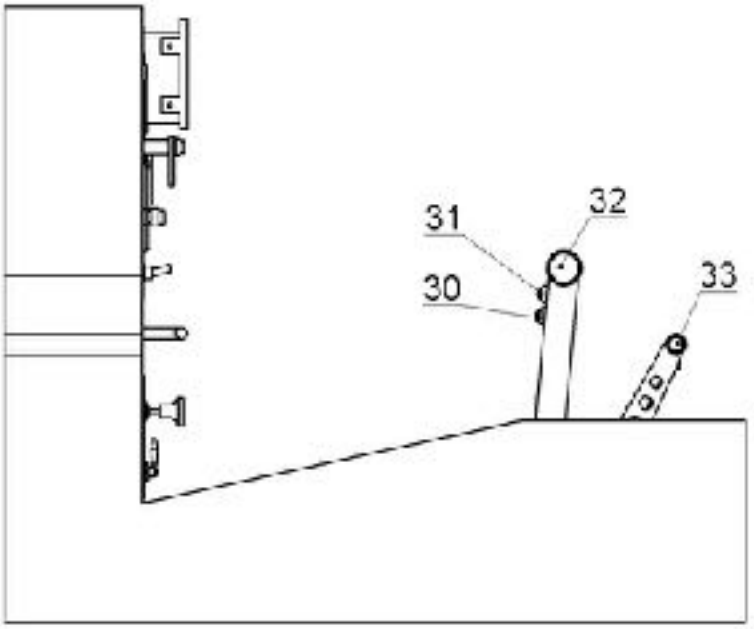
The propeller shall be sent to the manufacturer for inspection in case of even the slightest damage or if crack is found. Flying with damaged propeller may endanger life and limb and is prohibited.

Equipment layout **Location of Controls**

Ignition switch	Center panel, left-hand side
Starter	Center panel, left-hand side
Choke	Central controller – left instrument panel
Throttle	Central controller – bottom part of middle panel
Brakes	Central controller – bottom part of middle panel
Longitudinal trim	Control yokes
Wing flaps	Engine throttle + right instrument panel
Closing of the cabin	Front section of the door
Rescue system	Central bottom panel
Radio	Central dashboard panel
GPS	Central dashboard panel

Central controller functions

Drawing



30. Flaps extend
31. Flaps retract
32. Engine throttle
33. Wheel brake/parking brake

Assembly and disassembly of the aircraft

Elevator Assembly

- Check condition of rubber sealing edge
- Check elevator hinges and condition
- Slide the elevator into the fuselage from a side and insert elevator pins into fuselage bulkhead
- Screw on the rear bulkhead and secure the screws using wire
- Connect elevator control rod and apply a drop of paint onto new self-locking nut
- Connect the trim control connector
- Check rudder control
- Screw-on rudder control cover
- Check function of rudder controls

Wing Assembly

- Check and grease strut and wing pins, remove the locking of the wing flap Bowden cable, check condition of rubber edges at wing
- Thread aileron control cables and flaps Bowden cable into the fuselage.
- Insert wing attachment forks into the fuselage. Ensure correct position of wing fittings by moving wing top. Use the auxiliary pointed pin first, then replace it with M8 screw. Check that no cables or hoses are pinched during assembly.
- Connect strut to the wing. Install two aerodynamic covers on the strut and then insert pin connecting the strut to the fuselage.
- Secure all pins using self-locking nuts
- Install strut fitting covers and fix them using adhesive tape
- Connect tank breathing and fuel take-off hoses (and fuel gauge hoses, if used)
- Repeat the procedure at the other wing
- Connect the aileron control cable turnbuckles, adjust tension of cables and central position of ailerons. Secure turnbuckles using a drop of paint and safety wire.
- Fix the ends of the wing flap Bowden cables and rods. Check by looking from behind that both flaps are in the same position.
- Install cabin ceiling covers, check function of ailerons and flaps, screw-on anchoring lugs

Disassembly

- Drain all fuel
- Remove ceiling covers
- Remove and move strut covers
- Perform disassembly in reverse order of assembly. Disassembled wings may only be placed on soft rests or hung on stands, using their fittings as anchors. Remove elevator using similar procedure.

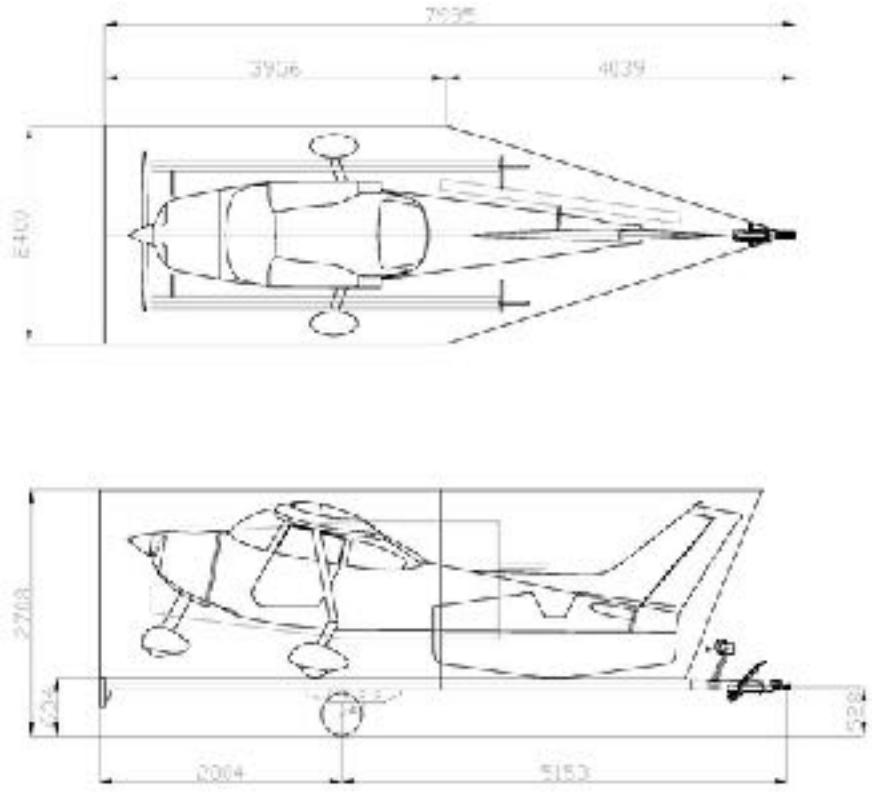
Long-term storage and transport

Before long-term storage

- Remove battery and connect to maintenance charger
- Drain all fuel from the tanks through drain valves
- Apply preservation to the engine following manufacturer's instructions
- Cover glass parts of cabin and/or wings and tail surfaces
- Support main landing gear legs using assembly stands or ensure periodic checking of tire inflation
- Put protective covers on propeller blades

Transport

- The aircraft may only be transported with wings removed. When transporting over longer distance or in closed cargo bay of a truck, elevator must be removed. If elevator is not removed, it must be fitted with red pennants, or accompanying vehicle must be procured.
- During the transport, the fuselage must be connected to truck or trailer by landing gear legs and possibly also by tail bumper. The wings must be anchored using their central-section fittings and wing tip nor leading edges may contact the floor nor be leaned on anything.
- Flap controls must be fixed in position – see section Disassembly. If elevator is transported separately from the fuselage, it must only be fixed using fuselage fittings and front pins. Entire elevator must be protected by soft cover and attached to the truck or trailer using wide straps.



Periodic inspections

25-hour inspection

- Remove top cowling of engine
- Check condition and leaks of fuel system
- Check condition and leaks of oil system
- Check condition and leaks of cooling system
- Check exhaust system for cracks and leaks
- Check engine mount for cracks
- Check attachment of engine mount and engine
- Check attachment of propeller
- Visual check of electric installation
- Check nose wheel shock absorber and control
- Lubricate nose wheel leg
- Check carburetor control (choke, throttle)

100-hour inspection

If aircraft is operated in demanding conditions, halve this interval to 50 hours.

Demanding operating conditions include:

- Glider towing
- Ambient temperatures continuously exceeding 35° C or very dusty conditions This inspection consists of the following:
  - Engine and propeller service
  - Airframe service
  - Fuel system cleaning
  - Inspection of instruments and equipment

Engine and propeller service

Change engine oil and filter, check and clean spark plugs, replace as necessary, check carburetor adjustment and control, check exhaust system condition, check engine mount and attachment of all parts, propeller service, inspection, check tightening of mounting screws using prescribed torque, check condition of propeller hub and blades – concentrate on cracks; other checks prescribed by propeller manufacturer.

Observe engine and propeller manufacturer's instructions during this work.

Airframe service

- Remove seats, remove ceiling covers, remove tail surfaces cover, and remove landing gear covers.
- Check condition and function of control cables, rods, their securing, check for any jerks or contact between control elements and airframe parts (save for bumpers intended to limit movement range). Lubricate manual control rods using graphite grease, lubricate also aileron hinges (using only small amount of grease), lubricate nose wheel leg - in this case, it is better to apply more grease, or lubricate more often.
- Check condition of landing gear, concentrate on cracks and deformation. Main landing gear must not move at all. Nose leg must not be bent. This inspection is mandatory after each hard landing from height more than 0.5m. Check brakes, add brake fluid if required.
- Check proper movement and adjustment of doors.

Fuel system cleaning

- Replace fuel filters; clean pre-filter when necessary.
- Remove carburetor bowls and clean.
- Use electric pump to pressurize fuel system, check for leaks, especially at fuel level sensors and pre-filter (glass jar).

Inspection of instruments and equipment

- Check Pitot tube and attached hoses for leaks.
- Verify function of all electric instruments and systems, including attachment. Visual check of cables and attachment.
- Check attachment of rescue system and its components (ropes, containers).
- Verify function of tow hook control cable (if installed).

Reinstall engine cowling, propeller cone, ceiling covers, seats, and tail surface cover

Supplements

Flight Training Supplement

Introduction

The flight training data supplied here is presented for information only. Flight training for the Sport Pilot Certificate or any other certificate must be completed according to the appropriate FAA Regulations administered by a Commercial Flight Instructor, CFI, who is legally active and current. This information is not meant to supplant or supersede any current Sport Pilot Flight Training syllabus that a CFI may chose to use.

Pilot Training

In order to introduce the student pilot to the essentials of control of the Legend 600 aircraft and put the technical training required of a pilot to practical use in developing his overall skills, a structured approach to training is required. This training will be somewhat country and regulations specific, the following is simply a guide. The Chief Flying Instructor at the various training facilities will likely establish the full details of the training program offered to the trainee for Light Sports Aircraft training, or it may be carried out under a program set by a country's aviation administration. The general outline will however follow the program below and is offered by the manufacturer as a guide, as required under the LSA regulations.

This training requires constant reference to the aircraft's Pilot Operating Handbook (P.O.H), the aircraft Maintenance Manual and other material available from the trainee's Instructor and in general terms would proceed according to the steps below. Though individual trainees will proceed through each of these stages at different rates, depending on

existing skills, available time, continuity of training and their speed of learning the various tasks, the indicative stage training times may be a useful guide. To explain the details of the content of each stage, the processes followed by the Instructor and his student in this training is also detailed below.

Training Schedule

- Introductory flight: duration: 1 flight, 20 minutes
- Straight flight: duration: 3 flights, 1 hour
- Turns, bank angle up to 15°: duration: 3 flights, 1 hour Turns, bank angle up to 45°: duration: 3 flights, 1 hour
- Take-off and landing: duration: 30 flights, 2 hours 50 minutes
- Maintaining attitude/heading prevention of loss of height: duration: 3 flights, 1 hour Landing plan/correction: duration: 10 flights, 1 hour
- Safety landing: duration: 1 flight, 1 hour
- Emergency landing: duration: 15 flights, 1 hour 30 minutes Cross wind: duration: 3 flights, 15 minutes
- Blocked instruments: duration: 2 flights, 10 minutes Test for solo flight duration: 1 flight, 15 minutes Circuit flight (solo): duration: 3 flights, 15 minutes Check flight: duration: 1 flight, 10 minutes
- Circuit flight (solo): duration: 15 flights, 1 hour a 40 minutes Turns, bank angle 15° - 45° (solo): duration: 3 flights, 1 hour
- Maintaining attitude/heading prevention of loss of height duration: 2 flights, 30 minutes Landing plan practice (solo): duration: 10 flights, 1 hour
- 200km navigation flight: duration: 1 flight, 2 hours a 5 minutes 100 km navigation flight: duration: 1 flight, 1 hour

PRACTICAL TRAINING FOR PILOT QUALIFICATION

1. **Lesson 1: Introductory Flight**
   Minimum flight level is 1000ft / 300m AGL. *Training methodology:*

The instructor shows aircraft handling during traffic pattern flight and free area flight to the student. He also introduces the shape of airfield traffic pattern, its size, and major orientation landmarks in the vicinity. The instructor demonstrates and comments on all flight controls, including flap action, changes to flight speed and aircraft responses.
The instructor does not grade the introductory flight.

2. **Lesson 2: Straight flight, effects of controls** Minimum flight level is 1000ft / 300m AGL. *Training methodology:*

The instructor shows effects of controls onto aircraft flight. He demonstrates the deflection necessary to maintain straight flight, and also demonstrates the effect of forward/rearward balancing, flaps, and aircraft response to changes in engine operation. Practical training is performed in level flight, climb, and descent.
The student strives to maintain straight flight using controls, in all above mentioned flight regimes.
Conditions for passing: **The student** is able to maintain straight flight without major fluctuations of speed, bank angle, and altitude.

3. **Lesson 3: Turns with bank angle up to 15º** Minimum flight level is 1000ft / 300m AGL. *Training methodology:*

The instructor shows proper performance of turns at small bank angle to the student. **The student** tries to perform turns properly, finishing them at indicated bearing. At the same time, the student strives to maintain even flight speed and to keep slip indicator ball in center position throughout the turn. This Lesson includes performance of turns finishing at indicated compass bearing. Before each turn, the student checks that the area into which he/she turns is free.
Conditions for passing: **The student** performs turns at small bank angle on his/her own, finishing them at indicated bearing, without major fluctuations of **altitude**, flight speed, and bank angle, with slip indicator ball in center position throughout the turn, and including proper commencing and completion of turns.

4. Lesson 4: Turns with bank angle up to 45º
Recommended flight level is 1000ft / 300m AGL – 1600ft / 500m AGL; it must not be less than 1000ft / 300m AGL.
Training methodology:

The instructor shows proper performance of sharp turns to the student. He points out the importance of increasing

engine rpm before commencing the turn. Extra attention must be paid to the danger of losing speed in a turn. The instructor pays attention to the sequence of controls when entering the turn, stabilization of turn, and warns against the risk of spin and/or spiral. Recovery from spin and spiral is touched only theoretically during pre-flight instruction. Turns on horizontal, during climb and descent are performed with regard to engine power. The instructor sees to it that the student checks that the area into which he/she turns is free. **The student** checks that the area into which he/she turns is free, performs sharp turns with indicated bank angle, speed, slip indicator position, and finishes the turns at indicated bearing. The student also performs turns to opposite directions one after another
Conditions for passing: **The student** performs sharp turns on his/her own, finishing them at indicated bearing, and performs turns to opposite directions one after another = figure eights.

5. Lesson 5: Take-off, traffic pattern flight, and landing
Traffic pattern flight level is 500ft / 150m AGL – 1000ft / 300m AGL.
Training methodology:
The instructor shows proper piloting during take-off, traffic pattern flight, and landing to the student. Special attention must be paid to gaining speed after lift-off, to allow climb at correct climbing speed; also to shape of traffic pattern, altitude at different sectors for traffic pattern, and correct planning of landing with stable descent without the need to change engine power to change angle of approach. As far as planning of landing is concerned, the instructor explains the effect of wind, length of runway, possible turbulence near ground, and other factors which may influence the decision during planning of landing. He points out that it is necessary to maintain proper speed during descent until the aircraft is leveled, so that no change of engine power is necessary during rounding out. He also points out that controls become less effective with decreasing flight speed. **The student** practices take-off, climbing, traffic pattern flight, planning of landing, landing, and take-off from leveling out point. First and fourth turn must be performed with 15 degree bank angle at altitude at least 330ft / 100m AGL. Second and third turn must be performed with 30 degree bank angle at altitude 500ft / 150m AGL – 1000ft / 300m AGL.
Take-off from leveling out point must be practiced.
Conditions for passing: **The student** is able to take-off, to fly traffic pattern, to plan for landing turns, to land, and knows important procedures.

6. Lesson 6: Glissade, prevention of loss of height, flight speed
Flight level is 1000ft / 300m AGL – 1600ft / 500m AGL.
Training methodology:
The instructor shows glissades, prevention of loss of height during direct flight, during turns with 30 degree bank angle, and flight at maximum speed to the student. He warns against the risk of spin resulting from skidding turn and/or spiral resulting from slipping turn. The instructor ensures that the student practices glissade thoroughly, as it is the main element of correcting planning for emergency landing into limited space. Practice glissades must be terminated at sufficient altitude. Subsequently, piloting throughout the speed envelope is repeated, focusing on aircraft control during slow flight. Flight at minimum speed is practiced, at different engine powers and flap configurations. During flight at maximum speed, the instructor ensures that the student uses only 1/3 deflection of controls. **The student** practices glissade left and right, prevention of fall, and flights throughout the speed envelope listed in aircraft flight manual.
Conditions for passing: **The student** is able to enter glissade, to maintain speed, direction of flight, and is able to recover into straight flight. The student is able to fly throughout the speed envelope of aircraft.

7. Lesson 7: Corrections of improper planning of landing, and landing
Training methodology:
The instructor shows correction of long approach and short approach to the student, as well as the actions necessary to correct high leveling out, ballooning, and rebound. He lets the student fly long approach and short approach, and lets the student correct them. The instructor shows intentionally high leveling out, ballooning, and rebound, and lets the student correct them. **The student** corrects long approach, short approach, high leveling out, ballooning, and rebound.
Conditions for passing: **The student** is able to correct improper approach, high leveling out, ballooning, and rebound on his own.

8. Lesson 8: Safety landing practice
Training methodology:
The instructor practices approach to suitably selected area, with engine operating. The instructor assesses student's selection of area for landing, and performance of the maneuver by the student. During this practice, it is allowed to review the area, having assessed the slope and obstacles in the vicinity, from at least 20m AGL. **The student**, on instructor's request, selects area for landing and performs approach, without completing the landing; on instructor's signal, the student increases throttle and interrupts the maneuver at safe altitude.
Conditions for passing: **The student** is able to select area suitable for landing, review the area safely, and plan the landing using engine power.

9. Lesson 9: Emergency landing practice
Flight level is 1000ft / 300m AGL – 1600ft / 500m AGL.
Training methodology:
The instructor reduces engine power to idle between 2nd and 4th traffic pattern turn. Approach must end on the runway without further use of engine power. **The student**, with engine idling or switched off, performs approach to 1/3 of runway length, and full landing, The instructor does not signal the time of reducing engine power to idle beforehand. **At**

least three last landings from minimum of 15 emergency landings must be performed with engine switched off.
The instructor is responsible for safe performance of this exercise, taking into account the altitude, position of aircraft in traffic pattern, wind speed and direction, and other operating conditions.
Having mastered emergency landing at an airfield, the instructor and the student leave the airfield and enter free area, where the instructor reduces engine power to idle; the instructor does not signal the time of reducing engine power to idle beforehand, and the student must select area for landing, plan the landing, and perform approach onto selected area, without performing actual landing.
The instructor must interrupt this Lesson at 50m AGL, not lower.
Conditions for passing: **The student** is able to plan the landing on assigned section of runway without use of engine power. He is able to fly safely, plan the landing, and land with engine off. He is able to use glissade to correct landing approach. In the free area, the student is able to select area suitable for landing, and plan the landing correctly.

10. Lesson 10: Landing with crosswind

Training methodology:
The instructor practices landing with crosswind, up to the limit defined in aircraft manual. The instructor focuses on compensating the drift. When the student learns to maintain the axis of descent, the instructor adds slight rudder deflection in the end of rounding out phase, so that the aircraft lands parallel to runway axis. The instructor explains to the student the amount of deflection of aircraft axis from runway axis depending on crosswind speed. **The student** practices compensation of drift during descent, rounding out, after touchdown, and during landing run.
Conditions for passing: **The student** is able to maintain the axis of descent in crosswind, including compensation of drift during rounding out, after touchdown, and during landing run.

11. Lesson 12: Check before first solo flight

Training methodology:
The instructor performs check flight with the student, focusing on his ability to control the aircraft in all flight regimes. Special attention must be paid to take-off, gaining speed, adherence to flight speed limits, performing turns, flight at lower speeds, correct estimate for landing, correct and complete rounding out, and managing the landing run and stopping. During a check flight, the instructor re-checks student's responses to an engine failure. The student will pass the presolo exam administered by the instructor and all appropriate endorsements will be completed

Before this first solo flight, the instructor will discuss with the student all differences between dual and solo, especially lower weight and apparent higher available engine power, notably changing aircraft's performance during take-off and climb, and also is markedly different on approach with longer hold-off, and lower stall speed. The instructor will also instruct the student how to handle possible engine failure during all phases of traffic pattern flight. **If the student shows any signs of stress and/or nervousness, the instructor must add a dual flight.** Student's uncertainty usually results from incomplete mastering of certain piloting skill. **First solo is only allowed on the aircraft on which the student trained.**

12. Lesson 13: Solo traffic pattern flight

Training methodology:
Having passed the check flight, the **student flies** a traffic pattern according to instructor's directions; the instructor observes and assesses the flight from ground. If no obvious piloting errors are observed, the instructor will allow the other two flights forming this Lesson. Two-way radio communication between the instructor and the student is recommended.

13. Lesson 14: Check traffic pattern flight

Training methodology:
Having passed the three solo flights forming the previous Lesson, the **instructor with the student fly** a check flight, during which the instructor checks student's piloting skills and habits. The instructor will draw attention to any piloting errors, errors in altitude, traffic pattern shape, and/or any other deficiencies.

14. Lesson 15: Solo traffic pattern flight

Training methodology:
The student flies 15 traffic patterns to strengthen the mastery of piloting skills and traffic pattern flying. Two-way radio communication between the instructor and the student is recommended.

15. Lesson 16: Turns with bank angle 15 to 45º

Training methodology:
The student repeatedly practices (solo) turns with bank angle 15 to 45º, finishing them at indicated bearings according to compass, and flying figure-eights in free area, outside airfield, but under instructor's supervision. Two-way radio communication between the instructor and the student is recommended.

16. Lesson 17: Prevention of fall, glissade

Flight level is 1000ft / 300m AGL – 1600ft / 500m AGL.
Training methodology:
The student repeatedly practices (solo) glissade and prevention of fall, in free area, outside airfield, but under instructor's supervision. Glissade practice as part of landing approach must be terminated at 170ft / 50m AGL. Two-

way radio communication between the instructor and the student is recommended.

17. Lesson 18: Planning of landing

Training methodology:

The student repeatedly practices (solo) planning of landing at airport; on instructor's signal, the student reduces engine power to idle and plans landing to 1/3 of runway length, without further use of engine power. **The instructor** is responsible for safe performance of this Lesson, taking into account the altitude, position of aircraft in traffic pattern, wind speed and direction, the risk of overcooling the engine during descent, and airfield operating conditions. In case of incorrect planning of landing, the student interrupts the approach, uses throttle and repeats the Lesson until it is mastered. Two-way radio communication between the instructor and the student is recommended.

Conditions for passing: **The student**, on his own, plans landing to 1/3 of runway length, without further use of engine power to correct angle of descent.

18. Lesson 19: 75 nm navigation flight

All conditions must be VFR.

Training methodology:

The instructor defines flight route with landing at different airfield. A Triangular navigation flight with landing at two different airfields is planned, with a Minimum flight distance **The student** performs complete navigation preparation for the flight following assigned route. **The instructor** verifies navigation preparation and flies with the student, without intervening in student's piloting and/nor navigation, but accompanies the student for instruction. The student must be able to fly safely and navigate at the same time while en route, during approach and landing at other airfield. In case of loss of orientation and/or bigger deviations from planned route, this Lesson is failed. Fuel onboard must suffice for planned flight and 20 more minutes.

19. Lesson 20: 75 nm navigation flight

One solo cross-country flight of at least 75 nautical miles total distance with a full-stop landing at a minimum of two points and one segment of the flight consisting of a straight-line distance of at least 25 nautical miles between takeoff and landing locations

Training methodology:

The instructor defines flight route with landing at different airfields. **The student** performs complete navigation preparation for the flight following assigned route, which is verified by the instructor. Fuel onboard must suffice for planned flight and 30 more minutes.

20. Lesson 21: 100km navigation flight

Flight level is 1000ft / 300m AGL, minimum visibility 8km, without chance of storms and/or rain showers.

A Solo triangular navigation flight with landing at different airfield is planned with a minimum flight distance 100 km, minimum flight time 1hr. All conditions must be met.

Training methodology:

The instructor defines flight route with landing at different airfield. Definition is the same as in Lesson 20. The only difference is that the student flies solo. **The instructor** verifies correctness and completeness of navigation preparation and permits the flight. **Stopover landing must not be planned at airfield where properly instructed person is not available.** Fuel onboard must suffice for planned flight and 20 more minutes. Planned time of landing at home airfield must be at least 30 minutes before sunset.

I. Observe all regulations applicable to operation of Light Sport Aircraft.

II. Do not overestimate your piloting skills and never show off in front of spectators. Quite to the contrary, practice emergency landing at suitable locations.

III. Watch the weather and its development all the time. Do not attempt long flight if storms, clouds or icing are likely to occur.

IV. Monitor fuel level frequently, not only by watching the needles, but also by comparing the flight time with actual fuel consumption.

V. Always choose your bearing and altitude so that you will be able to make emergency landing.

VI. Always fly with a sufficient speed margin, especially during the take-off and landing.

VII. Do not perform nor mimic any aerobatic figures (e.g. stall turns) even if you feel that your piloting skills and aircraft handling qualities would allow aerobatic maneuvers.

VIII. Under no circumstances, not even for a very short period of time, exceed the never-exceed speed VNE.

IX. Do not minimize navigation. Do not fly into unknown areas without appropriate navigation preparation and aids (map, compass), even with a GPS installed.

X. Fly only when you are in good physical and mental condition