

# *SebArt* professional line

## *RobinS 50E ARF scale*

### ASSEMBLY MANUAL

#### *The real plane*

The Robin DR400 is a wooden sport monoplane, conceived by Pierre Robin and Jean Délémontez. The Robin with a forward-sliding canopy, the DR400 flew in 1972. It has a tricycle undercarriage, and can carry four people. The DR400 aircraft have the 'cranked wing' configuration, in which the dihedral angle of the outer wing is much greater than the inboard. This model is considered easy to fly by many and quiet during flight due to its wooden frame.

The wing is a distinctive feature of this airplane; the Robin is light, stiff and strong, with the dihedral of the outer panels imparting substantial lateral stability in flight. Being fabric covered, it presents a smooth surface to aid airflow, unhindered by the typical overlapping panels or rivets found on metal aircraft. The secret to the DR400's relatively high performance lies in the pronounced washout in the outer panels. Since they have a lower angle of attack to the airflow than the centre section, they create less drag in cruise flight.

#### *Specifications:*

*Year Built: 1968*

*Capacity: 4 persons*

*Length: 6.96 m (22 ft 10 in)*

*Wingspan: 8.72 m (28 ft 7¼ in)*

*Wing area: 14.20 m<sup>2</sup> (152.85 ft<sup>2</sup>)*

*Empty weight: 600 kg (1323 lb)*

*Powerplant: 1 × Lycoming O-360-four piston engine, 134 kW (180 hp)*

#### *Performance*

*Maximum speed: 278 km/h (173 mph)*

*Range: 1450 km (900 miles)*

*Service ceiling: 4715 m (15,470 ft)*

## ***The model***

The ***RobinS 50E ARF scale***, was designed by the 15 times Italian Champion Sebastiano Silvestri, vice-European Champion and 2 time F.A.I World Cup winner F3A.

This professional ARF kit is the result of Sebastiano's long research, experience in F3A and his passion for scale planes. This combined with an extremely light weight structure and with many small aerodinamical tricks give the ***RobinS 50E*** an impressive precision and easy control at any airspeed and flight condition.

The ***RobinS 50E*** can do it all... it can start and land very easy on grass surface and with the factory installed light system, flaps, towing system it looks very scale on ground and in the air.

The ***RobinS 50E*** is ready for any pattern manouvers as for unbelievable easy rolls, knife-edge flights, loops... and almost anything else you can dream up from a scale plane are waiting you!

***.....the only limit is your fantasy!***

### ***Specifications:***

Wing Span:.....175 cm  
Length:.....144 cm  
Wing Area:.....54,2 dm<sup>2</sup>  
Weight:.....3.600g. RTF less battery  
Radio:.....6-7 Channel, 2 standard servo + 6 mini servos

### ***Recommended power set up:***

Motor:..... Hacker A50-16S  
ESC:.....Hacker Master Basic 70 SB  
Propeller: .....APC 16x10E  
Battery: .....4000-6S or 4500-6S

### **Required radio, motor and battery**

Radio equipment:

- Minimum 6-7channel radio system
- 2 standard servos for elevator and rudder (JR DS8301 or DS8421 or DS9511)
- 6 mini servos for ailerons, flaps, steering wheel, towing system (JR DS3401)
- 4 servo extension 400mm for elevator and aileron servos

Recommended electric motor for best performance:

- Hacker A50-16S + X70 SBec-Pro controller + APC 16x10E

Recommended Li-Po battery pack for best performance:

- 4000mAh 6S or 4500mAh 6S

### **Additional required item, tools and adhesives**

*Tools:*

- Drill
- Drill bits: 1,5mm
- Phillips screwdriver
- Hobby knife
- Sanding paper
- Masking tape
- Soldering iron

*Adhesives:*

- thin CA
- medium CA

### **Warning**

**This RC aircraft is not a toy!**

**If misused, it can cause serious bodily harm and damage to property. Fly only in open areas, preferably in official flying sites, following all instructions included with your radio and motor.**

### **Before starting assembly**

Before starting the assembly, remove each part from its bag and protection for a prior inspection. Closely inspect the fuselage, wing panels, rudder, and stabilizer for damage. If you find any damage or missing parts, contact the place of purchase.

If you find any wrinkles in the covering, use a heat gun or covering iron to remove them. Use caution while working around areas where the covering material overlap to prevent separating the covers.

### **Warranty information**

SebArt guarantees this kit to be free from defects in both material and workmanship at the date of purchase.

This warranty does not cover any parts damage by use or modification, and in no case shall SebArt's liability exceed the original cost of the purchased kit.

Further, SebArt reserve the right to change or modify this warranty without notice. In that SebArt has no control over the final assembly or material used for the final assembly, no liability shall be assumed or accepted for any damage of the final user-assembled product. By the act of using the product, the user accepts all resulting liability.

**If the buyer is not prepared to accept the liability associated with the use of this product, the buyer is advised to return this kit immediately in new and unused condition to the place of purchase.**

### **Radio set up**

#### ***Light system***

The factory provided light system is complete and ready to use, just plug the lead in a free port of the receiver and it will work as pre-programmed.

#### ***Steering wheel servo***

Connect the steering wheel servo lead with an "Y" with rudder servo, or (better) use an extra channel just for the steering wheel function mixed with rudder.

#### ***Flaps***

We recommend to use flaps to do your starts and landings shorter and easier.

You can use a “Y” lead to operate the two flap’s servos or (better) use 2 different channels to adjust the ZERO point, the 20° down position for starts, and full flap down for the landings. The two separate channels, to let work the flaps together, need a mixing, please program it as per your radio’s instruction manual.

### ***Control throws***

- **For the AILERON** we recommend the following throws:

High rate: 40° UP , 20° DOWN left & right

*NOTE: Use aileron differential if you have a programmable radio.*

Normal flight: D/R: 60% Expo: 20%

aerobatics: D/R: 100% Expo: 40%

Start & landing: D/R: 100% Expo: 40%

- **For the ELEVATOR** we recommend the following throws:

High rate: 30° up & down

Normal flight: D/R: 30% Expo: 30%

Aerobatics: D/R: 100% Expo: 80%

Start & landing: D/R: 100% Expo: 80%

- **For the RUDDER** we recommend the following throws:

High rate: 30° left & right

Normal flight: D/R: 60% Expo: 40%

Aerobatics: D/R: 100% Expo: 60%

Start & landing: D/R: 100% Expo: 60%

Note: the Expo is (+) for JR systems, and (–) for Futaba systems.

### ***Mixing***

We recommend the following mix (if you have a programmable computer radio):

#### ➤ ***Rudder → Elevator UP***

full rudder to the right, the elevator have to go up (positive) approx. 20%

full rudder to the left, the elevator have to go up (positive) approx. 20%

#### ➤ ***Rudder → Ailerons***

full rudder to the right, the ailerons have to go left approx. 30%

full rudder to the left, the ailerons have to go right approx. 30%

### ***Recommended Center of Gravity***

The recommended CG is ***10 cm*** behind the leading edge of wing.

### ***Pre-flight***

**Never attempt to make full throttle dives!** This model have to be flown like a full-scale airplane. If the airframe goes too fast, such as in a high throttle dive, it may fail. Throttle management is absolutely necessary.

### ***Range test your radio***

- ✓ Before fly, be sure to range check your radio as manufacturer's instruction manual of you radio-system recommend.
- ✓ Double-check all controls (aileron, elevator, rudder and throttle) move in the correct direction.
- ✓ Be sure that your motor battery pack is fully charged, as per the instructions included with your batteries and that your radio is fully charged as per its instructions.

***Finally... have nice flights!***

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