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AIRCRAFT OPERATING INSTRUCTIONS

FOR

Harmony LSA

LIGHT SPORT AIRCRAFT

Serial number:	**2014 1717**
Registration mark:	**N999VP**
Document number:	**HARMAOIUS**
Date of issue:	**January 07, 2013**

This manual must be on the airplane board during operation. This manual contains information which must be provided to the pilot and also contains supplementary information provided by the airplane manufacturer - Evektor - Aerotechnik a.s.

This aircraft must be operated in compliance with the information and limitations stated in this manual.

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0. TECHNICAL INFORMATION

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0.1 Log of Revisions

All revisions or supplements to this manual, except actual weighing data, are issued in form of revisions, which will have new or changed pages as appendix and the list of which is shown in the Log of Revisions table.

The new or changed text in the revised pages will be marked by means of black vertical line on the margin of page and the revision number and date will be shown on the bottom margin of page.

Rev. No.	Affected Section	Affected Pages	Date	Appro-ved	Date	Date of Insertion	Sign.
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4	0, 2	0-3, 0-5, 2-5, 2-6	12/10/2014	Javorsky	12/10/2014	12/10/2014	Kutalek

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0.3 AOI Sections

1. GENERAL

SECTION 1

1. GENERAL

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1.1 Introduction

PARTICIPANT'S RESPONSIBILITY

There are inherent risks in participating in aviation activities, these risks are significant, up to and potentially including death. Operators and passengers of recreational aviation aircraft, by participation, accept the risks inherent in such participation of which the ordinary prudent person is or should be aware. Pilots and passengers have a duty to exercise good judgment and act in a responsible manner while using the aircraft and to obey all oral or written warnings, or both, prior to and/or during use of the aircraft. This Aircraft Operating Instructions has been prepared to provide pilots and instructors with information for safe and efficient operation of the HARMONY LSA airplane. It also contains supplementary information considered to be important by the airplane manufacturer.

1.2 Certification basis

HARMONY LSA complies with the ASTM F2245 Standard Specification for Design and Performance of a Light Sport Airplane, issued by ASTM International Committee F37.

IFR version complies with FAR 91.205 requirements, as well as with F2245 Annex A3 Additional Requirements for Light Sport Airplanes Operated under Instrument Flight Rules, as known till 1.1.2009.

1.2.1 List of applicable standards

List of applicable ASTM consensus standards is in compliance with FAA accepted ASTM consensus standards as amended:

F2245	Standard Specification for Design and Performance of a Light Sport Airplane
F2279	Standard Practice for Quality Assurance in the Manufacture of Fixed Wing Light Sport Aircraft
F2295	Standard Practice for Continued Operational Safety Monitoring of a Light Sport Aircraft

F2745	Standard Specification for Required Product Information to be Provided with an Airplane
F2339	Standard Practice for Design and Manufacture of Reciprocating Spark Ignition Engines for Light Sport Aircraft
F2506	Standard Specification for Design and Testing of Fixed-Pitch or Ground Adjustable Light Sport Aircraft Propellers
F2538	Standard Practice for Design and Manufacture of Reciprocating Compression Ignition Engines for Light Sport Aircraft
F2746	Standard Specification for "Pilot's Operating Handbook"
F2316	Standard Specification for Airframe Emergency Parachutes for Light Sport Aircraft
F2839	Standard Practice for Compliance Audits to ASTM Standards on Light Sport Aircraft

1.2.2 Data location

The certification documentation is available from the US importers or airplane manufacturer on a request of competent aviation authority and/or Designated Airworthiness Representative.

Contact address:
Visit www.evektoraircraft.com for US importers.

Airplane Manufacturer:
Evektor - Aerotechnik, a.s.
Letecká 1384
686 04 Kunovice
Czech Republic
tel.:+420 572 537 111
fax:+420 572 537 900
e-mail:marketing@evektor.cz

1.3 Warnings, cautions, notes

The following informations apply to warnings, cautions and notes used in the Aircraft Operating Instructions:

WARNING

MEANS THAT NON-OBSERVATIONS OF THE CORRESPONDING PROCEDURE LEADS TO AN IMMEADIATE OR IMPORTENT DEGRADATION OF THE FLIGHT SAFETY.

CAUTION

MEANS THAT NON-OBSERVATIONS OF THE CORRESPONDING PROCEDURE LEADS TO A MINOR OR TO A MORE OR LESS LONG TERM DEGRADATION OF THE FLIGHT SAFETY.

NOTE

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

1.4 Descriptive data

1.4.1 Airplane description

HARMONY LSA airplane is a metal-composite low-wing monoplane of semimonocoque structure with two side by side seats and steerable nose wheel landing gear.

For further description see Section 7 - Airplane and system description.

1.4.2 Powerplant

The standard powerplant consists of ROTAX 912ULS (100 hp) engine and ground adjustable, 3-bladed, WOODCOMP KLASSIC 170/3/R propeller.

IFR version is fitted with certified ROTAX 912S2 engine and ground adjustable, 3-bladed, composite Warpdrive CF prop, with Nickel protection of blade leading edges.

For further description see Section 7 - Airplane and system description.

For particular engine and propeller type - see Section 9 - Supplements - Airplane description.

1.4.3 Main technical data

Wing	
Span	30.45 ft
Area	111.47 sq.ft
MAC depth	46.67 in
Wing loading with vortex generators	11.84 lbs/sq.ft
Wing loading no vortex generators	11.38 lbs/sq.ft
Aileron - area	3.35 sq.ft
Flap - area	5.60 sq.ft
Fuselage	
length	20.05 ft
width	3.55 ft
height	8.12 ft
cockpit canopy max. width	3.9 ft
Horizontal tail unit	
Span	9.09 ft
HTU Area	20.67 sq.ft
Elevator area	9.06 sq.ft
Vertical tail unit	
Height	4.21 ft
VTU Area	11.20 sq.ft
Rudder area	4.63 sq.ft
Landing gear	
Wheel track	6.40 ft
Wheel base	4.76 ft
Nose and main landing gear wheel diameter	15 in

1.4.4 Three-view drawing

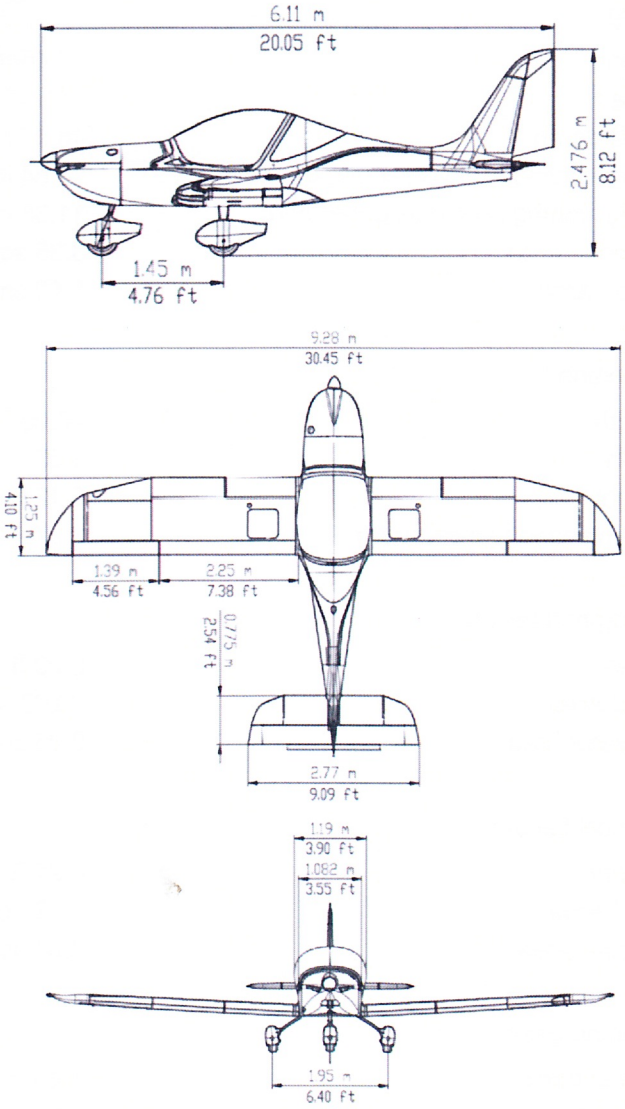

Figure 1-1

1.5 Airplane Performance Specifications

1.6 Weight

Maximum take-off weight	600 kg

1.7 Airspeeds and Performance

Top speed (0 ft ISA, MTP)	112 KIAS
Cruise speed (2000 ft ISA, 75% MCP)	93 KIAS
Maximum range (2000 ft ISA, 75% MCP)	620 NM
Best rate-of-climb speed V_Y:	
• Flaps retracted – 0°	65 KIAS/ (74 mph IAS)
• Flaps in take-off position – 15°	57 KIAS/ (66 mph IAS)
Best angle-of-climb speed V_X:	
• Flaps retracted – 0°	56 KIAS/ (65 mph IAS)
• Flaps in take-off position – 15°	54 KIAS/ (63 mph IAS)
Stall speeds in horizontal flight:	
• Flaps retracted – 0°	34 KIAS/ (39 mph IAS)
• Flaps in take-off position – 15°	33 KIAS/ (38 mph IAS)
• Flaps in landing position II – 50°	33 KIAS/ (38 mph IAS)

1.8 Fuel

Total fuel capacity	31.7 U.S. gallons
Total usable fuel	31.2 U.S. gallons

Automotive gasoline with octane index min. RON 95 (or anti-knock index min. AKI 91) meets the following standards:

- Europe – EN 228 Super, EN 228 Super plus [1)]
- Canada – CAN/CGSB3.5 Quality 3
- USA – ASTM D4814
- Russia - R51866-2002

Aviation gasoline:

- AVGAS 100 LL aviation fuel according to ASTM D910.

AVGAS UL91 (unleaded) aviation fuel according to ASTM D7547.

1.9 Engine

Max. take-off power (5 minutes)	73.5 kW / 100HP at 5800 RPM
Max. continuous power	69 kW / 93HP at 5500 RPM

1.10 Definitions and abbreviations

NOTE

The abbreviations on placards in the airplane cockpit are printed in **BOLD CAPITAL LETTERS** in the text of this Aircraft Operating Instructions.

ACCU	accumulator
ALT ENC	encoding altimeter
ATC	air traffic control
bar	bar 1 bar = 100 kPa
BEACON	anti-collision beacon
°C	Celsius degree
CAS	calibrated airspeed
CLOCK	aircraft clock
ft	foot 1 ft = 0.305 m
GPS	global positioning system
HTU	horizontal tail unit
IAS	indicated airspeed
IC	intercom
IFR	instrument flight rules
ISA	international standard atmosphere
kg	kilogram
KIAS	indicated airspeed in knots
KCAS	calibrated airspeed in knots
mph	mile per hour
mph CAS	calibrated airspeed in miles per hour
km/h CAS	calibrated airspeed in km/h
kts	knots 1 kt = 1.852 km/h
litres	litre
lbs	pounds 1 lb = 0.45 kg
m	meter
MAC	mean aerodynamical chord
max.	maximum
min.	minimum or minute
mm	millimeter
m/s	meter per second
OAT	outside air temperature

OFF	system is switched off or control element is in off-position
ON	system is switched on or control element is in on-position
Pa	pascal 1Pa = $1N/m^2$
PSI	pound per sq.in (1PSI = 6.89 kPa)
RPM	revolutions per minute
RWY	runway
sq.ft	foot squared
sq.m	meter squared
V_A	maneuvering airspeed
V_{FE}	maximum flap extended speed - flaps in 50° position
VFR	visibility flight rules
V_{LOF}	airplane lift-off speed
V-METER	voltmeter
V_{NE}	never exceed speed
V_{NO}	maximum structural cruising speed
V_{SO}	stall speed with wing flaps in 50° position
V_{S1}	stall speed with wing flaps in 0° position
VTU	vertical tail unit
V_X	best angle-of-climb speed
V_Y	best rate-of-climb speed
XPDR	transponder