

# PIPISTREL



## PILOT'S OPERATING HANDBOOK ALPHA Trainer

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**Only applies to ALPHA Trainer serial number 1030 AT 912 LSA**

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Aircraft Serial Number: 1030 AT 912 LSA

Aircraft Registration Number:

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### 4.3 PREFLIGHT INSPECTION

Before carrying out preflight inspections, ensure that all required maintenance has been performed. Review your flight plan and compute weight and balance.

**NOTE:** Throughout the walk-around: check all visible hinges, hinge pins, and bolts for security; check skin for damage, condition, and evidence of cracks or delaminations, check all control surfaces for proper movement and excessive free play; check area around liquid reservoirs and lines for evidence of leaking.

In cold weather, remove all frost, ice, or snow from fuselage, wing, stabilizers and control surfaces. Ensure that control surfaces are free of ice or debris. Check that wheels and wheel fairings are free of snow and ice accumulation.

#### 4.3.1 PREFLIGHT WALK-AROUND

| CABIN |                               |                              |
|-------|-------------------------------|------------------------------|
| 1     | Doors                         | UNLOCK/OPEN/<br>CLOSE/SECURE |
| 2     | BPRS handle, pin inserted     | CHECK                        |
| 3     | Ignition switch               | CHECK OFF                    |
| 4     | Green electrical switches     | ALL OFF                      |
| 5     | Required documents            | On board                     |
| 6     | Battery disconnect switch     | CONNECT                      |
| 7     | Flight controls and airbrakes | Free and Correct             |
| 8     | Master switch                 | ON                           |
| 9     | Avionics switch               | ON                           |
| 10    | Circuit breakers              | CHECK ENGAGED                |
| 11    | PFD                           | Verify ON                    |
| 12    | Avionics cooling fan          | Audible                      |
| 13    | Voltmeter                     | 12 - 14 Volts                |
| 14    | Lights                        | Check operation              |
| 15    | Fuel quantity                 | CHECK                        |

|    |                  |                       |
|----|------------------|-----------------------|
| 16 | Fuel valves      | OPEN                  |
| 17 | Flaps            | Check handle movement |
| 18 | Avionics switch  | OFF                   |
| 19 | Master switch    | OFF                   |
| 20 | Circuit breakers | CHECK ENGAGED         |

| LEFT FUSELAGE |                      |                          |
|---------------|----------------------|--------------------------|
| 1             | COM/XPDR antennas    | Condition and attachment |
| 2             | Wing / fuselage seal | CHECK                    |
| 3             | Static pressure port | CHECK for blockage       |

| EMPENNAGE |                                            |                        |
|-----------|--------------------------------------------|------------------------|
| 1         | Tiedown rope                               | REMOVE                 |
| 2         | Horizontal and vertical stabilizers        | CHECK CONDITION        |
| 3         | Elevator and elevator U-piece              | Condition and movement |
| 4         | Rudder                                     | Freedom of movement    |
| 5         | Attachment hinges, bolts, springs and pins | SECURE                 |

| RIGHT FUSELAGE |                               |                    |
|----------------|-------------------------------|--------------------|
| 1              | Static pressure port          | CHECK for blockage |
| 2              | Wing / fuselage seal          | CHECK              |
| 3              | Door lock                     | Unlock             |
| 4              | Parachute cover, strap covers | Sealed and secure  |

| RIGHT WING |                               |                                  |
|------------|-------------------------------|----------------------------------|
| 1          | Flaperon                      | Condition, security and movement |
| 2          | Flaperon gap seal             | Security, no wrinkles            |
| 3          | Hinges, bolts and safety nuts | Secure                           |
| 4          | NAV/AC light and lens         | Condition and security           |
| 5          | Leading edge                  | CHECK condition                  |

SECTION **4**  
NORMAL PROCEDURES

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|          |                   |                                |
|----------|-------------------|--------------------------------|
| <b>6</b> | Fuel cap          | CHECK fuel quantity and secure |
| <b>7</b> | Water drain holes | Unobstructed                   |
| <b>8</b> | Pitot tube        | Cover removed, tube clear      |

| RIGHT MAIN LANDING GEAR |                                |                                                                  |
|-------------------------|--------------------------------|------------------------------------------------------------------|
| <b>1</b>                | Landing gear                   | General condition                                                |
| <b>2</b>                | Tire                           | Condition, inflation, and wear                                   |
| <b>3</b>                | Wheel and brakes               | Fluid leaks, evidence of overheating, general condition and wear |
| <b>4</b>                | Chocks and tiedown rings/ropes | Remove                                                           |

| PROPELLER AND COWLINGS AREA |                     |                     |
|-----------------------------|---------------------|---------------------|
| <b>1</b>                    | Cowlings            | Attachment secured  |
| <b>2</b>                    | Propeller           | Condition           |
| <b>3</b>                    | Spinner             | Condition, security |
| <b>4</b>                    | Air inlets, outlets | Unobstructed        |

**WARNING:** Keep clear of propeller rotation plane. Do not allow others to approach propeller.

| ENGINE AND NOSE LANDING GEAR AREA |                   |                                            |
|-----------------------------------|-------------------|--------------------------------------------|
| <b>1</b>                          | Engine oil        | Check quantity, leaks, cap and door secure |
| <b>2</b>                          | Exhaust pipe      | Condition, security and clearance          |
| <b>3</b>                          | Gascolator        | Drain 1 cup, sample                        |
| <b>4</b>                          | Landing light     | Attachment, security, lens                 |
| <b>5</b>                          | Strut             | CHECK condition                            |
| <b>6</b>                          | Nose landing gear | General condition                          |
| <b>7</b>                          | Wheel and tire    | Condition, inflation and wear              |

|   |                |                     |
|---|----------------|---------------------|
| 8 | Shock absorber | CHECK functionality |
|---|----------------|---------------------|

| LEFT MAIN LANDING GEAR |                                |                                                                  |
|------------------------|--------------------------------|------------------------------------------------------------------|
| 1                      | Landing gear                   | General condition                                                |
| 2                      | Tire                           | Condition, inflation and wear                                    |
| 3                      | Wheel and brakes               | Fluid leaks, evidence of overheating, general condition and wear |
| 4                      | Chocks and tiedown rings/ropes | Remove                                                           |

| LEFT WING |                               |                                 |
|-----------|-------------------------------|---------------------------------|
| 1         | Fuel cap                      | Check fuel quantity and secure  |
| 2         | Leading edge                  | Condition                       |
| 3         | NAV/AC light and lens         | Condition and attachment        |
| 4         | Flaperon                      | Condition, attachment, movement |
| 5         | Flaperon gap seal             | Condition, no wrinkles          |
| 6         | Hinges, bolts and safety nuts | Secure                          |
| 7         | Water drain holes             | Unobstructed                    |

## 4.4 STARTING ENGINE

### 4.4.1 BEFORE STARTING ENGINE

|   |                                           |                   |
|---|-------------------------------------------|-------------------|
| 1 | Preflight Inspection                      | Completed         |
| 2 | Fuel quantity                             | Sufficient        |
| 3 | Emergency Equipment                       | On board          |
| 4 | Passenger                                 | Briefed           |
| 5 | BPRS Safety Pin                           | Removed           |
| 6 | Seats, Pedals, Seat Belts and Baggage net | Adjust and Secure |
| 7 | Parking brake pin                         | Engage            |

## 7.7 FUEL SYSTEM

The airplane has two integral fuel tanks, one in each wing. The maximum usable fuel quantity is 71 kg or 99 L (AVGAS or MOGAS, see chapter Limitations for applicable fuel grades). Two (left and right) transparent vertical tubes, which are visible from the pilot position and connected to the highest and lowest points of each respective tank, serve as a visual indicator of the fuel quantity available. Each tank has a strainer at the fuel outlet that prevents any debris and/or foreign material from making its way towards the engine. Venting of the fuel tanks is through the fuel caps.

Fuel flow from each tank can be shut off by a manual fuel valve. After leaving the tanks the fuel lines join behind the cabin and the single fuel feed line passes below the cabin floor and through the firewall. The feed line enters the engine compartment and the fuel is fed through a gascolator, which has a drain valve. The gascolator removes water that may be in the fuel and filters out debris/foreign material. The fuel system features a fuel return line connected directly to the left fuel tank. A fuel flow sensor is used to measure the flow in feed line.

**NOTE:** Indicated fuel flow on MFD is for information only and should not be used for navigation and flight planning purposes. Refer to visual fuel quantity indicators for actual fuel quantity on board and tracking of fuel situation.

Fuel system venting is essential to system operation. Blockage of the system will result in decreasing of fuel flow and eventual engine fuel starvation and stoppage.

If takeoff weight limitations for the next flight permit, the fuel tanks should be filled after each flight to prevent condensation.

### Draining

The sampling location is the gascolator in the engine compartment, accessible from the bottom engine cowl. The drain is used for draining water from the fuel system and is accessible from the outside. Industry standard fuel sampling cups or sticks should be used to perform draining.

### Fuel Quantity Indicator

A visual fuel quantity indicator is provided for each fuel tank. The tube is placarded for quantity in Liters and US gal, as well as colorcoded. Do not

attempt to takeoff in the area of fuel quantity designated with RED.

**NOTE:** When the fuel level is in the RED area, prolonged uncoordinated flight such as slips or skids can uncover the fuel tank outlets. Therefore, if operating with one fuel tank dry or if operating on LEFT or RIGHT tank when in RED areas, do not allow the airplane to remain in uncoordinated flight for periods in excess of 1 minute.

## **7.8 ELECTRICAL SYSTEM**

### **7.8.1 ELECTRICAL SYSTEM**

The airplane is equipped with a single-generator, single-battery, 12/14-volt direct current (VDC) electrical system designed to reduce the risk of electrical system faults. The system provides uninterrupted power for avionics, flight instrumentation, lighting, and other electrically operated and controlled systems during normal operation.

### **7.8.2 POWER GENERATION**

The electrical system is a 12/14-Volt DC system. Power is supplied by integrated generator with approximately 250 W AC output at 5800 RPM and rectified with electronic full-wave rectifier regulator (RU 912). The generator system is capable of delivering max. 12A at 14V which feeds the onboard battery (12V, 11Ah). In case of emergency, the battery will supply reduced number of necessary direct-current loads with power for 30 minutes. The electrical system is controlled by means of switch/fuse which are arranged in one row at the upper half of the switch panel under the instrument panel.

The circuit breakers (CB) are located under the switch/fuses of the switch panel. A voltmeter is integrated in the Engine Management System display system to monitor electrical system operating. Generator failure is indicated by a warning red LED light on the Switch panel (labeled GENERATOR FAIL).

### **7.8.3 POWER DISTRIBUTION**

The Master relay connects the battery with main bus. Main bus supplies the avionics relay which delivers the power to the switch panel and circuit breakers. 12V socket is connected via switch/fuse directly to the main battery.