

## Section 9 Supplement 9-S3 Night-VFR operations

When the aircraft is equipped with the applicable NVFR kit as defined by the applicable TCDS, this POH Supplement is applicable and must be inserted in the Supplements Section of the Pilot Operating Handbook. This document must be carried in the airplane at all times. Information in this supplement adds to, supersedes, or deletes information in the basic Pilot Operating Handbook.

Registration:

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Serial Number


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Authority:

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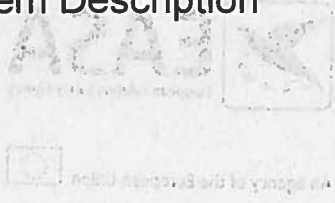
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## 9.1 Section 1: General

This supplement covers the particularities of Night VFR operations with the Virus SW 121, when equipped with the applicable NVFR equipment as defined by the applicable TCDS. It describes the systems and procedures used for Night VFR flying.

### **Note:**

Although the aeroplane is equipped with dual ADHARS sensors and a digital attitude indicator, the pilot must always maintain visual reference. Should visibility deteriorate to a point where the pilot can no longer determine the aeroplane's attitude using external visual references, the digital attitude indicator may be used to assist in identifying the aeroplane's actual attitude.

### **Warning:**

The pilot should always maintain external visual attitude reference!  
The pilot should not rely on the attitude indicator for attitude evaluation!

## 9.2 Section 2: Limitations

Operational Night-VFR limitations apply. There are no performance limitations in addition to the ones outlined in the Limitations chapter of the Virus SW 121 main POH.

*Virus SW 121 is not an IFR approved type.* When flying Night-VFR, external visual references are the primary means of flying and cannot be replaced by instruments. Therefore, visual meteorological conditions are reasonably expected to be maintained for the entire duration of any Night-VFR flight.

### **Warning:**

The pilot should always maintain external visual attitude reference!  
The pilot should not rely on the attitude indicator for attitude evaluation!  
The pilot should not fly over areas with limited visual reference (e.g. above sea)!

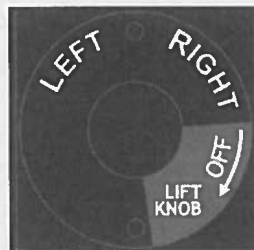
**Warning:**

Carefully check the weather forecast along the route prior to take-off. Good visibility is reasonably expected to be maintained for the entire duration of the flight.

## 9.2.1 Night- VFR placards

All of the placards located in the cockpit are made with a phosphorescent material that is easily visible in the dark.

- The meteorological conditions placard included in the Night-VFR kit is located on the top-left side of the primary flight display and its text is written in uppercase format.
- The fuel selector valve placard included in the Night-VFR kit is fabricated out of a phosphorescent material that is easily visible in the dark (see *Figure 1*).



*Figure 1 : Fuel selector valve placard for Night-VFR*

- The spinning placard included in the Night-VFR kit is located in the center of the instrument panel, above the autopilot console.
- The intercom placard included in the Night-VFR kit has the word "intercom" written below the switch (see *Figure 2*).

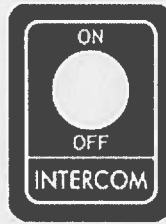


Figure 2 :  
*The Night-VFR intercom placard*

## 9.3 Section 3: Emergency Procedures

### 9.3.1 Loss of instrument, cabin or fuel-tank level lighting

Use a flash light to illuminate the area where lighting has been lost. Continue flight towards a safe landing.

### 9.3.2 Total loss of electrical power

If both displays stop functioning and the associated attitude indication is lost, the nearest airport should be immediately approached. In case of poor visibility (i.e. flying over the sea at night etc.), situation awareness may be lost, leading to additional problems or loss of aircraft control. In this case, use of the emergency parachute is recommended. Switch-off the engine, slow the airplane down and activate the ballistic rescue system.

#### **Note:**

The aircraft is equipped with a ballistic rescue system. Consider using it if the situation requires it. Make sure the safety pin is removed prior to each flight so the ballistic rescue system is ready for deployment inflight.

### 9.3.3 Partial loss of attitude reference

#### **Warning:**

Carefully check the weather forecast along the route prior to take-off.



Good visibility is reasonably expected to be maintained for the entire duration of the flight.

Although the aeroplane is equipped with dual ADHARS sensors and a digital attitude indicator, the pilot must always maintain visual reference. Should visibility deteriorate to a point where the pilot can no longer determine the aeroplane's attitude using external visual references, the digital attitude indicator should only be used to assist in locating the closest airfield or flying back into good weather conditions.

### **9.3.4 Total loss of attitude reference**

**Warning:**

Pilot should always maintain external visual attitude reference!  
Pilot should not rely on the attitude indicator for attitude evaluation!

**Warning:**

Carefully check the weather forecast along the route prior to take-off.  
Good visibility is reasonably expected to be maintained for the entire duration of the flight.

If all means of horizon reference are lost, switch-off the engine, slow-down the airplane and activate the ballistic rescue system within 20 seconds.

## **9.4 Section 4: Normal Procedures**

### **9.4.1 External lights**

Taxi, take-off, landing: turn-on the landing light to illuminate the taxiway surface.

All flight phases: keep NAV/Strobe lights ON for the entire duration of the flight.

### 9.4.2 Internal lights

Instrument and avionic lights: the default mode is AUTO, which controls the brightness level automatically, based on the amount of natural light available. Engage MANUAL mode to set the desired brightness manually.

#### **CAUTION:**

Do not increase light brightness too quickly in very dark environments, as this could be temporarily blinding.

Cabin-light: turn ON whenever there is a need to illuminate the cabin and/or the kneeboard. Turn OFF when not needed in order to improve outside visibility.

Fuel-tank level lights: turn ON only for the time needed to evaluate the fuel quantity, then turn OFF.

## 9.5 Section 5: System Description

#### **Required equipment for Night-VFR operations:**

back-illuminated analogue instruments

back illuminated EFIS, EMS, COM, XPDR

dimmer »Pipistrel Smart-dim«

fuel tank level LED lights, (*Figure 5*)

cabin lights, (*Figure 4*)

glare-shield with UV-LED lights, (*Figure 3*)

UV-LED light fuse console, (*Figure 6*)

the complete set of placards made of self-illuminating material.

a red personal flash-light should always be present on board.

#### **Pilot interface for night operation:**

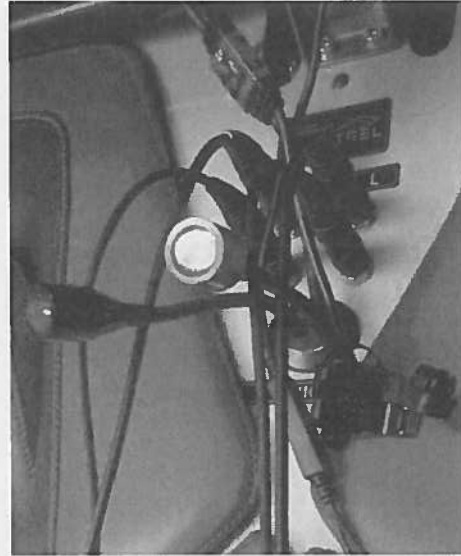
a switch for the cabin lights, located in the central column

a switch for the fuel tank level lights, located on the instrument panel

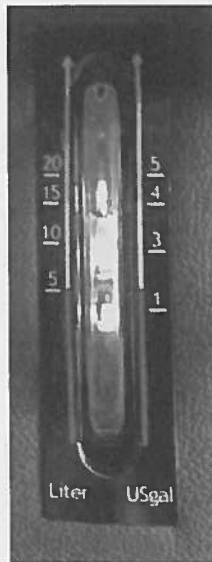
the dimmer display and knob, located on the top-left side of the instrument panel



*Figure 3:*  
*Glare-shield and breakers*  
*UV-LED lights*



*Figure 4:*  
*Cabin lights*



*Figure 5:*  
*Fuel tank level LED lights*



*Figure 6:*  
*UV-LED light fuse console*



The cabin light switch has 2 positions labelled: ON and OFF, corresponding its function.

The fuel tank level light switch has two 2 positions labelled: ON and OFF, corresponding its function.

The dimmer provides dimming function for all avionics, instruments, switches, breakers and lights at once. It features a MANUAL mode, which allows the pilot to dim the lights to the desired brightness by rotating a knob; and an AUTO function, which self-dims the lights based on the brightness sensor reading. For instructions on how to use the functions of the smart-dim, consult Section 7- Airplane Description of the Virus SW 121 main POH.

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