



Sling Systems Guide

Rotax 912 iS



Note: This systems guide is to be used in conjunction with the BushCat Pilot Operating Handbook.

A. Powerplant

- a. Rotax 912 iS
 - i. 100HP
 - ii. 4 cylinder horizontally opposed.
 - iii. 2:1 gearbox reduction.
 - iv. Fuel injected.
 - v. Dual magneto ignition system.
 - vi. Air cooled cylinder bodies.
 - 1. Liquid cooled cylinder heads.
 - vii. Naturally aspirated.
- b. **Engine Controls**
 - i. Center throttle located between pilot and co-pilot seats.
- c. **Engine Lubrication System**
 - i. Dry sump forced lubrication system.
 - ii. Oil tank mounted to the right side of the engine.
 - iii. Cooled via 1 radiator.
 - 1. Top radiator is for cooling engine oil.
 - iv. 3.5 liters of oil.
 - v. AeroShell Sport Plus 4
- d. **Cooling System**
 - i. The Rotax 912iS is both a liquid and air cooled engine.
 - ii. Cylinder heads are liquid cooled with ram air.
 - iii. Cylinder bodies are air cooled.
 - 1. Cooling liquid is cooled via a radiator on the front (bottom radiator) of the engine.

B. Propeller

- a. Type: Whirlwind
- b. 70 inch.
- c. 3 blades.

C. Electrical System

- a. 12 Volt system.
- b. 12 volt 18 amp hour battery.
- c. Electrical system charging is done by a generator like fly wheel system via an electro mechanical pick up that produces 13.5 to 14 volts of charging to the system.
- d. Electricity is then sent to a regulating unit that turns the AC current into a 14 DC current.
- e. Master switch "On" position turns on electrical supply from the battery.
- f. Switches on the instrument panel such as "radio", "strobe lights", "transponder", etc all pull electricity from this system.



- g. Electrical system is monitored by an ammeter, check for your specific aircrafts ammeter location and operating functions.
- h. The electrical system is protected by a set of 13 resettable circuit breakers (number of breakers can vary).
- i. Main Bus supplies power to the following components:
 - i. Auxiliary fuel pump.
 - ii. Flaps.
 - iii. Autopilot.
 - iv. Radio.
 - v. Transponder.
 - vi. Cabin lights.
 - vii. Strobe, navigation, taxi lights
 - viii. *When power to the main bus is unavailable all of the listed pieces of equipment above will be inoperational.*
- j. Engine ignition system consists of 2 independent electric ignition systems. For ease of understanding think of them as “Mag 1 and Mag 2”.
- k. EFIS equipped Sling aircraft will have a 12 V backup battery that supplies limited power to the EFIS when power is lost.

D. Fuel System

- a. A single 19.8 gallon (*19.28 gallons useable*) fuel tank located inside each wing.
- b. Single fuel pickups and fuel filter per tank.
- c. Single fuel vent located under each tank.
- d. Single drain valve located under each wing at the lowest point of the fuel tank.
- e. Electric fuel pump equipped and to be used during critical phases of flight.
- f. Fuel selector allows or shuts off fuel flow to the engine and can be turned either “Left”, “Right”, or “Off”.
- g. MoGas or 100LL AVGAS can be supplied to the engine, fuel types can be mixed.
 - i. AeroSport only fuels our Sling fleet with 100LL AVGAS.
- h. The use of 100LL AVGAS requires a 50 hour maintenance interval.

E. Landing Gear

- a. Single piece aluminum spring gear system that is bolted to the underside of the aircraft.
- b. Landing gear is fixed.
- c. Nose gear is connected directly to the rudder pedals for steering on the ground.

F. Brake System

- a. Hydraulic brake system.
- b. Handbrake located in between the pilot and co pilot seats.
- c. Master cylinders are located on pilot and co-pilot toe brakes.
- d. Brakes on the left and right wheel are actuated at the same time.
- e. Brake system consists of a rotor and brake pad system (1 rotor and 2 brake pads per side) on the main landing gear.



- f. A parking brake is equipped in the middle of the pilot seats. To activate the parking brake, brakes must be pressed and then the parking brake activated.

G. Flight Controls

- a. Pushrod flight controls to the ailerons, rudder, and elevator.
- b. Flaps are electrical and operated by turning the flap switch to the desired position.
 - i. Flaps are controlled via a pushrod system.
 - ii. One flap per wing and interconnected via a torque tube at a single point, if a flap failure were to occur this prevents an asymmetrical flap situation.
- c. Trim system is electrically controlled and is also a pushrod system.