

CZAW

Pilot Operating Handbook



SportCruiser

CZECH AIRCRAFT WORKS SPOL. S.R.O.
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SportCruiser

Registration:

Serial Number: **07SC086**

**This airplane must be operated in compliance with
information and limitations contained in herein.
This POH must be available on board of the airplane.**



Pilot Operating Handbook

SECTION 1

1. GENERAL INFORMATION

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1. GENERAL INFORMATION

1.1 *Table of contents*

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Pilot Operating Handbook**1.3 List of effective pages**

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Pilot Operating Handbook**1.4 General**

SportCruiser is a Light Sport Aircraft designed and built in :

Czech Aircraft Works spol. s.r.o.

Na Záhonech č.e. 212

Kunovice, 686 04

Czech Republic

based on FAA Light Sport Aircraft (LSA) category according to ASTM Standards F2245, F2279 and F 2295.

This Pilot Operating Handbook has been prepared to provide pilots with information for the safe and efficient operation of SportCruiser. It also contains supplemental data supplied by the Aircraft Flight Training Supplement.

1.5 Warnings, cautions and notes

The following definitions apply to warnings, cautions and notes in the Pilot Operating Handbook.

WARNING

Means that the non-observation of the corresponding procedure leads to an immediate or important degradation of the flight safety i.e. to injury or death of persons.

CAUTION

Means that the non-observation of the corresponding procedure leads to a minor or possible long term degradation of the flight safety.

NOTE

Draws attention to any special item not directly related to safety but which is important or unusual.

Pilot Operating Handbook**1.6 Definitions and abbreviations**

ALT	Altimeter
ATC	Air Traffic Control
ASI	Airspeed Indicator
bar	pressure unit (1 bar = 14,5037 psi)
BEACON	anti-collision beacon
°C	temperature in degree of Celsius ($1^{\circ}\text{C} = (^{\circ}\text{F} - 32) / 1,8$)
CAS	Calibrated Airspeed
COMM	Communication transceiver
EFIS	Electronic Flight Instrument System
ELT	Emergency Locator Transmitter
EMS	Engine Monitoring System
°F	temperature in degree of Fahrenheit ($1^{\circ}\text{F} = (^{\circ}\text{C} \times 1,8) + 32$)
ft	foot / feet (1 ft = 12 in = 0,3048 m = 304,8 mm)
ft/min	vertical speed in feet per minute
GPS	Global Positioning System
hp	power unit (1 hp = 0,7457 kW)
IAS	Indicated Airspeed
IC	Intercom
IFR	Instrument Flight Rules
in	inch (1 in = 25,4 mm)
ISA	International Standard Atmosphere
KCAS	Calibrated Airspeed in Knots
kg	kilogram (1 kg = 2,2046 lb)
KIAS	Indicated Airspeed in Knots
km/h	speed in kilometer per hour
knot	speed in NM per hour
kW	power unit (1 kW = 1,341 hp)
l	litre (1 l = 0,22 UK gal = 0,264 US gal)
lb	pound (1 lb = 0,4536 kg)
lbf	force unit (1 lbf = 4,45 N)
m	metre (1 m = 1000 mm = 3,28 ft = 39,37 in)
mm	millimetre (1 mm = 0,03937 in)
MAC	Mean Aerodynamic Chord
max.	maximum
min.	minimum or minute
mph	speed in statute miles per hour
N	Newton - force unit (1 N = 0.225 lbf)
NM	Nautical Mile (1 NM = 1852 m)
OFF	system is switched off or control element is in off-position
ON	system is switched on or control element is in on-position
OAT	Outside Air Temperature

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POH	Pilot Operating Handbook
psi	pressure unit - pound per square inch (1psi = 0.0689bar)
rpm	revolutions per minute
sec.	second
SM	Statute Mile (1SM = 1,609 m)
US gal	US gallon (1 US gal = 0,83 UK gal = 3,785 l)
V	Volt
VFR	Visual Flight Rules
VMC	Visual Meteorological Conditions
VSI	Vertical Speed Indicator
VTU	vertical tail unit
V _A	maneuvering airspeed
V _{FE}	maximum flap extended speed
V _{NE}	never exceed speed
V _{NO}	maximum designed cruising speed
V _{SO}	stall speed with wing flaps in extended position
V _{S1}	stall speed with wing flaps in retracted position
V _X	best angle of climb speed
V _Y	best rate of climb speed

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SECTION 2

2. AIRPLANE AND SYSTEMS DESCRIPTION

2.1 Airplane description	2-2
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2. AIRPLANE AND SYSTEMS DESCRIPTION

This section provides description and operation of the aircraft and its systems.

2.1 Airplane description

SportCruiser is the airplane intended especially for recreational and cross-country flying, and non-aerobatics operation.

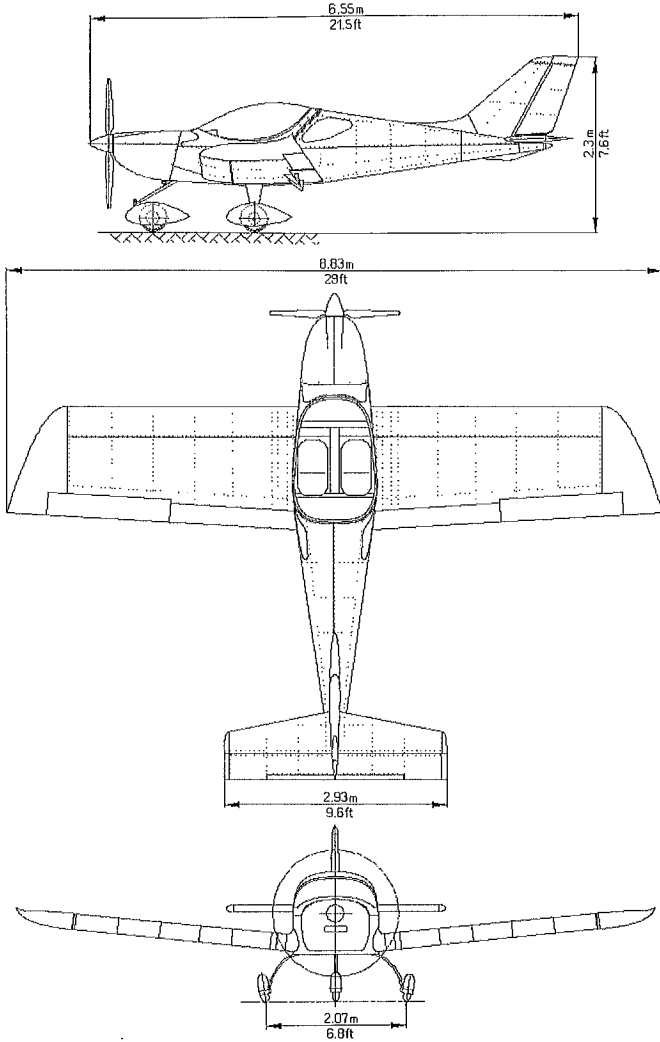
SportCruiser is a single-engine, all metal, low-wing monoplane of semi-monocoque construction with two side-by-side seats. The airplane is equipped with a fixed tricycle undercarriage with castoring nose wheel.

Airplane dimensions

Wing span	8.83m	(29 ft)
Length	6.55m	(21.5 ft)
Height.....	2.3m	(7.6 ft)
Wing area	12.3m ²	(132.3 sq feet)
Wing loading	49kg/m ²	(10 lb/sq feet)
Cockpit width	1.17m	(46 in)

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Aircraft layout



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Airframe

All-metal construction, stressed skin, single curvature metal skins riveted to stiffeners. Construction is of 6061-T6 aluminum sheet metal riveted to aluminum angles with Avex rivets. This high strength aluminum alloy construction provides long life and low maintenance costs thanks to its durability and corrosion resistance characteristics.

The wing has a high lift airfoil equipped with fowler flaps.

Control system

The plane is equipped with a dual stick control, the classic rudder pedals with pedal hydraulic brakes for easy ground control of the castering nose wheel.

The elevator and aileron trim are electrically controlled by buttons on the control stick. Wing flaps are electrically controlled by the rocker switch located on the instrument panel.

Deflection:

Rudder deflections30° to each side
Elevator deflections+ 28°/- 25°
Aileron deflections+ 28°/- 18°
Flap deflections0° to 30°
Aileron trim deflections+ 20°/- 20°
Elevator trim deflections+ 22°/- 22°

Landing gear

Tricycle landing gear with the castering nose wheel. Main landing gear uses two fiberglass spring elements.

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Seats and safety harness

Side-by-side seating. Seat cushions are removable to make more easy cleaning and drying. Four point safety belts provided to each seat. Additional seat upholstery to raise the small pilot or move him forward can be the option.

NOTE

Prior to each flight, ensure that the seat belts are firmly secured to the airframe and that the belts are not damaged. The buckle to adjust to the central position on the body.

Baggage compartment

The rear baggage compartment is located behind the seats. It may accommodate up to 18 kgs (40 lbs). This space is divide on two sections – baggage compartment A and B. Is not recommended give to heavy things into baggage compartment B.

The baggage may also be loaded into the baggage compartment inside each wing up to 20 kgs (44 lbs), in each wing locker.

Make sure that baggage does not exceed maximum allowable weight, and that the aircraft CG is within limits with loaded baggage.

All baggage must be properly secured.

Canopy

Access to the cabin is from both sides. Make sure that the canopy is latched and mechanism is securely locked into position on both sides before operating the aircraft.

Pitot - static system

Pitot-static Tube is located below the left wing. Pressure distribution to the instruments is through flexible plastic hoses.

Keep the pitot head clean to ensure proper function of the system.

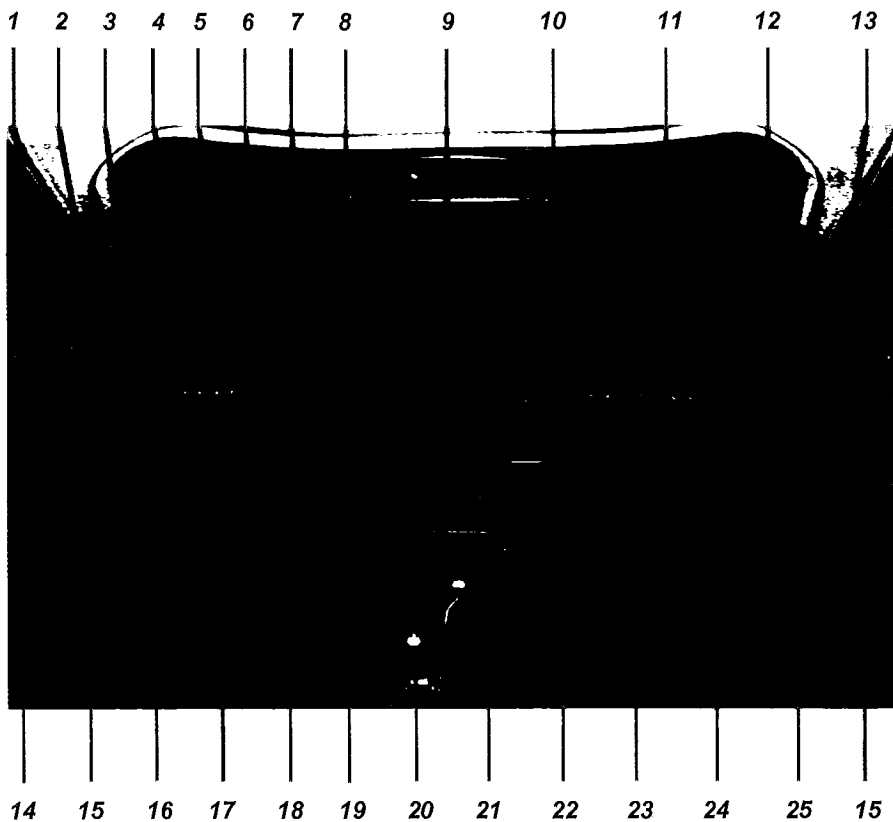
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Cockpit

Instrument panel layout



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Pilot Operating Handbook**Description of equipment and controls in the cockpit**

1	<i>Parking brake</i>	14	<i>Ignition switch</i>
2	<i>Autopilot control unit</i>	15	<i>PTT / elevator trim / aileron trim buttons</i>
3	<i>Airspeed indicator</i>	16	<i>Switches</i>
4	<i>EMS warning light</i>	17	<i>PS Intercom</i>
5	<i>Aileron trim indicator</i>	18	<i>Flaps control switch</i>
6	<i>Elevator trim indicator</i>	19	<i>Flaps position indicator</i>
7	<i>EFIS</i>	20	<i>Throttle</i>
8	<i>Transceiver</i>	21	<i>Choke</i>
9	<i>GPS</i>	22	<i>Fuel selector valve</i>
10	<i>Transponder</i>	23	<i>Carburetors preheating</i>
11	<i>EMS</i>	24	<i>Socket 12V</i>
12	<i>ELT control unit</i>	25	<i>Circuit breakers</i>
13	<i>Cabin heating</i>		

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Instruments and Avionics

- ASI
- DYNON D100 EFIS
- DYNON D120 EMS
- AirGizmo, Garmin GPS
- King KY 97A transceiver
- Garmin GTX 320 transponder
- PS Engineering PM 3000 intercom
- King AK-450 ELT
- Antennas
- Trutrak Digiflight II autopilot

Miscellaneous equipment

- G -205 trim control and PTT on the control sticks
- Kuntzleman wing tip strobe/nav. lights
- Lighted panel
- Wheel fairings tricycle
- Dual hydraulic brakes
- Parking brake
- Carburetors preheating
- Cabin heating
- Adjustable pedals
- Upholstery
- Metallic paint

NOTE

For operating instructions refer to the documentation supplied with the instruments

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Minimum instruments and equipment list for VFR flights:

- Airspeed indicator
- Altimeter
- Compass *(is not required by ASTM F 2245)*
- Fuel quantity indicator
- Tachometer (RPM)
- Engine instruments as required by the engine manufacturer :
 - *Oil temperature indicator*
 - *Oil pressure indicator*
 - *Cylinder head temperature indicator*

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2.2 Engine

ROTAX 912 ULS engine 73.5 kW (98.6 hp) is installed in SportCruiser. Rotax 912 ULS is a 4-stroke, 4 cylinder, horizontally opposed, spark ignition engine with one central camshaft-push-rod-OHV. Liquid cooled cylinder heads, ram air cooled cylinders.

Dry sump forced lubrication. Dual contactless capacitor discharge ignition. The engine is fitted with an electric starter, AC generator and mechanical fuel pump. Prop drive via reduction gear with integrated shock absorber.

Coolant

Coolant type:

The water-free coolant **concentrate** can be used based on propylene glycol (refer to ROTAX engine Operator's Manual-section 10.2.1 and Installation Manual-section 11.6.1).

The conventional glycol/water coolant **mixture** can also be used (refer to ROTAX engine Operator's Manual-section 10.2.1 and Installation Manual-section 11.6.2).

WARNING

The coolant concentrate (propylen glycol) may not be mixed with conventional (glycol/water) coolant or with additives!
Non observance can lead to damages to the cooling system and engine.

CAUTION

Conventional glycol/water coolant reduce to apply the maximum permissible cylinder head temperature.

Type of coolant used by aircrafts manufacturer:

- see Section 10, Supplement No.2

Coolant liquid volume:

It is approximately 2.5 litres (0.7 US gal)

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Throttle and Choke

Engine power is controlled by means of the THROTTLE lever with the CHOKE lever which are positioned in the middle channel between the seats side by side. Both levers are mechanically connected (by cable) to the flap on the carburetors. Springs are added to the throttle push rods to ensure that the engine will go to full power if the linkages fail.

Carburetor preheating

Heated air streaming from a heat exchanger to the carburetor through the airbox. The control lever is installed on the instrument panel.

Heating

Heating consists of a heat exchanger on the exhaust manifold and control mechanism located on the right hand side of instrument panel.

CAUTION

Incidents involving exhaust gases entering the heating or ventilation system may result in fatal accidents due to carbon monoxide poisoning of the aircraft occupants. A carbon monoxide detector is recommended.

Electrical system

Battery

The 12 Volt battery is mounted on the front side of forward bulkhead.

Master switch

Master switch connects the electrical system to the 12 Volt battery.

NOTE

Ignition system is independent on the power source and will operate even with Master switch and/or breaker off.

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Ignition Switch

Ignition switch must be on "BOTH" position to operate the engine. For safety remove the key when engine is not running.

NOTE

All switches or engine controls are "up" or "push forward" for operation, except the choke, cabin heating and carburetor preheat, which is "Pull" for "On". Optional equipment, switches and/or circuit breakers are subject to change or installed as requested. See Aircraft Equipment List and Instrument panel layout and Description of equipment and controls in the cockpit.

2.3 Propeller

- standard, fixed three blade composite propeller

- WOODCOMP KLASSIC 170/3/R or EFFic 170/3/RF

NOTE

For technical data refer to documentation supplied by the propeller manufacturer

2.4 Fuel system

Wing tanks volume: 2 x 57 litres (2 x 15 US gallons)

Each tank is equipped with a vent outlet and finger screen filter.

Drain valve located in the lowest point of the each tank and on the bottom edge of the bulkhead, on the gascollator.

Main fuel selector valve is on the central console in the cockpit.

The electric fuel pump is located on bulkhead.

CAUTION

Do not overfill the tanks to avoid fuel overflow through venting tubes.

Pilot Operating Handbook**Recommended fuel type:**

(refer to the ROTAX engine Operator's Manual-section 10.2.2 and 13)

- min. RON 95, EN 228 Premium, EN 228 Premium plus or AVGAS100LL
- Fuel according to FAA - Standard Spec. for Automotive Spark-Ignition Engine Fuel, ASTM D 4814 or AVGAS 100 LL
- Fuel according to DOT - CAN/CGSB-3.5 Quality 3 min AKI 91 or AVGAS 100 LL , 93 octane automotive fuel

Due to higher lead content in AVGAS, the wear of the valve seats and deposits in the combustion chamber will increase. Therefore, use AVGAS only if you encounter problems with vapor lock or if the other fuel types are not available.

Fuel volume:

Wing fuel tank volume2 x 57 litres (2x15 US gal)
 Unusable fuel quantity2 x 0.9 litres (2x0.24 US gal)

2.5 Oil**Oil type:**

(refer to engine Operator's Manual-section 10.2.3)

Motorcycle 4-stroke engine oil of registered brand with gear additives.
 Use only oil with API classification „SG“ or higher!
 Use of multi-grade no mineral oils is recommended.

Type of oil used by aircrafts manufacturer:

- see Section 10, Supplement No.2

Oil volume:

Minimum3.3 litres (0.9 US gal)
 Maximum3.8 litres (1 US gal)

Pilot Operating Handbook**2.6 Operating weights and loading**

Empty weight (standard equipment).....345 kgs (760 lbs)

NOTE

Actual empty weight is shown in Section 4

Max. take-off weight600 kgs (1320 lbs)

Max landing weight600 kgs (1320 lbs)

Max. weight of fuel.....82 kgs (180 lbs)

Max. baggage weight in rear fuselage.....18 kgs (40 lbs)

Max. baggage weight in each wing locker.....20 kgs (44 lbs)

WARNING

Do not exceed maximum take-off weight 600 kgs (1320 lbs) !

Number of seats.....2

Minimum crew 1 pilot on the left seat

Minimum crew weight.....43 kgs (95 lbs)

Maximum crew weight.....see Section 4

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SECTION 3

3. OPERATING LIMITATIONS

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3.5	Maximum structural cruising speed	3-3
3.6	Crosswind and wind limitations	3-3
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3.9	Prohibited maneuvers	3-3
3.10	Engine operating speeds and limits	3-4
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3. OPERATING LIMITATIONS

3.1 Stalling speeds at maximum take-off weight

Conditions: Max.take-off weight Engine: idle	Wing flaps pos.	IAS			CAS			Altitude loss at recovery
		km/h	knots	mph	km/h	knots	mph	ft
Wing level stall	0°	72	39	45	80	43	49	65
	15°	65	35	40	72	39	45	49
	30°	59	32	37	69	37	43	33
Co-ordinated turn 30° bank	0°	78	42	48	85	46	53	82
	15°	70	38	44	78	42	48	66
	30°	65	35	40	72	39	45	49

3.2 Flap extended speed range - V_{S0} to V_{FE}

Flap operating range (IAS):
 59 - 139 km/h
 32 - 75 knots
 37 - 86 mph

3.3 Maximum maneuvering speed - V_A

Maximum maneuvering speed (IAS):
 163 km/h
 88 knots
 101 mph

3.4 Never exceed speed - V_{NE}

Never exceed speed (IAS):
 255 km/h
 138 knots
 158 mph

Pilot Operating Handbook**3.5 Maximum structural cruising speed – V_{NO}**

Maximum structural cruising speed (IAS): 200 km/h
 108 knots
 124 mph

3.6 Crosswind and wind limitation**Demonstrated crosswind performance**

Max. permitted head wind velocity
 for take-off and landing 23kts
 Max. permitted cross wind velocity
 for take-off and landing 10kts

3.7 Service ceiling

Service ceiling 10.000ft

3.8 Load factor

Maximum positive limit load factor +4 g
 Maximum negative limit load factor - 2 g

3.9 Prohibited maneuvers

WARNING
AEROBATICS AND INTENTIONAL SPINS ARE PROHIBITED !

The SportCruiser is approved for normal and below listed maneuvers:

- Steep turns not exceeding 60° bank
- Lazy eights
- Chandelles
- Stalls (except whip stalls)

Pilot Operating Handbook**3.11 Other limitations**

- *No smoking on board of the aircraft !*
- *There are permitted Day VFR flights*
- *Night VFR flights are permitted with installation of optional Night Lighting and Instruments Equipment and operation by an appropriately rated pilot.*

WARNING

IFR FLIGHTS AND INTENTIONAL FLIGHTS UNDER ICING
CONDITIONS ARE PROHIBITED!

Flight in rain

When flying in the rain, no additional steps are required. Aircraft qualities and performance are not substantially changed. However ***VMC must be maintained !***

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SECTION 4

4. WEIGHT AND BALANCE

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4.2 Center of gravity range and determination	4-3
4.3 Permitted payload range	4-12

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4. WEIGHT AND BALANCE INFORMATION

This section contains weight and balance records and the payload range for safe operating of SportCruiser.

4.1 Installed equipment list

- Rotax 912 ULS with airbox engine s/n: 5649761
- Woodcomp KLASSIC 170/3/R propeller s/n: 7386683R
- ASI
- DYNON D100 EFIS
- DYNON D120 EMS
- AirGizmo, Garmin GPS
- Garmin SL40 transceiver
- Garmin GTX 327 transponder
- PS Engineering PM 3000 intercom
- King AK-450 ELT
- Antennas
- G -205 trim control and PTT on the control sticks
- Kuntzleman wing tip strobe/nav. lights
- Lighted panel
- Wheel fairings tricycle
- Dual hydraulic brakes
- Parking brake
- Carburetors preheating
- Cabin heating
- Adjustable pedals
- Upholstery
- Metallic paint

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4.2 Center of gravity (CG) range and determination

Center of gravity (CG)

Operating CG range 27 to 38 % of MAC
405 to 570 mm of MAC

Determination CG

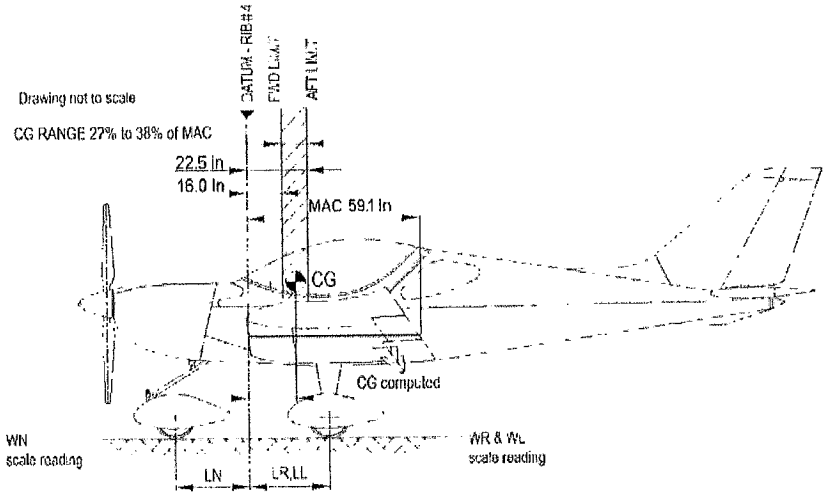
Weight and Balance report lists:

- Empty CG check
- Forward CG check
- Rear CG check
- Blank form

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WEIGHT & BALANCE REPORT Empty Weight C.G. Check



	ITEM	WEIGHT [lb]	ARM [in]	MOMENT (WEIGHT x ARM)
AIRCRAFT EMPTY CG	RIGHT MAIN WHEEL	$W_R = 310.9$	$L_R = 31.0$	9 637.9
	LEFT MAIN WHEEL	$W_L = 313.1$	$L_L = 31.1$	9 737.4
	NOSE WHEEL	$W_N = 176.4$	$L_N = -28.5$ negative arm	- 5 027.4
	COMPUTED CG EMPTY	Empty Weight: $W_E = 800.4 \text{ lbs}$	$CG = 17.9 \text{ in}$ 30.3 % MAC	Aircraft moment: 14 347.9

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	WEIGHT [lb]	ARM [in]	MOMENT (WEIGHT x ARM)
PILOT		27.6	
PASSENGER		27.6	
BAGGAGE COMPARTMENT - A		51.6	
BAGGAGE COMPARTMENT - B		70.9	
WING LOCKERS		23.6	
FUEL TANKS		7.1	
TOTAL	$W_T =$		$M_T =$
Take-Off Weight			CG= % MAC

Max. Take-off Weight: 1 320 lbs

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By:	Otakar Hrabinec

CG Range: 27 – 38 %

Maximum useful weight:

$$W_{\text{Max Useful}} = W_{\text{Max Take-off}} - W_{\text{Empty}}$$

$$W_{\text{Max Useful}} = 1\,320 \text{ lbs} - 800.4 \text{ lbs} = \underline{519.6 \text{ lbs}}$$

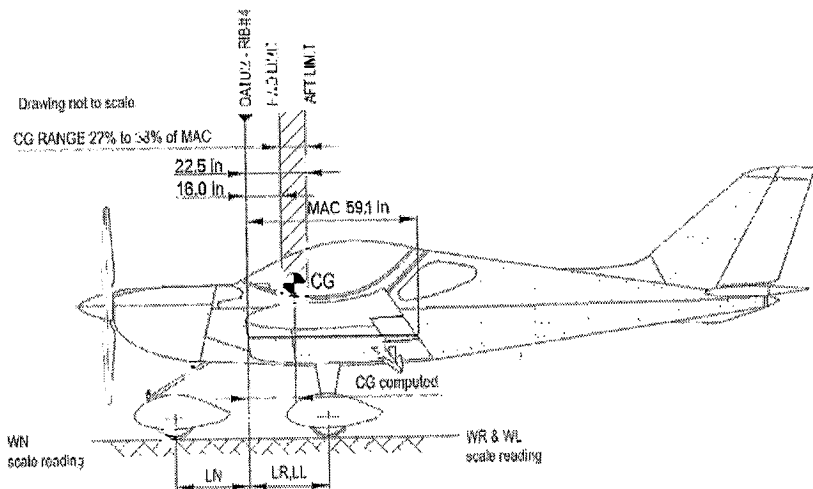
This useful weight must be never exceeded!

$$\text{Center of Gravity (CG)} = \frac{\text{Total Moment}}{\text{Total Weight}} \text{ [in]} \times \frac{100}{\text{MAC}} \text{ [%]}$$

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WEIGHT & BALANCE REPORT Forward C.G. Check



	ITEM	WEIGHT [lb]	ARM [in]	MOMENT (WEIGHT x ARM)
AIRCRAFT EMPTY CG	RIGHT MAIN WHEEL	$W_R = 310.9$	$L_R = 31.0$	9 637.9
	LEFT MAIN WHEEL	$W_L = 313.1$	$L_L = 31.1$	9 737.4
	NOSE WHEEL	$W_N = 176.4$	$L_N = -28.5$ negative arm	- 5 027.4
	COMPUTED CG EMPTY	Empty Weight: $W_E = 800.4$ lbs	CG = 17.9 in 30.3 % MAC	Aircraft moment: 14 347.9

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	WEIGHT [lb]	ARM [in]	MOMENT (WEIGHT x ARM)
PILOT	88.0	27.6	2 428.8
PASSENGER	0	27.6	0
BAGGAGE COMPARTMENT - A	0	51.6	0
BAGGAGE COMPARTMENT - B	0	70.9	0
WING LOCKERS	0	23.6	0
FUEL TANKS	181.0	7.1	1 285.1
TOTAL	W_T = 1 069.4		M_T = 18 061.8
Take-Off Weight	1 069.4 lbs		CG = 16.9 in 28.6 % MAC

Max. Take-off Weight: 1 320 lbs

Serial No.: 07SC086
Date: 2007-12-19
By: Otakar Hrabinec

CG Range: 27- 38 %

$$\text{Center of Gravity (CG)} = \frac{\text{Total Moment}}{\text{Total Weight}} \text{ [in]} \quad \times \quad \frac{100}{\text{MAC}} \text{ [%]}$$

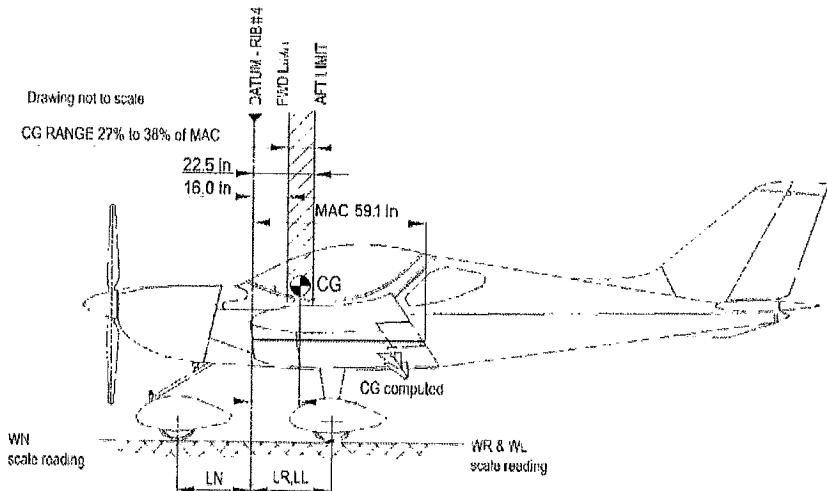
Date of Issue: 12/2007

Revision: 2.0

Pilot Operating Handbook

WEIGHT & BALANCE REPORT

Rear C.G. Check



	ITEM	WEIGHT [lb]	ARM [in]	MOMENT (WEIGHT x ARM)
AIRCRAFT EMPTY CG	RIGHT MAIN WHEEL	$W_R = 310.9$	$L_R = 31.0$	9 637.9
	LEFT MAIN WHEEL	$W_L = 313.1$	$L_L = 31.1$	9 737.4
	NOSE WHEEL	$W_N = 176.4$	$L_N = -28.5$ negative arm	- 5 027.4
	COMPUTED CG EMPTY	Empty Weight: $W_E = 800.4$ lbs	$CG = 17.9$ in 30.3 % MAC	Aircraft moment: 14 347.9

Date of Issue: 12/2007

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	WEIGHT [lb]	ARM [in]	MOMENT (WEIGHTxARM)
PILOT	190.0	27.6	5 244.0
PASSENGER	190.0	27.6	5 244.0
BAGGAGE COMPARTMENT - A	33.0	51.6	1 702.8
BAGGAGE COMPARTMENT - B	7.0	70.9	496.3
WING LOCKERS	69.0	23.6	1 628.4
FUEL TANKS	11.0	7.1	78.1
TOTAL	$W_T = 1\ 300.4$		$M_T = 28\ 741.5$
Take-Off Weight	1 300.4 lbs		CG = 22.1 in 37.4 % MAC

Max. Take-off Weight: 1 320 lbs

Serial No.: 07SC086
Date: 2007-12-19
By: Otakar Hrabinec

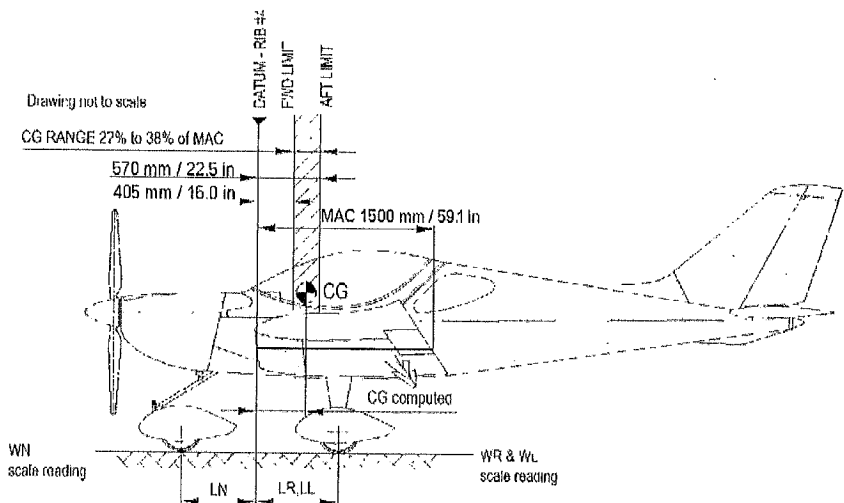
CG Range: 27 – 38 %

$$\text{Center of Gravity (CG)} = \frac{\text{Total Moment}}{\text{Total Weight}} \text{ [in]} \times \frac{100}{\text{MAC}} \text{ [%]}$$

Pilot Operating Handbook

WEIGHT & BALANCE REPORT

Blank form



	ITEM	WEIGHT [lb/kg]	ARM [in/mm]	MOMENT (WEIGHT x ARM)
AIRCRAFT EMPTY CG	RIGHT MAIN WHEEL	$W_R =$	$L_R =$	
	LEFT MAIN WHEEL	$W_L =$	$L_L =$	
	NOSE WHEEL	$W_N =$	$L_N =$ - negative arm	-
	COMPUTED CG EMPTY	Empty Weight: $W_E =$	CG= % MAC	Aircraft moment:

Pilot Operating Handbook

	WEIGHT [lb/kg]	ARM [in/mm]	MOMENT (WEIGHTxARM)
PILOT		27.6 / 700	
PASSENGER		27.6 / 700	
BAGGAGE COMPARTMENT - A		51.6 / 1 310	
BAGGAGE COMPARTMENT - B		70.9 / 1 800	
WING LOCKERS		23.6 / 600	
FUEL TANKS		7.1 / 180	
TOTAL	$W_T =$		$M_T =$
Take-Off Weight			$CG =$ % MAC

Max. Take-off Weight: 1 320 lbs (600 kgs)

Registration:
Serial No.:
Date:
By:

CG Range: 27 – 38 %

Maximum useful weight:

$$W_{\text{Max Useful}} = W_{\text{Max Take-off}} - W_{\text{Empty}}$$

$$W_{\text{Max Useful}} = 1\,320 \text{ lbs (600kgs)} - \quad = \quad \underline{\hspace{2cm}} \text{ lbs (kgs)}$$

This useful weight must be never exceeded!

$$\text{Center of Gravity (CG)} = \frac{\text{Total Moment}}{\text{Total Weight}} \text{ [in/mm]} \times \frac{100}{\text{MAC}} \text{ [%]}$$

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4.3 Permitted payload range

SportCruiser		Serial No.: 07SC086					
F	gauges together	for 60 min flight	1 / 4	1 / 2	3 / 4	1	
	U	volume	USgal	5	7.5	15	22.5
		litres	19	28.5	57	85.5	114
E	weight	lbs	30	45	90	135	180
		kgs	14	21	41	62	82
		Permitted crew weight					
B	No baggage	lbs	490	475	430	385	340
		(kg)	222	215	195	174	154
A	½ rear 20 lbs (9 kgs)	lbs	470	455	410	365	320
		(kg)	213	206	186	165	145
B	rear 40 lbs (18 kgs)	lbs	450	435	390	345	300
		(kg)	204	197	177	156	136
A	½ wing lockers 44 lbs (20 kgs)	lbs	446	431	386	341	296
		(kg)	202	195	175	154	134
G	½ rear + ½ wing lockers 64 lbs (29 kgs)	lbs	426	411	366	321	276
		(kg)	193	186	166	145	125
A	rear + ½ wing lockers 84 lbs (38 kgs)	lbs	406	391	346	301	256
		(kg)	184	177	157	136	116
G	wing lockers 88 lbs (40 kgs)	lbs	402	387	342	297	252
		(kg)	182	175	155	135	114
E	½ rear + wing lockers 108 lbs (49 kgs)	lbs	382	367	322	277	232
		(kg)	173	166	146	125	105
E	rear + wing lockers 128 lbs (58 kgs)	lbs	362	346	302	257	212
		(kg)	164	157	137	116	96
Crew weight = Max. Take-off weight - Empty weight - Baggage weight - Fuel weight							

* This weight values are determine with regard on rear CG range.

SECTION 5**5. PERFORMANCE**

5.1 Take-off and landing distances	5-3
5.2 Rate of climb	5-3
5.3 Cruise speeds	5-4
5.4 Fuel consumption	5-5
5.5 Airspeed indicator system calibration	5-6

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Pilot Operating Handbook

CZAW

5. PERFORMANCE

The presented data has been computed from actual flight tests with the aircraft and engine in good conditions and using average piloting techniques.

If not stated otherwise, the performance stated in this section is valid for maximum take-off weight and under ISA conditions.

The performance shown in this section is valid for aircraft fitted with given engine ROTAX 912 ULS 73.5 kW (98.6 hp) with WOODCOMP Klassic 170/3/R or EFFic 170/3/RF propeller.

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5.1 Take-off and landing distances

Take-off distances:

RWY	Take-off run distance		Take-off distance over 15 m (50 ft) obstacle	
	[m]	[ft]	[m]	[ft]
CONCRETE	100	328	250	820
GRASS	110	361	280	918

Landing distances:

RWY	Landing distance over 15 m (50 ft) obstacle		Landing run distance (braked)	
	[m]	[ft]	[m]	[ft]
CONCRETE	180	591	45	148
GRASS	170	558	38	124

5.2 Rate of climb

Conditions: Max.continuous power: 5500 rpm Weight: 600 kg (1320 lbs)	Best rate of climb speed IAS			Rate of climb Vz
	km/h	knots	mph	fpm
0 ft ISA	120	65	75	1200
3000 ft ISA	120	65	75	850
6000 ft ISA	110	60	70	550
9000 ft ISA	100	55	63	315

Pilot Operating Handbook

5.3 Cruise speeds

Altitude [ft ISA]	Engine speed [rpm]	IAS			CAS		
		km/h	knots	mph	km/h	knots	mph
0	4500	157	85	98	156	84	97
	4800	174	94	108	170	92	106
	5000	183	99	114	178	96	110
	5300	194	105	121	189	102	117
	5500	204	110	127	196	106	122
	5800	220	119	137	211	114	131
3000	4500	145	79	90	144	78	89
	4800	163	88	101	159	86	99
	5000	174	94	108	170	92	106
	5300	183	99	114	178	96	110
	5500	193	104	120	187	101	116
	5800	204	110	127	196	106	122
6000	4500	128	69	79	130	70	81
	4800	144	78	89	143	77	89
	5000	156	84	97	154	83	95
	5300	165	89	102	161	87	100
	5500	174	94	108	170	92	106
	5800	185	100	115	180	97	112
9000	4500	98	53	61	102	55	63
	4800	115	62	71	119	64	74
	5000	130	70	81	132	71	82
	5300	144	78	89	143	77	89
	5500	159	86	99	157	85	98
	5800	174	94	108	170	92	106

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5.4 Fuel consumption

The table below shows fuel consumption, endurance and range

Altitude		[ft ISA]	3000				
Fuel quantity		[l]	112				
		[US gal]	29.5				
Engine speed		[rpm]	4500	4800	5000	5300	5500
Fuel consumption		[l/h]	14	16	18	21	23
		[US gal/h]	3.7	3.6	3.9	4.7	5.2
Airspeed	IAS	[km/h]	145	163	174	183	193
		[knots]	79	88	94	99	104
		[mph]	90	101	108	114	120
	CAS	[km/h]	144	159	170	178	187
		[knots]	78	86	92	96	101
		[mph]	89	99	106	110	116
Endurance		[hh:mm]	08:00	07:00	06:10	05:20	04:50
Range		[km]	1150	1110	1055	945	910
		[NM]	620	600	570	510	490
		[SM]	710	690	655	585	565

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5.5 Airspeed indicator system calibration

IAS	CAS
<i>km/h</i>	
55	64
60	68
70	77
80	86
90	95
100	104
110	113
120	122
130	131
140	140
150	149
160	158
170	167
180	176
190	185
200	194
210	203
220	212
230	221
240	230
250	239
255	243

IAS	CAS
<i>knots</i>	
30	35
35	39
40	44
45	48
50	53
55	57
60	62
65	66
70	71
75	75
80	79
85	84
90	88
95	93
100	97
105	102
110	106
115	111
120	115
125	120
130	124
135	129
140	133

IAS	CAS
<i>mph</i>	
35	41
40	45
45	49
50	54
55	58
60	63
65	67
70	72
75	76
80	81
85	85
90	89
95	94
100	98
105	103
110	107
115	112
120	116
125	121
130	125
135	130
140	134
145	139
150	143
155	148
160	152

SECTION 6

6. EMERGENCY PROCEDURES

6.1 Engine failure	6-2
6.2 In-flight engine starting	6-3
6.3 Smoke and fire	6-3
6.4 Glide	6-5
6.5 Landing emergencies	6-5
6.6 Recovery from unintentional spin	6-7
6.7 Other emergencies	6-7

6. EMERGENCY PROCEDURES

This section provides checklists and amplified procedures for coping with various emergencies that may occur. Emergencies caused by aircraft or engine malfunction are extremely rare if proper pre-flight inspections and maintenance are practiced.

However, should an emergency arise, the basic guidelines described in this section should be considered and applied as necessary to correct the problem.

6.1 Engine Failure

6.1.1 Engine failure during take-off run

1. Throttle - idle
2. Ignition switch - switch off
3. Apply brakes

6.1.2 Engine failure during take-off

1. Speed - gliding at 110 km/h (60 knots, 70 mph)
2. Altitude - below 150 ft: land in take-off direction
- over 150 ft: choose a landing area
3. Wind - find direction and velocity
4. Landing area - choose free area without obstacles
5. Flaps - extend as needed
6. Fuel Selector - close
7. Ignition switch - switch off
8. Safety harness - tighten
9. Master switch - switch off before landing
10. Land

Pilot Operating Handbook**6.1.3 Engine failure in flight**

1. Push control stick forward
2. Speed - gliding at 110 km/h (60 knots, 70 mph)
3. Height - below 150 ft: land in take-off direction
- over 150 ft: choose a landing area
4. Wind - find direction and velocity
5. Landing area - choose free area without obstacles
6. Flaps - extend as needed
7. Fuel Selector - close
8. Ignition switch - switch off
9. Safety harness - tighten
10. Master switch - switch off before landing
11. Land

6.2 In-flight Engine Starting

1. Switches - switch off unnecessary electrical equipment
2. Master switch - switch on
3. Fuel Selector - turn on (to tank with more quantity of fuel)
4. Throttle - idle
5. Electric pump - switch on
6. Ignition switch - hold activated to start the engine
7. After engine starting - electric pump - switch off
- other switches - switch on as needed

6.3 Smoke and Fire**6.3.1 Fire on ground at engine starting**

1. Fuel Selector - close
2. Throttle - full power
3. Ignition switch - switch off
4. Leave the airplane
5. Extinguish fire by fire extinguisher or call for a fire-brigade if you cannot do it.

Pilot Operating Handbook**6.3.2 Fire on ground with engine running**

1. Heating - close
2. Fuel selector - close
3. Throttle - full power
4. Ignition switch - switch off
5. Leave the airplane
6. Extinguish fire by fire extinguisher or call for a fire-brigade if you cannot do it.

6.3.3 Fire during take-off

1. Speed - 110 km/h (*60 knots, 70 mph*)
2. Heating - close
3. Fuel Selector - close
4. Throttle - full power
5. Ignition switch - switch off
6. Land, stop and leave the airplane
7. Extinguish fire by fire extinguisher or call for a fire-brigade if you cannot do it.

6.3.4 Fire in flight

1. Heating - close
2. Fuel Selector - close
3. Throttle - full power
4. Master switch - switch off
5. Ignition switch - switch off after the fuel in carburetors is consumed and engine shut down
6. Choose of area - heading to the nearest airport or choose emergency landing area
7. Emergency landing - perform according to 6.5.1
8. Leave the airplane
9. Extinguish fire by yourself or call for a fire-brigade if you cannot do it.

Pilot Operating Handbook**NOTE**

Estimated time to pump fuel out of carburetors is 30 seconds.

WARNING

Do not attempt to re-start the engine!

6.3.5 Fire in the cockpit

1. Master switch - switch off
2. Heating - close
3. Use the fire extinguisher

6.4 Glide

An example of the use of gliding is in the case of engine failure

1. Speed - recommended gliding speed 110 km/h (60 knots, 70 mph)

6.5 Landing Emergencies**6.5.1 Emergency landing**

Emergency landings are generally carried out in the case of engine failure and the engine cannot be re-started.

1. Speed - adjust for optimum gliding 110 km/h (60 knots, 70 mph)
2. Trim - adjust
3. Safety harness - tighten
4. Flaps - extend as needed
5. COMM - if installed then report your location if possible
6. Fuel Selector - close
7. Ignition switch - switch off
8. Master switch - switch off
9. Perform approach without steep turns and land on chosen landing area.

6.5.2 Precautionary landing

A precautionary landing is generally carried out in the cases where the pilot may be disorientated, the aircraft has no fuel reserve or possibly in bad weather conditions.

1. Choose landing area, determine wind direction
2. Report your intention to land and land area location if a COMM is installed in the airplane.
3. Perform low-altitude passage into wind over the right-hand side of the chosen area with flaps extended as needed and thoroughly inspect the landing area.
4. Perform circle pattern.
5. Perform approach at increased idling with flaps fully extended.
6. Reduce power to idle when flying over the runway threshold and touch-down at the very beginning of the chosen area.
7. After stopping the airplane switch off all switches, close the fuel selector, lock the airplane and seek for assistance.

NOTE

Watch the chosen area steadily during precautionary landing.

6.5.3 Landing with a flat tire

1. During landing keep the damaged wheel above ground as long as possible using the ailerons control
2. Maintain the direction on the landing roll out, applying rudder control.

6.5.4 Landing with a defective landing gear.

1. If the main landing gear is damaged, perform touch-down at the lowest practicable speed and if possible, maintain direction during landing run.
2. If the nose wheel is damaged perform touch-down at the lowest practicable speed and hold the nose wheel above the ground by means of the elevator control as long as possible.

6.6 Recovery from Unintentional Spin

WARNING
Intentional spins are prohibited!

There is no uncontrollable tendency of the airplane to enter into a spin provided the normal piloting techniques are used.

Unintentional spin recovery technique:

1. Throttle - idle
2. Lateral control - ailerons neutralized
3. Rudder pedals - full opposite rudder
4. Rudder pedals - neutralize rudder immediately when rotation stops
5. Longitudinal control - neutralize or push forward and recovery dive.

6.7 Other Emergencies

6.7.1 Vibration

If any forced aircraft vibrations appear, it is necessary:

1. To set engine speed to such power rating where the vibrations are lowest.
2. To land on the nearest airfield or to perform a precautionary landing according to 6.5.2.

6.7.2 Carburetor icing

The carburetor icing shows itself through a decrease in engine power and an increase of engine temperatures.

To recover the engine power, the following procedure is recommended:

1. Carburetors heating - open
2. Throttle - set to 1/3 of power
3. Speed - min. 140 km/h (76 knots, 87mph)
4. Leave the icing area - as soon as possible
5. Engine power - increase gradually

If you fail to recover the engine power, land on the nearest airfield (if possible) or depending on the circumstances, perform a precautionary landing according to 6.5.2

NOTE

Use carburetors heating at long time descent and in area of possible carburetors icing.

Remember: Aircraft is approved to operate in VMC condition only!

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SECTION 7

7. NORMAL PROCEDURES

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7.12 Airplane parking and tie-down	7-10

7. NORMAL PROCEDURES

This section provides checklists and recommended procedures for normal operation of the aircraft.

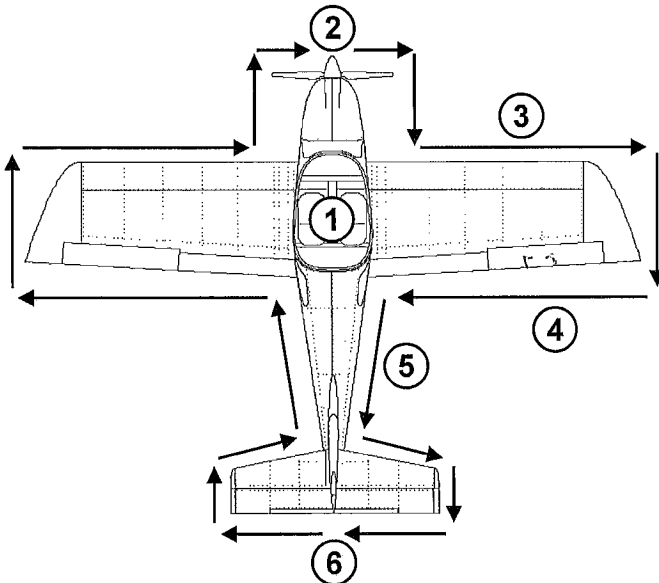
7.1 Pre-flight check

Carry out the pre-flight inspection every day prior to the first flight or after airplane assembly. Incomplete or careless inspection can cause an accident. Carry out the inspection following the instructions in the Inspection Check List.

NOTE

The word "condition" in the instructions means a visual inspection of surface for damage deformations, scratching, chafing, corrosion or other damages, which may lead to flight safety degradation.

The manufacturer recommends carrying out the pre-flight inspection as follows:



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Inspection Check List

①	<ul style="list-style-type: none"> - Ignition - OFF - Master switch - ON - Fuel gauge ind. - check fuel quantity - Master switch - OFF - Avionics - check condition - Control system - visual inspection, function, clearance, free movement up to stops - - check wing flaps operation - Canopy - condition of attachment, cleanness - Check cockpit for loose objects
②	<ul style="list-style-type: none"> - Engine cowling condition - Propeller and spinner condition - Engine mount and exhaust manifold condition - Oil and coolant quantity check - Visual inspection of the fuel and electrical system - Fuel system draining - Other actions according to the engine manual
③	<ul style="list-style-type: none"> - Wing surface condition - Leading edge condition - Pitot head condition
④	<ul style="list-style-type: none"> - Wing tip - surface condition, attachment - Aileron - surface condition, attachment, clearance, free movement - Wing flap - surface condition, attachment, clearance
⑤	<ul style="list-style-type: none"> - Landing gear - wheel attachment, brakes, condition and pressure of tires - Wing lower surface and fuselage bottom condition
⑥	<ul style="list-style-type: none"> - Vertical tail unit - condition of surface, attachment, free movement, rudder stops - Horizontal tail unit - condition of surface, attachment, free movement, elevator stops
	<ul style="list-style-type: none"> - The check left side the fuselage and wing is the same as right side

Pilot Operating Handbook**WARNING**

Physically check the fuel level before each takeoff to make sure you have sufficient fuel for the planned flight.

CAUTION

In case of long-term parking it is recommended to turn the engine several times (Ignition OFF!) by turning the propeller. Always handle by palm the blade area i.e. do not grasp only the blade edge. It will facilitate engine starting.

7.2 Engine starting**7.2.1 Before engine starting**

1. Control system - free & correct movement
2. Canopy - clean
3. Safety harness - tighten
4. Brakes - fully applied

7.2.2 Engine starting

1. Start the engine according to its manual procedure
2. Master switch - switch on
3. Fuel Selector - turn on (left or right fuel tank)
4. Choke (cold engine) - pull to open and gradually release after engine start
5. Electrical pump - switch on
6. Ignition switch - hold activated to start the engine
7. After engine starting
 - instrument - switch on
 - el. pump - switch off
 - avionics - switch on
 - other switches - switch on as needed

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CAUTION

The starter should be activated for a maximum of 10 sec., followed by 2 min. pause for engine cooling.

As soon as engine runs, adjust throttle to achieve smooth running at approx. 2500 rpm. Check the oil pressure, which should increase within 10 sec. Increase the engine speed after the oil pressure has reached 2 bars (29 psi) and is steady.

To avoid shock loading, start the engine with the throttle lever set for idling or 10% open at maximum, then wait 3 sec to reach constant engine speed before new acceleration.

Only one magneto should be switched on (off) during ignition magneto check.

7.2.3 Engine warm up, Engine check

Prior to engine check block the main wheels using chocks. Initially warm up the engine to 2000 rpm for approx. 2 minutes, then continue to 2500 rpm till oil temperature reaches 50°C (122°F). The warm up period depends on ambient air temperature.

Check both ignition circuits at 4000 rpm for Rotax 912 ULS. The engine speed drop during the time either magneto switched off should not over 300 rpm. The max. engine speed drop difference between circuits L and R should be 120 rpm.

NOTE

Only one magneto should be switched on (off) during ignition magneto check

Set max. power for verification of max. speed with given propeller and engine parameters (temperatures and pressures).

Check acceleration from idling to max. power. If necessary, cool the engine at 3000 rpm before shut down.

Pilot Operating Handbook**CAUTION**

The engine check should be performed with the aircraft heading upwind and not on a loose terrain (the propeller may suck grit which can damage the leading edges of blades).

7.3 Taxiing

Apply power and brakes as needed. Apply brakes to control movement on ground. Taxi carefully when wind velocity exceeds 20 knots. Hold the control stick in neutral position.

7.4 Normal Take-off**7.4.1 Before take-off**

1. Altimeter - set
2. Trim - set neutral position
3. Control system - check free movement
4. Cockpit canopy - closed
5. Safety harness - tighten
6. Fuel Selector - turn on (left or right fuel tank)
7. Ignition switch - switched on (both magnetos)
8. Wing flaps - extend as needed

7.4.2 Take-off

1. Brakes - apply to stop wheel rotation
2. Take-off power - throttle fully forward
(max. 5800 rpm for max. 5 minutes)
3. Engine speed - check rpm
4. Instruments within limits - check
5. Brakes - release
6. Nose wheel unstick - 60 km/h (32 knots, 37 mph)
7. Airplane lift-off - 80 km/h (43 knots, 50 mph)
8. Transit to climb - after reaching 110 km/h
(60 knots, 70 mph)
9. Wing flaps - retract when speed of 110 km/h
(60 knots, 70 mph) is reached,
at height of 150 ft above ground

Pilot Operating Handbook**WARNING**

The Take-off is prohibited if:

- The engine is running unsteadily
- The engine instruments values are beyond operational limits
- The crosswind velocity exceeds permitted limits (see 3.6)

7.5 Climb

1. Throttle
 - max. take-off power
(max. 5800 rpm for max. 5 minutes)
 - max. continue power (5500 rpm)
2. Airspeed
 - $v_x = 110$ km/h (60 knots, 70 mph)
 - $v_y = 120$ km/h (65 knots, 75 mph)
3. Trim
 - trim the airplane
4. Instruments
 - oil temperature, oil pressure and
CHT within limits

CAUTION

If the cylinder head temperature or oil temperature approach their limits, reduce the climb angle to decrease airspeed and thus fulfill the limits.

7.5.1 Best angle of climb speed(v_x): 110 km/h (60 knots, 70 mph)

7.5.2 Best rate of climb speed(v_y): 120 km/h (65 knots, 75 mph)

7.6 Cruise

Refer to Section 5, for recommended cruising figures

Pilot Operating Handbook**7.7 Descend**

Optimum glide speed - 110 km/h (60 knots, 70 mph)

7.8 Approach

Approach speed - 110 km/h (60 knots, 70 mph)

1. Throttle - as needed
2. Wing flaps - extend as needed
3. Trim - as needed

CAUTION

It is not advisable to reduce the engine throttle control lever to minimum on final approach and when descending from very high altitude. In such cases the engine becomes under-cooled and a loss of power may occur. Descent at increased idle (approx. 3000 rpm), speed between 120-140 km/h (65-76 knots, 75-87 mph) and check that the engine instruments indicate values within permitted limits.

7.9 Normal landing**7.9.1 Before landing**

1. Throttle - as needed
2. Airspeed - 110 km/h (60 knots, 70 mph)
3. Wing flaps - extend as needed
4. Trim - as needed

7.9.2 Landing

1. Throttle - idle
2. Touch-down on main wheels
3. Apply brakes (after the nose wheel touch-down) - as needed

7.9.3 After landing

1. Throttle - engine rpm set as required for taxiing
2. Wing flaps - retract
3. Trim - set neutral position

Pilot Operating Handbook**7.9.4 Engine shutdown**

1. Throttle - idle
2. Instruments - engine instruments within limits
3. Switches - switch off except Instrument and Master
4. Ignition switch - turn key to switch off
5. Instruments - switch off
6. Master switch - switch off
7. Fuel Selector - close

CAUTION

Rapid engine cooling should be avoided during operation. This happens above all during aircraft descent, taxiing, low engine rpm or at engine shutdown immediately after landing.

Under normal conditions the engine temperatures stabilize during descent, taxiing and at values suitable to stop engine by switching the ignition off. If necessary, cool the engine at 2500 - 2750 rpm to stabilize the temperatures prior to engine shut down.

7.10 Short field take-off and landing procedures

None

7.11 Balked landing procedures

1. Throttle - max. take-off power
(max. 5800 rpm for max. 5 minutes)
2. Transit to climb - after reaching 110 km/h (60 knots, 70 mph)
3. Trim - adjust as needed
4. Wing flaps - retract at height of 150 ft after reaching
110 km/h (60 knots, 70 mph)
5. Trim - adjust as needed
6. Repeat circle pattern

7.12 Aircraft parking and tie-down

1. Ignition switch - OFF
2. Master switch - OFF
3. Fuel selector - close
4. Parking brake - use it as necessary (if installed)
5. Canopy - close, lock as necessary
6. Secure the airplane

NOTE

It is recommended to use parking brake (if installed) for short-time parking only, between flights during a flight day. After ending the flight day or at low temperatures of ambient air, do not use parking brake, but use the wheel chocks instead.

NOTE

Use anchor eyes on the wings and fuselage rear section to fix the airplane. Move control stick forward and fix it together with the rudder pedals. Make sure that the cockpit canopy is properly closed and locked. The anchoring before leaving the airplane is important if the airplane is not equipped with a parking brake.

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SECTION 8

8. AIRPLANE GROUND HANDLING AND SERVICING

8.1 Servicing fuel, oil and coolant	8-2
8.2 Towing and tie-down instructions	8-2
8.3 Assembly and Disassembly	8-5
8.4 Aircraft inspection periods	8-5
8.5 Aircraft alterations or repairs	8-5

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8. AIRPLANE GROUND HANDLING AND SERVICING

This section contains factory-recommended procedures for proper ground handling and servicing of the airplane. It also identifies certain inspection and maintenance requirements, which must be followed if the airplane is to retain that new-plane performance and dependability.

8.1 Servicing fuel, oil and coolant

See appropriate chapters in the ROTAX engine Maintenance and Operator's manuals and SportCruiser Aircraft Maintenance and Inspection Procedures.

8.2 Towing and tie-down instructions

8.2.1 Towing

To handle the airplane on ground use the Tow Bar, or the fuselage rear pushed down in the place of a bulkhead.

CAUTION

Avoid excessive pressure at the airplane airframe-especially at control surfaces. Keep all safety precautions, especially in the propeller area.

8.2.2 Mooring

The airplane should be moored when parked outside a hangar after the flight day. The mooring is necessary to protect the airplane against possible damage caused by wind and gusts.

For this reason the aircraft is equipped with mooring eyes located on the lower surfaces of the wings.

Mooring procedure:

1. Check: Fuel Selector shut off, Circuit breakers and Master switch switched off, Switch box switched off.

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2. Fix the hand control using e.g. safety harness
3. Close air vent
4. Close and lock canopy
5. Moor the aircraft to the ground by means of a mooring rope passed through the mooring eyes located on the lower surfaces of the wings and below rear fuselage.

NOTE

In the case of long term parking, especially during winter, it is recommended to cover the cockpit canopy or possibly the whole aircraft by means of a suitable tarpaulin attached to the airframe.

8.2.3 Parking

It is advisable to park the airplane inside a hangar or alternatively inside any other suitable space (garage) with stable temperature, good ventilation, low humidity and dust-free environment.

It is necessary to moor the airplane when it is parked outside a hangar. Also when parking for a long time, cover the cockpit canopy, possibly the whole airplane by means of a suitable tarpaulin.

8.2.4 Jacking

Since the empty weight of this aircraft is relatively low, two people can lift the aircraft easily.

First of all prepare two suitable supports to support the aircraft.

It is possible to lift the aircraft by handling the following parts:

- By pushing the fuselage rear section down in the place of a bulkhead the fuselage front section may be raised and then supported under the firewall.
- By holding the fuselage rear section under a bulkhead the fuselage rear may be raised and then supported under that bulkhead.
- To lift up a wing, push from underneath that wing **only** at the main spar area. Do not lift up a wing by handling the wing tip.

Pilot Operating Handbook**8.2.5 Road transport**

The aircraft may be transported after loading on a suitable car trailer. It is necessary to dismantle the wings before road transport. The aircraft and dismantled wings should be attached securely to protect these parts against possible damage.

8.2.6 Cleaning and care

Use efficient cleaning detergents to clean the aircraft surface. Oil spots on the aircraft surface (except the canopy!) may be cleaned with petrol. The canopy may only be cleaned by washing it with a sufficient quantity of lukewarm water and an adequate quantity of detergents. Use either a soft, clean cloth sponge or deerskin. Then use suitable polishers to clean the canopy.

CAUTION

Never clean the canopy under "dry" conditions and **never** use petrol or chemical solvents!

Upholstery and covers may be removed from the cockpit, brushed and eventually washed in lukewarm water with an adequate quantity of detergents. Dry the upholstery thoroughly before insertion into the cockpit.

CAUTION

In the case of long term parking, cover the canopy to protect the cockpit interior from direct sunshine.

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8.3 Assembly and Disassembly

Refer to the SportCruiser Maintenance and Inspection Procedures and the SportCruiser Aircraft Assembly photo manual.

8.4 Aircraft inspection periods

Periods of overall checks and contingent maintenance depends on the condition of the operation and on overall condition of the airplane.

Inspections and revisions should be carried out in the following periods, at least:

after the first 25 flight hours

after every 50 flight hours

after every 100 flight hours or at least annual inspection

Refer to the Engine Operator's Manual for engine maintenance.

Maintain the propeller according to its manual.

All repairs and maintenance should be made in accordance with AC 43.13-1B.

8.5 Aircraft alterations or repairs

It is recommended to contact the airplane manufacturer prior to any alternations to the aircraft to ensure that the airworthiness of the aircraft is not violated. Always use only the original spare parts produced by the airplane (engine, propeller) manufacturer.

If the aircraft weight is affected by that alternation, a new weighing is necessary, then record the new empty weight into the Weight and Balance record / Permitted payload range and up-date the placard showing weights in the cockpit.

SECTION 9**9. REQUIRED PLACARDS AND MARKINGS**

9.1 Airspeed indicator range markings	9-3
9.2 Engine instruments markings	9-3
9.3 Operating limitations on instruments panel	9-4
9.4 Passenger warning	9-5
9.5 Prohibited maneuvers	9-5
9.6 Miscellaneous placards and markings	9-5

9. REQUIRED PLACARDS AND MARKINGS

This section includes placards and instruments markings necessary for the safe operation of the aircraft.

The airplane must be placarded with:

- All circuit breakers
- All switches
- Choke: ON and OFF
- Elevator trim: Nose UP and Tail DOWN
- Flaps: UP and DOWN
- Maximum rear baggage weight: 18 kg (*40 lbs*)
- Maximum weight in each wing locker: 20 kg (*44 lbs*)
- Instruments
- Airspeed limitations
- Canopy: Open - Close
- Fuel capacity: 57 litres / 95 Octane
15 US gal / 93 Octane - at filler necks
- Fireproof Identification plate to be affixed to the aircraft in a prominent position near the main point of entrance to the aircraft (plate must show required information)

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9.1 Airspeed indicator range markings

Marking	IAS value or range			Significance
	km/h	knots	mph	
White arc	59-139	32-75	37-86	Flap Operating Range.
Green arc	72-200	39-108	45-124	Normal Operating Range.
Yellow arc	200-255	108-138	124-158	Maneuvers must be conducted with caution and only in smooth air.
Red line	255	138	158	Maximum speed for all operations.

9.2 Engine instruments markings

Rotax 912ULS 73.5kW (98.6 hp)	Minimum Limit (red line)	Normal Operating Range (green arc)	Caution Range (yellow arc)	Maximum Range (red line)
Engine speed [RPM]	1400	1400-5500	5500-5800	5800
Oil Temperature	50°C (122°F)	90-110°C (194-230°F)	110-130°C (230-266°F)	130°C (266°F)
Exhaust Gas Temp. (EGT)	-	800-850°C (1472-1562°F)	850-880°C (1562-1616°F)	880°C (1616°F)
Cylinder head Temperature (CHT)	50°C (122°F)	75-110°C (167-230°F)	110-120 / 135°C (230-275°F)	120 / 135°C * (248 / 275°F)
Oil Pressure	0.8 bar (12 psi)	2-5 bar (29-73 psi)	5-7 bar (73-102 psi)	7 bar (102 psi) cold engine starting

* Max. cylinder head temperature depend on the type of coolant used in the engine
- see Section 10, Supplement No.2

Date of Issue: 12/2007

Revision: 2.0

Pilot Operating Handbook**9.3 Operating limitation on instrument panel**

AIRSPEEDS:	
V _{NE}	158 mph
V _A	101 mph
V _{FE}	86 mph
V _{SO}	37 mph

AIRSPEEDS:	
V _{NE}	138 kts
V _A	88 kts
V _{FE}	75 kts
V _{SO}	32 kts

AIRSPEEDS:	
V _{NE}	255 km/h
V _A	163 km/h
V _{FE}	139 km/h
V _{SO}	59 km/h

WARNING !
DO NOT EXCEED MAXIMUM TAKE-OFF WEIGHT:
600 kg (1320 lbs)

WARNING !
IFR FLIGHTS AND INTENTIONAL FLIGHTS UNDER ICING
CONDITIONS ARE PROHIBITED

Operating limitation in baggage space

MAX. BAGGAGE WEIGHT: 18 kg (40 lbs)

MAX. WEIGHT IN WING LOCKER: 20 kg (44 lbs)

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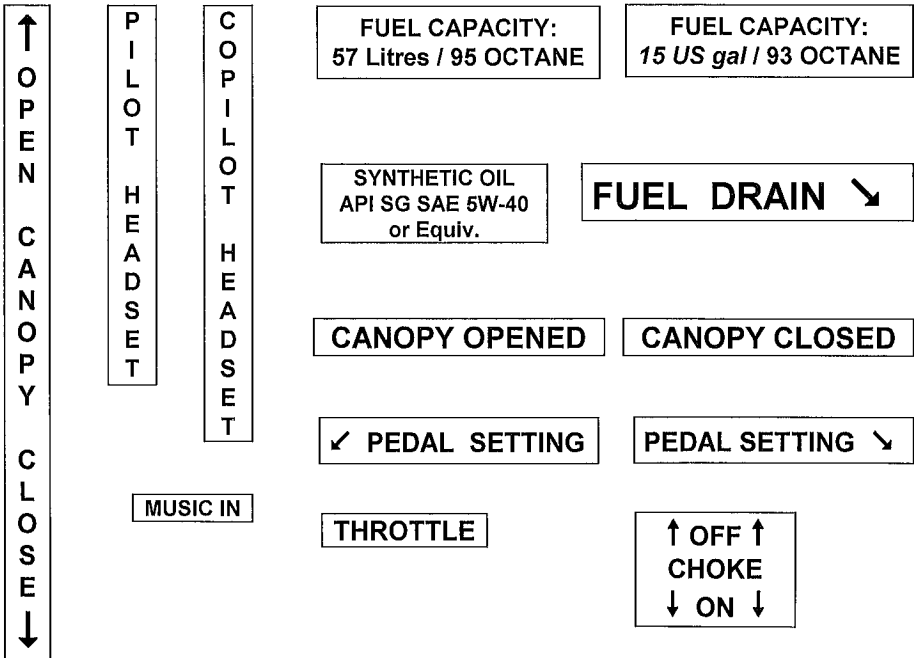
9.4 Passenger warning

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

9.5 Prohibited maneuvers

NO INTENTIONAL SPINS !
AEROBATICS PROHIBITED !

9.6 Miscellaneous placards and markings



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BAGGAGE COMPARTMENT - A

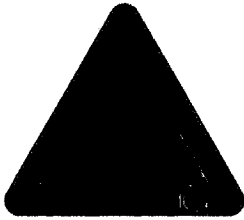
BAGGAGE COMPARTMENT - B

NO STEP

NO PUSH

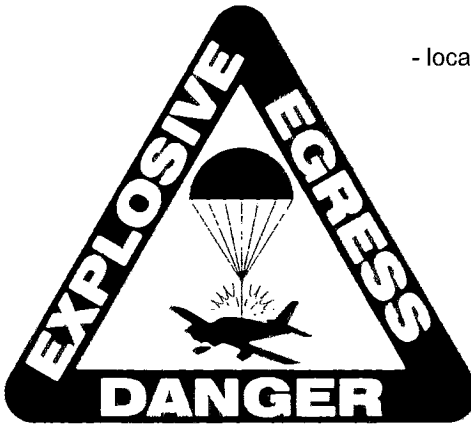
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If BRS rescue system is installed:



- located on the both sides of fuselage
between canopy and rear window

This aircraft is equipped with
a ballistically-deployed
emergency parachute system



- located in place rocket egress

Rocket Deployed Parachute Egress Area

STAY CLEAR

Emergency Information at: www.BRSparachutes.com
or call (651) 457-7491 —after hours & weekends call (763) 225-6110

CAUTION

The owner (operator) of this airplane is responsible for the readability
of placards during the aircraft service life.

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SECTION 10

10. SUPPLEMENTARY INFORMATIONS

10.1 List of inserted supplements	10-2
10.2 Inserted supplements	10-4

10. SUPPLEMENTARY INFORMATIONS

This section contains the appropriate supplements necessary to safely and efficiently operate the aircraft when equipped with various optional systems and equipment not provided with the standard airplane.

10.1 List of inserted supplements

Date	Suppl. No.	Title of inserted supplement
12/2007	01/2007	Aircraft Flight Training Supplement
01/2008	02/2008	Description of the aircraft S/N 08SC087

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Date	Suppl. No.	Title of inserted supplement

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10.2 Inserted Supplemets

Date of Issue: 12/2007

Revision: 2.0

Aircraft Flight Training Supplement

The SportCruiser flying characteristics and behavior are similar as the other single engine aircraft.

Following training procedure is applicable if the pilot is holder of PPL or LSA Pilot License. The training flight hours are recommended minimum and depends on the Flight Instructor if student pilot is ready to continue on in next training step. Training can be performed by Flight Instructor or by the experienced pilot who has minimum 20 hours on the SportCruiser.

Type Rating Training Procedure:

Ground Training - *before practical Flight Training the pilot has to get familiar with following procedures and documentation*

- *Pilot Operating Handbook (POH)*
- *Aircraft Maintenance and Inspection Procedures*
- *Aircraft preflight inspection procedure*
- *Control Checklists*
- *Radio, avionics, aircraft and engine controls procedures*
- *Differences in control and aircraft handling*
- *Emergency procedures*

Pilot Operating Handbook - Supplement No. 01/2007**Flight training program - recommended**

Flight Training Procedure		Dual		Solo	
		Flights	hr/min	Flights	hr/min
1.	<i>Check flight</i>	1	30'		
2.	<i>Pattern training flights up to 1000 ft AGL</i>	4	20'	3	15'
3.	<i>Pattern training flights up to 500 ft AGL</i>	4	20'	3	15'
4.	<i>Stall speed, 45°turns, side slips</i>	1	30'	1	20'
5.	<i>Emergency landing training</i>	4	20'	3	10'
Total		14	2 hr	10	1 hr

Pilot Operating Handbook - Supplement No. 01/2007**Flight Training Procedure - description**

- 1. Check flight** – Student Pilot will fly the airplane in local flight, instructor is giving advises as necessary.
- 2. Pattern training flights up to 1000 feet AGL** - high pattern procedures, instructor is giving advises as necessary.
- 3. Pattern training flights up to 500 feet AGL** - high pattern procedures, instructor is giving advises as necessary.
- 4. Stall speed, 45° turns, sideslips** – stall speed flaps retracted and extended (landing configuration), sideslips at landing configuration.
- 5. Emergency landing training** – emergency procedures and landing to 1/3 of runway.

Note:

During solo flights instructor is observing the student pilot on pattern and can advise by radio as necessary.

Endorsement:

Instructor will endorse the Type Rating to the Pilots Logbook, if required.

SUPPLEMENT No. 02/2008**AIRCRAFT DESCRIPTION**

Registration :

Serial number: **08SC087**

This Supplement must be contained in the Pilot Operating Handbook during operation of the airplane.

Information contained in this Supplement add or replace information from the basic Pilot Operating Handbook in the further mentioned parts only. Limitations, procedures and information not mentioned in this Supplement are contained in the basic Pilot Operating Handbook.

This Supplement adds information necessary for airplane operation with equipment installed in the airplane.

1. GENERAL INFORMATION

No changes.

2. AIRPLANE AND SYSTEMS DESCRIPTION

Coolant

Actual type of coolant used in engine:

Coyote Antifreeze Univerzal VW TL 774C

Mixture ratio coolant / water 50/50 [%]

Max. CHT temperature : 120°C (248°F)

Oil

Actual type of oil used in engine:

Divinol Syntholight 5W-40 API SL/CF

Propeller:

- SENSENICH 2A0R5R70EN propeller is installed on this aircraft.

NOTE

For technical data refer to documentation supplied by the propeller manufacturer

3. OPERATING LIMITATION

No changes.

4. WEIGHT AND BALANCE

No changes.

5. PERFORMANCE

SENSENICH 2A0R5R70EN propeller is installed on this aircraft.

5.1 Take-off and landing distance

Take-off distance

Not measured.

5.2 Rate of climb

Not measured.

5.4 Cruise

Not measured.

5.5 Endurance and Range

Not measured.

6. EMERGENCY PROCEDURES

No changes.

7. NORMAL PROCEDURES

No changes.

**8. AIRPLANE GROUND HANDLING AND
SERVICING**

No changes.

9. REQUIRED PLACARDS AND MARKINGS

No changes.