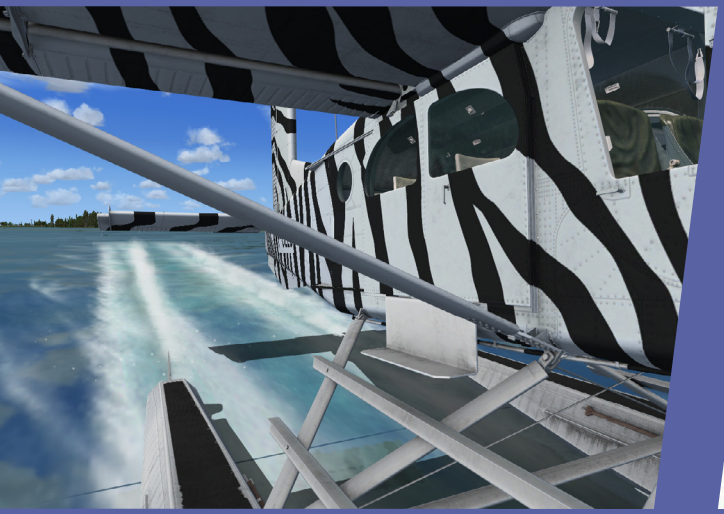
PC-6 PORTER

FSX STEAM USER GUIDE



MILVIZ

End User License Agreement

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Any inquiries regarding use of this product in a commercial or training capacity should be directed via e-mail to info@milviz.com.

DISCLAIMER:
MilViz and all associates shall NOT be held responsible for any damages arising from the use of the MilViz PC-6 Porter product.

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Introduction

Welcome!

We are very excited to introduce you to the MilViz PC-6 Porter, designed specifically for FSX Steam Edition. An extremely exciting aircraft to fly, it's safe to say that if the Porter doesn't scratch your cravings for a capable, high performance, STOL turboprop, nothing will!

This User Guide is designed to help you get started with your new Porter. It contains useful information about the equipment, operating procedures, and performance of the PC-6, as well as instructions for installation and updating. We recommend that you take a bit of time to read through this guide and to refer to it as needed.

Our interest in your flying pleasure has not ceased with your purchase of the MilViz PC-6 Porter. Worldwide, the Military Visualizations staff stands ready to assist and serve. For technical support, please post a request on our PC-6 Porter support forum. Our dedicated and talented staff is ready to help you.

For forum access please email oisin@milviz.com with your proof of purchase and your preferred or existing forum username.

A bit about the PC-6 Porter

The PC-6 Porter, with its boxy vertical stabilizer, long, pointed nose, high wings and rugged landing gear, may not win any awards for the most elegant aircraft to grace the skies, but its capabilities are the stuff of legend.

A true STOL (Short Takeoff and Landing) aircraft, the Porter needs just under 1000 feet of runway to become airborne at max weight (with much, much less space needed when lighter), and nearly half that when landing fully loaded. When landing with minimal weight, the ground roll is astoundingly short. Landing and takeoffs is just part of the story, however. The capability of the Porter to enter beta mode for an impossibly steep controlled descent has made for many a heart-stopping video by skydivers whose aircraft beats them to the ground.

The PC-6 Porter took form in the late 1950's, with the initial designs incorporating a piston engine. From 1961, a turboprop equipped version of the aircraft was available, utilizing the Turbomeca Astazou II. In the years following, the Astazou was replaced by the Garrett TPE331, and later the venerable PT-6A.

The rugged workhorse design, along with its superlative STOL capabilities, enables the PC-6 to operate from some of the roughest, shortest, and highest airstrips in the world.

One of the most famous examples (and just one of a number of world records set by the PC-6) was a glacier landing on Dhaulagiri in Nepal in the spring of 1960. Swiss pilot Emil Wick proceeded to make regular landings at 5700 m (18,700 ft) supplying an ultimately successful summit expedition. After many supply flights over a period of some weeks, the aircraft crashed on takeoff due to a broken grip on the control column. The pilots

were uninjured, but the aircraft remains on the mountain to this day.

The Porter has, over the years, seen extensive use by a wide range of operators both civil and military. It would be remiss not to mention its infamous use by the CIA-controlled airline Air America, but it would be just as glaring not to mention its long military service to a large but diverse assortment of countries ranging from Austria to Australia.

In civil use, it's estimated that over half of the remaining Porters (which are many!) are in use with skydiving operators, where the mix of power and STOL capability is a prized combination.

2019, however, marks the final year for the production of the rugged Porter. Slowing sales over the last decade means that the final airframe will roll off the assembly line, representing 60 years of production and nearly 600 aircraft.

Which in turn means that we hope we've done this aircraft proud in our replication. Our version emulates a late model PC-6 B2-H4, equipped with the PT-6A-27. We've included a full set of analog instrumentation, along with support for a wide range of 3rd party navigation options.

Outfitting the aircraft for your intended mission is easy as well: along with a standard wheeled version, we've included both skis and floats to allow you to take the PC-6 to any part of the globe.

And of course, building on our experience with simulating low and slow flight with the DHC-2 Beaver and the DHC-3 Otter, as well as our experience replicating the power of the PT-6A with our Turbo Otter, we've paid full attention to recreating the unique handling characteristics of the Porter.

All of this put together makes for a compelling simulation of a much adored and highly capable turboprop. We sincerely hope that our aircraft gives you many hours of flying pleasure!

Overview of the PT6A-27

The PT6A family of engines includes three series of models with increasing power levels, referred to as PT6A 'Small', 'Medium' and 'Large.' The increased power levels are achieved through the increase of compressor air flow and an increased number of power turbine stages.

The PT6A-27 is within the 'Small' series, and as installed in the PT-6, develops a maximum permissible power rating of 550 SHP (shaft horsepower) at sea level up to 43°C ambient temperature.

The engine has a three-stage axial, single stage centrifugal compressor driven by a single-stage reaction turbine. Another single-stage reaction turbine, counter-rotating with the first, drives the output shaft. Fuel is sprayed into the annular combustion chamber by fourteen individually removable fuel nozzles mounted around the gas generator case.

An ignition unit and two igniter plugs are used to start combustion. A hydro-pneumatic fuel control schedules fuel flow to maintain the power set by the power lever.

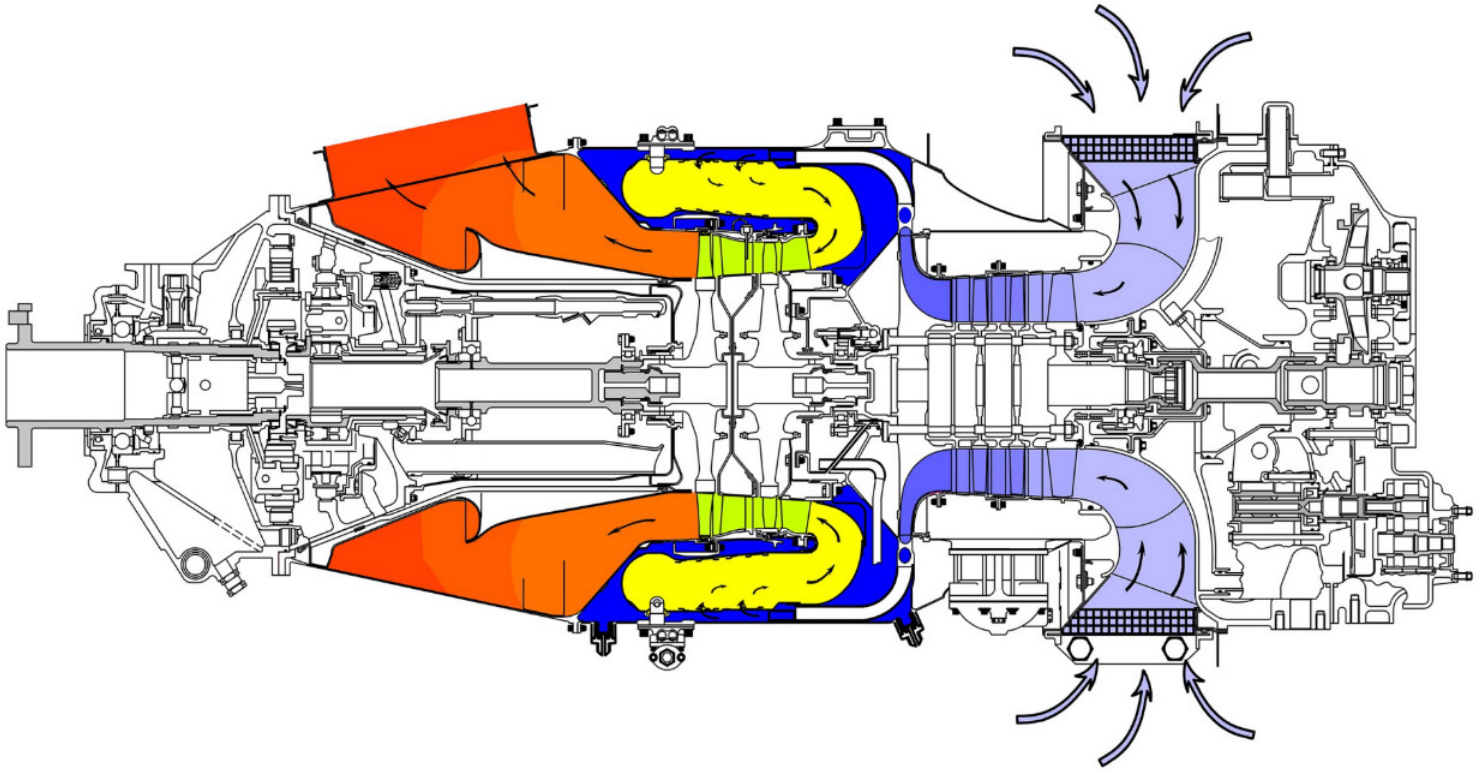
Immediately following touchdown, partial or full reverse thrust may be obtained by lifting and retarding the power lever aft of the detent. Reverse thrust can be varied by moving the power lever to any position aft of the lift detent.

BETA MODE operation of the propeller is used in flight to effect fast deceleration and high rates of descent. In the beta range, the propeller blades are set at a low positive pitch angle to provide a braking effect for steep controlled descents. When operating in the beta mode, the propeller pitch angle is controlled by power lever movement between the lift detent and the point where constant speed operation becomes effective.

Either full or partial reverse thrust is obtained by lifting and moving the power lever to any position aft of the lift detent. The PROP LOW P (propeller low pitch) caption will illuminate. With full reverse thrust a small amount of torque, biased to the left, may be noticeable.

Reverse thrust is for ground operation only and must not be used in flight. In the unlikely event of the propeller moving to reverse pitch in flight, a sudden increase in drag, accompanied by buffeting and the PROP LOW P warning caption in the annunciator panel will illuminate. If corrective action (an advance of the power lever) fails to rectify the reverse pitch condition, the propeller should be feathered.

An important characteristic of the PT6A-27 engine is the physical disconnect between the gas generator and power generator turbines. The power turbine (and by extension the propeller) can spin freely from the gas generator section. This is why the PT6A-27 is referred to as a ***free turbine***.



(above) Diagram of a PT6A turbine engine, depicting air movement through the engine. Note the intake of air to the rear and the exhaust at the front.

Product Features

- 5 Versions of the PC-6 Porter:
  - Standard Landplane
  - Tundra Tires
  - Seaplane with Straight Floats
  - Amphibious Seaplane
  - Skis
- Configurable load & cabin layout
- Highly realistic turboprop simulation
- Custom, accurate engine model
- Proper Fuel Flow / Prop RPM relationship
- Persistent engine health, with both normal wear and accelerated wear through mishandling accumulating and capable of causing engine failure.
- Carefully tuned & tested
- Exterior and interior rendered with exacting detail and precision.
- High resolution, beautiful external textures with realistic weathering effects.
- Authentic, smoothly animated gauges and instrumentation.
- Authentically detailed, custom coded, KAP 140 two-axis autopilot with altitude preselect.
- Smooth integration with 3rd party avionics within the Virtual Cockpit, including RealityXP, Flight1, NavStax and REX Simulations.
- Authentic Sound Environment featuring professionally created sounds matched to the aircraft and an immersive interior soundscape.
- Configurable sound volumes for cockpit, interior engine and exterior engine sounds.
- Configurable start-up options including ready-to-fly and cold n' dark, with options for tie-downs & covers
- Custom autostart sequence triggered by normal Autostart event (default CTRL+E)
- Support for a wide range of 3rd party avionics:
  - Flight1 GNS 530 & 430
  - Flight1 GTN 750 & 650
  - RXP GNS 530 & 430
- 5 realistic and exceptionally detailed liveries
- Downloadable paint kit

System Requirements

The following requirements apply as a general minimum to successfully install, configure and operate the MilViz PC-6 Porter.

Please note that your choice of scenery, location, simulator settings and 3rd party utilities may place additional demands on your simulation platform and may affect your simulator experience.

Supported Platforms:	Microsoft Flight Simulator X - Steam Edition
Supported Operating Systems:	Windows 7 Windows 10
Processor (CPU):	2.6 GHz CPU required (3.0 GHz, multiple core processor or better recommended.)
Video Card (GPU):	DirectX 11 compliant video card with a minimum of 4 GB video RAM
System Memory (RAM):	8 GB RAM
Hard Drive Space:	5.75 GB (or greater) free hard drive space.
Gaming Controller:	Joystick, yoke, or other gaming controller (a means of controlling the aircraft rudder, either with twist joystick function or dedicated pedals, is additionally recommended). (Note: All MilViz products require a minimum of one functioning gaming device such as a joystick for proper operation and control.)
Internet Connection:	Please note that an active internet connection is required for successful activation of this product.

Product Installation

Pre-Installation Tasks

As with other flight simulator add-ons, pre-installation precautions should involve closing any open applications, as well as temporarily disabling any active antivirus software.

Failure to temporarily disable anti-virus software when installing may result in a non-functioning product and/or simulator!!!

Beginning Installation

After purchase, this product is supplied as a compressed (.zip) file. This compressed file contains an executable (.exe) file, which is the installer for the MilViz PC-6 Porter.

Using the Windows File Explorer or file compression utility of your choice, unzip this file to a location of your choosing.

Once unzipped, you may begin installation by right clicking on the executable (.exe) file, then selecting "Run as administrator". The installer will run, showing an initial welcome screen. Left click on the "Next" button to continue.

Licence Agreement

The next screen will allow you to view the end user license agreement. Please take the time to carefully review the license agreement text.

Clicking "I Agree" at this screen will confirm your acceptance of the license agreement, and will allow you to proceed to the next step of the installation.

Choose Simulator Version

Our installer automatically detects all compatible simulator platforms on your system. Only installed & compatible simulators will be displayed as options.

(Please note this version supports FSX SE (Steam Edition) ONLY, this version does NOT support Prepar3D version 4.x.)

Left click on the "Next" button to continue.

Component Selection

The various components that make up the installation may be deselected at this screen, though we really don't recommend doing so.

Left click on the "Next" button to continue.

Install Location

The next screen shown will display the location where the MilViz PC-6 Porter will be installed.

This should be pre-filled out with a folder location based on the simulator chosen in Step 2. If you wish to change the location where the aircraft is to be installed, you may do so by left clicking the "Browse" button and selecting a different folder.

Clicking the 'Install' button will start the process of copying files to the correct locations.

Component Installation

After the main bulk of the files are finished copying, the aircraft installer will automatically open the installers for and secondary supplied applications.

If required, please follow the prompts to install these components.

Product Registration

The MilViz PC-6 Porter contains a DRM system which helps to ensure that only legitimately purchased copies of the PC-6 Porter are in use.

This DRM system is activated the first time that the aircraft is loaded in the simulator. During this initial loading process, the following screen will appear, prompting entry of your email address, along with the product key you were given at time of purchase.

Enter the details prompted and press the 'Register' button to continue.

It should be noted that the product key you were given is registered to the email address you used when purchasing the product, requiring the entry of that same email address at this screen.

Post-Installation Tasks

Please be sure to revert your anti-virus program settings back to their previous state. Also please make sure that your simulator directory is off-limits to any automatic antivirus scanning. Failure to do this may result in a non-functioning simulator!

It may be worthwhile to back-up or save a copy of the downloaded installer. Please be aware that as new updates are released over time, we do not continue to offer older versions for download due to support issues. Please also note that support is intended for the latest releases of our products only.

Uninstalling

The MilViz PC-6 Porter must be uninstalled through the use of the Programs and Features window within the Windows operating system.

Note: *Prior to uninstalling the aircraft, please be sure to back up any customized files or custom liveries you have installed if you wish to keep them.*

Updating

The PC-6 Porter is updated by one of two methods, with minor update notifications delivered through the MVAMS application, and major update notification being provided by your vendor.

To check for a minor update, open the MVAMS application via the MVAMS icon which has been placed on your desktop. If a minor update is available, a notification will appear here. Click yes to begin the update process, which largely mirrors the install process.

Major updates are beyond the scope of the MVAMS application, however, and may require a new version of the aircraft to be downloaded and installed.

Product Support

We are deeply committed to the satisfaction of our customers. If you encounter any issues with your product or require assistance, or just have a general question, we encourage you to visit our forums at http://milviz.com/forum/.

Support forums for our individual products are restricted to owners of that product. To register for a specific support forum, please contact oisin@milviz.com for registration information and details. Please note that proof of purchase will be required.

Simulator Configuration

Options - Realism

MilViz aircraft are developed with an overall goal of replicating a realistic level of accuracy in regards to operation and flight response. To this end, development and testing are generally carried out using the highest realism settings available within the simulator.

Overall, the realism settings within the simulator exist in order to make flying less of a chore, as well as to remove some of the tasks which are necessary in real life to ensure a safe and proper flight.

Our intent is not to discourage such use, but only to ensure that the user has the means to enjoy the aircraft to the level at which it was designed.

Flight Model

For correct operation, all sliders in the flight model section should be set fully to the right.

Instruments and Lights

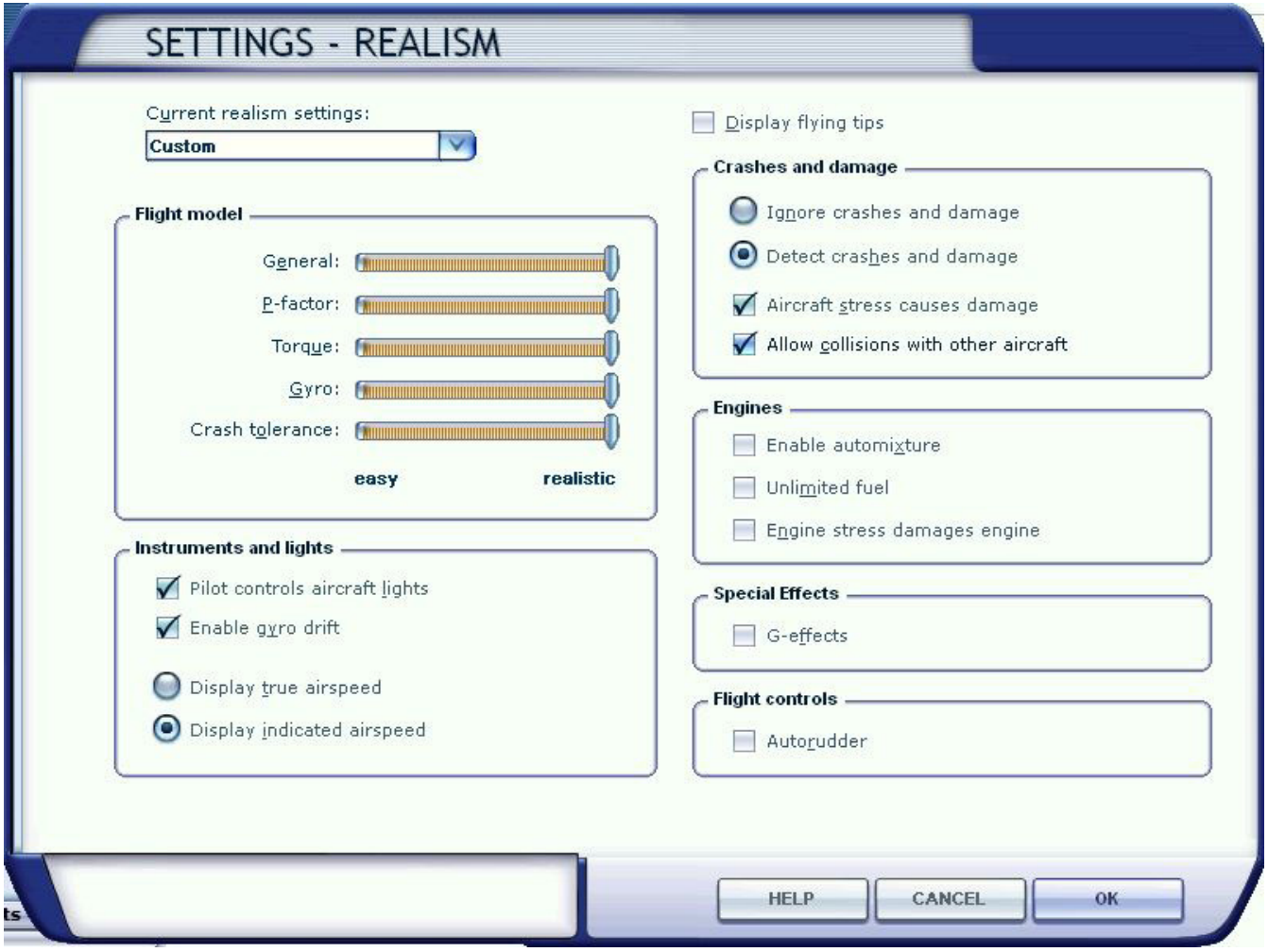
The MilViz PC-6 Porter has a sophisticated lighting system in place, so the "Pilot controls aircraft lights" should be checked. "Enable gyro drift" and "Display true airspeed" or "Display indicated airspeed" may be left to user preference.

Crashes and Damage

The choices in this section may left to user preference.

Engines

All three checkboxes in this section must remain unchecked for correct operation.



Special Effects

This may be left to user preference.

Flight Controls

For the most realistic flight experience, we recommend the use of rudder pedals. When rudder pedals are in use, "Autorudder" should **not** be selected.

Advanced Controller Configuration

It is possible to configure both the throttle and propeller levers to accept reverse range operation for any standard controller. Within the aircraft's panel folder, there is a subfolder titled '**PC6**'. Within this subfolder is a gauge file titled '**PC6_controllers.xml**'. This file may be edited with a text editor, modifying basic parameters so as to comply with the controller's data.

We recommend that a backup copy of the original file is created before any editing takes place, in case you wish to revert to the original operation without reinstallation of the aircraft.

First of all, let's say that a controller is defined like this:

Joystick:IDJoystick:Axis:IDAxis

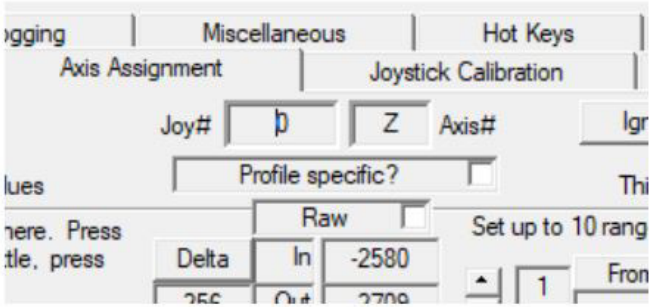
Joysitck: fixed name, remains unchanged

IDJoystick : a number from 0 to n, usually 0 for the first controller, 1 for the second, etc. Value returned by the controller, must be set by the user.

Axis: Map name of the axis in use for a requested operation. Value returned by the controller, must be set by the user.

IDAxis: A number from 0 to n, usually 0. Returned by the controller, can be set by the user.

If **FSUIPC *registered version*** is installed, it is possible to detect all these values by going to Axis Assignment tab. When moving each lever (throttle, prop), lever data is displayed in two fields:



IDJoystick number is displayed in Joy# field

Axis name is displayed in Axis# field.

IDAxis is usually 0, but could be displayed after Axis name (i.e. **Z1**)

Typical values for axis are X,Y,Z and S (for Slider). For example, one lever might be Joy# 0 Axis# Z and the other Joy#0 Axis#S.

To use this information to configure the operation of these controllers in the aircraft, edit the **controllers.xml** file as follows:

To configure the **Throttle Axis:**

```
<!-- USER MODIFICABLE VALUES -->
<!-- ======================= -->

<!--  THROTTLE MACROS   -->

<!-- Put here 1 to enable throttle control, or 0 to disable -->
<Macro Name="T_Enable">0</Macro>

<!-- Put here percent of Lever travel (0-100) in where IDLE position is desired -->
<Macro Name="T_Idle">80.00</Macro>

<!-- Put here Controller ID (Check FSUIPC Axis Asignment) -->
<Macro Name="T_ControllerID">0</Macro>

<!-- Put here Axis Name (Check FSUIPC Axis Asignment) -->
<!-- For "Slider" write Slider, no quotes -->
<!-- For X, Y or Z, write XAxis, YAxis or ZAxis , no quotes -->
<Macro Name="T_AxisName">ZAxis</Macro>

<!-- Put here Axis ID, if more than one (Check FSUIPC Axis Asignment) -->
<!-- Usually goes 0 -->
<Macro Name="T_AxisID">0</Macro>

<!-- Put here 1 to enable beta/reverse range in flight, or 0 to disable -->
<!-- Usually goes 0 -->
<Macro Name="T_BetaFlOp">0</Macro>
```

In the **T_Idle** macro it is possible to select percentage of controller travel in where idle position will be set. In the example case, idle corresponds with 80 % of the lever moved down. Therefore, Normal operation will be from 20 to 100 % of lever axis and reverse from 0 to 20 % of lever axis.

In ***T_ControllerID***, enter the **IDJoystick** value.

In ***T_AxisName***, enter the name of the Axis together with extra data according to the following:

-For X,Y,Z, add the word Axis. I.E. '**ZAxis**'

-For S write **Slider**

In ***T_AxisID,*** enter the **IDAxis**. If not specified by FSUIPC leave at 0.

In ***T_BetaFlOp*** macro it is possible to select whether or not to enable Beta/Reverse power lever positions in flight. Write **1** to enable, or **0** to disable. Disabled by default (for security reasons).

To configure the **Propeller Axis:**

```
<!--  PROPELLER MACROS   -->

<!-- Put here 1 to enable propeller control, or 0 to disable -->
<Macro Name="P_Enable">0</Macro>

<!-- Put here percent of Lever travel (0-100) in where HIGH PITCH is desired -->
<Macro Name="P_HPitch">90.00</Macro>

<!-- Put here Controller ID (Check FSUIPC Axis Asignment) -->
<Macro Name="P_ControllerID">0</Macro>

<!-- Put here Axis Name (Check FSUIPC Axis Asignment) -->
<!-- For "Slider" write Slider, no quotes -->
<!-- For X, Y or Z, write XAxis, YAxis or ZAxis , no quotes -->
<Macro Name="P_AxisName">Slider</Macro>

<!-- Put here Axis ID, if more than one (Check FSUIPC Axis Asignment) -->
<!-- Usually goes 0 -->
<Macro Name="P_AxisID">0</Macro>
```

To enable Propeller control, write **1** in ***P_Enable*** macro definition.

The other macros work much the same as for the Throttle.

If a registered version of FSUIPC is not present, it is always possible to detect the required values within the simulator, by going into the controller configuration menus. (***Controls...***)

The controllers are typically listed in order, with the first being '**0**'.

The name of the Axis is displayed by scrolling through the list of controls to where the desired control is mapped (i.e. Throttle Axis), and reading the name of the Axis that appears in the column to the right.

IMPORTANT:

If one of these levers is already configured in FSUIPC by Axis Assignment and handled by FSUIPC itself and not the simulator, FSUIPC has privilege over this configuration and it will overwrite any values captured by the gauge.

MVAMS Overview

MVAMS stands for MilViz Addon Management System. It is a standalone application used by many of our product releases which represents our user-friendly solution to the growing complexity of options and choices available within our aircraft. It provides a central location to manage your aircraft, as well as providing incremental update capabilities.

If not already present, the MilViz PC-6 Porter installs, and fully integrates with, the MVAMS application. This allows the user access to a range of configuration utilities specific to this aircraft.

Starting MVAMS

If this is your first MilViz product that includes the MVAMS application, the PC-6 Porter installer will have ran the installer for MVAMS, which will place a shortcut icon on your desktop. If this is not your first MVAMS equipped MilViz product, the shortcut icon may already exist on your desktop. This icon will open the MVAMS application. In addition, the installer will open automatically run MVAMS once installation is complete.

MVAMS Location

The installer places the MVAMS application folder and related files within the AppData\Local\MVAMS folder. If your desktop shortcut is deleted or is otherwise missing, the application may be launched from this folder.

Selecting Your Aircraft

When you open the MVAMS application, you are presented with a pictorial view of all MVAMS-compatible aircraft installed on your computer. The configuration details for any aircraft may be shown by clicking its image with the left mouse button. Your newly installed PC-6 Porter will be available in this list for selection.

If it is desired to set the configuration options for more than one aircraft, the aircraft selection menu can be accessed by clicking the logo/icon at the top left corner. Note that leaving the current aircraft configuration page without saving will result in the loss of any options changed or selected.

Aircraft Specific Details

Each individual aircraft represented within MVAMS has it's own unique set of configuration options available which determine how the aircraft loads within the simulator. If there are many configuration options available, the options are organized into a series of tabs to group similar or related options together. Tabs may be moved between without loss of selections or changes made.

In this release, the PC-6 Porter has adjustable cabin layouts and loading options, with a tab titled 'Load' where this can be configured. A series of radio buttons and checkboxes, along with a pictorial representation of the aircraft cabin, assist the user in making choices about what layout is chosen, as well as how that layout is loaded.

The tab titled 'Radios' is where the avionics layout may be adjusted. Any changes made will take effect when the aircraft is loaded in the simulator. Please note that any third party avionics referenced in the listed configurations are not included with the PC-6 Porter and must be purchased separately from their respective publishers. (Support related to the installation, usage, or configuration of third party avionics is not provided).

The 'Options' tab for the PC-6 Porter consists of the following:

The running state of the engine and systems may also be determined; choices made here affect how the aircraft is loaded, and in turn can provide full ability for the user to determine their start-up preference.

The sound levels are customizable; the option exists to sync the PC-6 Porter sounds with the simulator, or to manually adjust volume of the cockpit, internal engine, or external engine sounds.

The PC-6 Porter also tracks the health of the aircraft engine. The engine can be harmed through mishandling, as well as accumulate normal wear. Such damage and wear is persistent across simulator sessions, and can be reset here.

The tab marked 'Visual' contains settings for items such as cold covers, tie-downs, chocks, red tags, etc, so as to have these visual options present when the aircraft is loaded. Generally, these options may also be toggled through the menus within the simulator as well.

Saving and Closing MVAMS

To save any changes or selections made, click the 'Save Defaults' button located at the bottom of the screen (Note: If the aircraft is loaded while you access MVAMS, it will be required to reload the aircraft before any changes will be present in the simulator.)

To close the MVAMS application, click on the 'X' in the top right corner. Note that closing MVAMS without saving will result in the loss of any options changed or selected.

Engine State: Explained

As previously mentioned, the PC-6 Porter tracks and saves the health of the engine. This information is displayed to the user in the form of a status bar in the 'Options' tab in the MVAMS application, as shown below.

It's important to note that this bar decreases through wear accumulated during normal operation. From perfect condition, a full bar depleting to an empty bar represents approximately 100 hours of operation. After that point, the aircraft engine is extremely likely to fail during the next session. At any point prior to this, the aircraft may be 'serviced' by pressing the 'Restore' button to bring the aircraft to perfect condition. Please note that the simulator must be closed before the engine can be restored.

In addition to normal wear accumulating during regular use, engine wear can be accelerated by operator error and general mishandling of the aircraft engine. Exceeding any of the engine instrumentation limits will reduce the hours-to-service, with ITT over-temperature being one of the most serious.

This increased engine wear, if not monitored and acted upon, is capable of causing an unexpected engine failure. Should an engine failure occur, the only method for 'fixing' the failed engine is by closing the simulator and using the option within MVAMS to restore the engine to good condition.

Some of the situations that can cause greatly accelerated engine wear are:

- ITT exceedance at startup (30 or more seconds until failure)
- Engine overtorque, such as full power with a feathered propeller (6 or 7 seconds until failure)

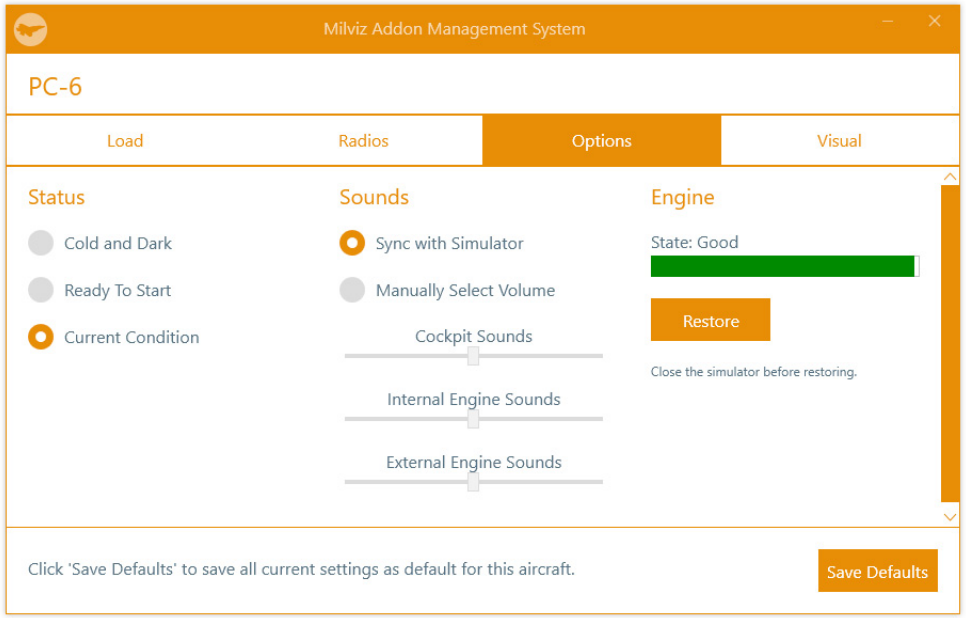
Remember, when in doubt, stay within the limitations indicated on the instrumentation!

Battery Condition

The battery condition in the PC-6 Porter is also monitored for temperature. If starter limits are not respected, battery temperatures can increase (especially if the outside air temperature is high) and cause the annunciator light to illuminate. When this happens, the battery switch must be turned off. If the annunciator light is ignored, there is a high chance that the battery will fail completely.

If the battery fails, the only method of fixing it is to reset your flight.

Battery condition is not persistent across simulator sessions and is not displayed as part of the engine state bar viewable in MVAMS.



NOTAM - Important Information

Important: Changes to the time and date while a flight is in-progress MUST be avoided. If selecting a different time and date after the flight is loaded is desired, it is important to do so only when the aircraft is loaded in the Cold and Dark configuration, or in situations where the engine is not running and power is off.

Note: Idle Control lever incorporates a safety catch to prevent the lever from inadvertently being moved to the cutoff position. Operation of the safety catch is described in the Normal Procedures. Pilots should familiarize themselves with correct operation before flight.

Note: There are some real life inaccuracies built into the gauges within the Porter in order to accurately portray a real, working aircraft. Although the tendency within a simulated environment is to expect absolute precision, it's rare that analogue gauges perform to such standards. For reference, the following *designed* inaccuracies are present:

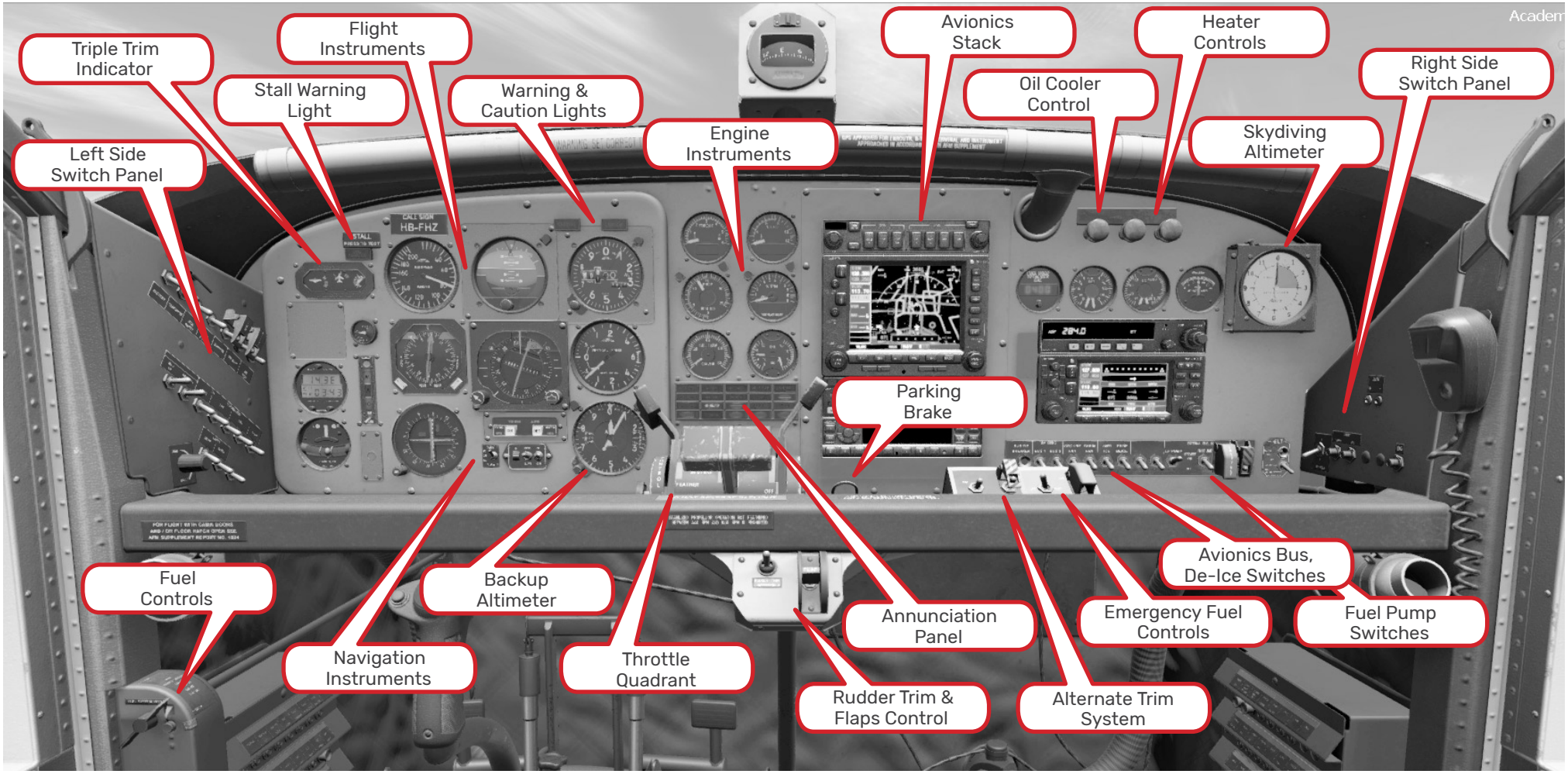
(1) Needle on Turn Coordinator is rarely centered.
(2) Barometer information displayed on secondary altimeter will not match exactly with primary altimeter.
(3) Red flag for HDG in the RMI does not contain a "HDG" label.
(4) Left fuel needle will not accurately read full position when left wing tank is full.
(5) In certain positions, CDI needle in HSI will not show full deflection.
(6) Flaps visual indicator on left wing is INOP (stuck at flaps up position), repair was deemed unnecessary as there is an electronic flaps indicator on the cockpit.

Important: It is very important that the following is taken into account in order to correctly set the aircraft up for flight with a turbine engine:

a. A flight should be set up from the simulator menu. I.E. Select the aircraft, location, time, and weather from the Free Flight Menu and begin the flight. The simulator will then be setup for a turbine engine profile. Positioning the aircraft where you want, along with a possible cold and dark state and saving the flight will allow this to be used at any time.

b. If you load up from a previously saved flight or loaded aircraft, it must be a jet or turboprop aircraft, NOT a piston engine. The simulator will be using the fuel and mixture setup of the previous aircraft when the PC-6 loads, which means that the custom management of the turbine engine profile is going to be at odds with this and the simulator may either crash to desktop or simply not start or run correctly.

Panel Overview



(For overview and operation of the KAP 140 autopilot, please refer to the included KAP 140 manual within the documentation folder.)

Annunciator Panel Overview

WARNING, CAUTION AND ADVISORY CAPTIONS/LIGHTS

The annunciator panel comprises a set of lighted windows containing warning captions (red), caution captions (amber), and advisory captions (green) as applicable to the aircraft systems.

RED CAPTIONS	
PROP LOW P	ILLUMINATES WHEN PROPELLER GOES INTO MINIMUM PITCH IN FLIGHT.
BATT BUS	ILLUMINATES WHEN BATTERY BUS VOLTAGE FALLS TO LESS THAN 14 VOLTS DC.
GEN BUS	ILLUMINATES WHEN GENERATOR BUS IS OFF LINE.
AMBER CAPTIONS	
SUCTION	ILLUMINATES WHEN SUCTION SYSTEM IS LESS THAN 4.5 PSI OR MORE THAN 5.2 PSI.
BATT HOT	ILLUMINATES WHEN BATTERY TEMPERATURE IS MORE THAN 65°C.
GENERATOR	ILLUMINATES WHEN GENERATOR IS OFF LINE.
F FILTER	ILLUMINATES WHEN FUEL FILTER IS CLOGGED.
FUEL PRESS	ILLUMINATES WHEN FUEL PRESSURE FALLS TO LESS THAN 5.5 PSI.
INVERTER	ILLUMINATES WHEN INVERTER OUTPUT FALLS TO LESS THAN 13 VOLTS AC.
OXYGEN	ILLUMINATES WHEN OXYGEN PRESSURE FALLS TO LESS THAN 400 PSI.
CHIP	ILLUMINATES WHEN MAGNETIC CHIP DETECTOR DETECTS METALLIC CONTAMINATION OF THE ENGINE OIL SYSTEM.
GPS MSG (If Installed)	ILLUMINATES IF A GPS MESSAGE IS PRESENT.
GREEN CAPTIONS	
AUX F PUMP	ILLUMINATES WHEN AUX F PUMP IS OPERATING.
ANTI ICE	ILLUMINATES WHEN ANTI-ICE SYSTEM IS ENERGIZED.
PROP DE-ICE	ILLUMINATES WHEN PROP DE-ICE SYSTEM IS OPERATING.

Normal Procedures

PREFLIGHT INSPECTION

1.	All covers and locks	REMOVE
2.	Wing, Tail and Control surfaces	CHECK CLEAN/UNDAMAGED
3.	Propeller	CHECK PROPELLER AND SPINNER FOR NICKS AND SECURITY, AND PROPELLER FOR OIL LEAKS
4.	Air Intake Filters	CHECK FOR OBSTRUCTIONS
5.	Landing Gear/Brakes	CHECK CONDITION
6.	Tailwheel	CONDITION
7.	Tailwheel Locking Lever	CHECK SECURITY OF LOCKING PLATE
8.	Mainwheel Dirt Scrapers (if installed)	CHECK GENERAL CONDITION
9.	Tires	CHECK CONDITION AND INFLATION
10.	Fuel Tanks	CHECK FOR REQUIRED QUANTITY
11.	Windshield and Windows	CHECK FOR CLEANLINESS AND PROPER CONDITION
12.	Oil Tank Contents	CHECK OIL LEVEL.
13.	Engine Drains Collector Tanks	DRAIN ACCUMULATED FLUID
14.	Main Fuel Filter	DRAIN ACCUMULATED WATER
15.	Water Sediment Tank	DRAIN ACCUMULATED WATER

Normal Procedures

PREFLIGHT INSPECTION (continued)

16.	Lights	CHECK
17.	Pitot/Prop Heater	CHECK
18.	Stall Warning	CHECK
19.	Static Vents	CHECK

(Preflight Inspection checklist complete)

BEFORE ENGINE STARTING

1.	Doors	CLOSED
2.	Seats/Rudder Pedals	ADJUST AND LOCK
3.	Flight Controls	UNLOCK, CHECK CORRECT TRAVEL
4.	Parking Brake	SET
5.	Power Lever	IDLE DETENT
6.	Idle Control Lever	CUT-OFF
7.	Propeller Control Lever	OAT ABOVE +10°C - SET FEATHER OAT BELOW +10°C - SET FULL FORWARD
8.	Starter Switch	OFF

Normal Procedures

BEFORE ENGINE STARTING (continued)

9.	Ignition Switch	OFF
10.	Generator Switch	OFF
11.	Aux Fuel Pump Switch	OFF
12.	LDG. Lights	OFF/UP
13.	Radio Masters	OFF
14.	Battery Master Switch	ON, CHECK VOLTAGE
15.	Annunciator Panel	TEST
16.	Fuel System Valve	OPEN, GATED
17.	Fuel Quantity/Totalizer	CHECK / SET
18.	Engine Instruments	CONDITION
19.	Oil Temp	CHECK (ABOVE -40°C)

(Before Engine Starting checklist complete)

Normal Procedures

ENGINE STARTING

1.	Aux Fuel Pump Switch	ON
2.	Propeller Area	CLEAR
3.	Starter Switch	ON
4.	Oil Pressure	CHECK RISING
5.	Ignition Switch	ON
> When Ng stabilized (Min. 12% Ng):		
6.	Idle Control Lever *(Control lever safety latch will spring shut)*	LOW IDLE
7.	ITT	MONITOR (MAX 1090°C FOR 2 SECONDS)
> When Low-Idle RPM is attained (Min. 46%):		
8.	Starter Switch	OFF
9.	Ignition Switch	OFF
10.	Oil Pressure	CHECK GREEN ARC
11.	ITT	STABILIZED BELOW 660°C
	(Engine Starting checklist complete)	

Normal Procedures

AFTER ENGINE STARTING

1.	Propeller Control Lever	FORWARD
2.	Generator Switch	ON, CHECK GEN. CAPTION OUT, VOLTS 28V AND POSITIVE AMPS
3.	Ng	CHECK ABOVE 51%
4.	Radio Masters	ON
5.	Inverter (if installed)	ON
6.	Avionics	ON / SET AS REQUIRED
7.	Compass	SYNCHRONIZED
8.	Artificial Horizon(s)	ERECT

(After Engine Starting checklist complete)

BEFORE TAXIING

1.	Passengers	SECURE
2.	Landing Lights	AS REQUIRED
3.	Nav Lights	ON

(Before Taxiing checklist complete)

Normal Procedures

TAXIING

1.	Tailwheel	STEER
2.	Park Brake	RELEASE
3.	Brakes	CHECK FUNCTIONING
4.	Flight Instruments	CHECK FUNCTIONING

(Taxiing checklist complete)

BEFORE TAKEOFF

> AN EXTREMELY OUT-OF-TRIM STABILIZER CAN, IN COMBINATION WITH LOADING, FLAPS POSITION AND POWER INFLUENCE, RESULT IN AN UNCONTROLLABLE AIRCRAFT AFTER THE AIRCRAFT LEAVES THE GROUND.

> FAILURE TO SET CORRECT TRIM SETTINGS WILL RESULT IN LARGE CONTROL FORCES AND/OR UNREQUESTED PITCHING/YAWING.

1.	Trims:	
	a. Stabilizer:	
	» for mid c.g.	GREEN MARK (0°)
	» for FWD/AFT c.g	GREEN ARC (2° NOSE UP/2° NOSE DOWN)
	b. Aileron	GREEN MARK (0°)
	c. Rudder	GREEN MARK (7° RIGHT)
2.	Flaps	SET TO (28°)
3.	Flight Controls	FULL AND FREE MOVEMENT
4.	Altimeter	SET
5.	Fuel Quantity	CHECK

Normal Procedures

BEFORE TAKEOFF (continued)

6.	Aux Fuel Pump Switch	ON
7.	Anti-ice Switch	AS REQUIRED
8.	Prop de-ice (if installed)	AS REQUIRED
9.	Strobe Lights	ON
10.	Oil Temp	GREEN ARC
11.	Instruments	CHECKED
12.	Heating Control	OFF
13.	Doors/Windows	CLOSED
> When Aligned on the Runway:		
14.	Tail Wheel	LOCK
15.	Rudder Pedals	FREE
16.	Tail Wheel Lock Check	CONFIRM AIRCRAFT ROLLS STRAIGHT WHEN ASYMMETRIC BRAKING
17.	Idle Control Lever	HIGH IDLE

(Before Takeoff checklist complete)

Normal Procedures

TAKEOFF

- Engine limitations:

1.	Torque	47.3 PSI (MAX. TRANSIENT 53 PSI)
2.	ITT	725°C (MAX. TRANSIENT 825°C FOR 2 SECONDS)
3.	Ng	101.5% (MAX TRANSIENT 102.6%)
4.	Np	2000 RPM (MAX TRANSIENT 2420 RPM)

(Takeoff checklist complete)

CLIMB

1.	Flaps	UP
2.	Aux Fuel Pump Switch	OFF
3.	Oil Cooler	SET (OIL TEMPERATURE BETWEEN 74 AND 80°C)
4.	Landing Light(s)	UP/OFF
5.	Heating	AS REQUIRED
6.	ITT	MAX. 695°C

(Climb checklist complete)

Normal Procedures

CRUISE

1.	Oil Temperature	ADJUST OIL COOLER CONTROL TO MAINTAIN OIL TEMPERATURE BETWEEN 74 AND 80°C
2.	ITT	MAX. 695°C
3.	Engine Instruments	MONITOR
4.	Ignition Switch	SELECT ON DURING HEAVY RAIN
	(Cruise checklist complete)	

BEFORE LANDING

1.	Altimeter	SET
2.	Fuel quantity	SUFFICIENT
3.	Aux Fuel Pump Switch	ON
4.	Ignition Switch	SELECT ON
5.	Idle Control Lever	HIGH IDLE
6.	Flaps	AS REQUIRED
7.	Trim	AS REQUIRED. TRIM THE AIRCRAFT FOR AN APPROACH SPEED OF 68 KCAS AND SUFFICIENT POWER FOR A 3° GLIDE SLOPE (APPROXIMATELY 10 PSI POWER AND 3 UNITS OF AIRCRAFT NOSE UP TRIM)
8.	Cabin Heating	OFF

Normal Procedures

BEFORE LANDING (continued)

9.	Landing Light(s)	DOWN AND ON
10.	Tailwheel	CHECKED LOCKED

(Before Landing checklist complete)

BALKED LANDING

> WITH FLAPS IN LANDING POSITION AND HORIZONTAL STABILIZER TRIM FULL NOSE UP, DO NOT SELECT MAX POWER BEFORE HORIZONTAL STABILIZER TRIM IS RESET TO "0".

1.	Power Lever	ADVANCE FOR TAKE-OFF POWER
2.	Wing Flaps	RETRACT TO T.O.
3.	Climb Speed	65 KCAS
4.	Wing Flaps	RETRACT AFTER REACHING SAFE ALTITUDE AND AIRSPEED

(Balked Landing checklist complete)

AFTER LANDING

1.	Stabilizer Trim	SET TO SAFE POSITION FOR TAKE-OFF (WITHIN GREEN ARC).
2.	Idle Control Lever	LOW-IDLE
3.	Tailwheel	STEER

Normal Procedures

AFTER LANDING (continued)

4.	Flaps	UP
5.	Anti-ice Switch	OFF
6.	Ignition Switch	OFF
7.	Prop de-ice (if installed)	OFF
8.	Strobe Light(s)	OFF

(After Landing checklist complete)

ENGINE SHUTDOWN

1.	Tailwheel Control	LOCK
2.	Power Lever	RETARD

» (Allow engine to stabilize at idle with minimum ITT for one minute)

3.	Parking Brake	SET
4.	Radio Masters	OFF
5.	Landing lights	UP/OFF
6.	Cockpit/Cabin Fan	OFF
7.	Generator Switch	OFF

Normal Procedures

ENGINE SHUTDOWN (continued)

» DO NOT SELECT THE GENERATOR TO ON WITH THE PROPELLER FEATHERED AND DO NOT FEATHER THE PROPELLER WITH THE GENERATOR ON.

8. Propeller Control Lever	SELECT FEATHER
9. Idle Control Lever *(To open safety latch, move control lever to just above latch with joystick/mouse/key-board controls, click on the latch to open, then proceed to move the control lever to cut-off position.)*	CUT-OFF
10. Aux Fuel Pump Switch	OFF (WHEN NG BELOW 5%)
11. Nav Lights	OFF
12. Battery Master Switch	OFF

(Engine Shutdown checklist complete)

Emergency Procedures

ENGINE FAILURE IN FLIGHT

> DO NOT SHUT DOWN AN ENGINE DURING TAKE-OFF OR LANDING BECAUSE OF SUSPECTED ENGINE FAILURE UNLESS AN ENGINE MALFUNCTION IS DEFINITELY DETERMINED.

AIR START

> An engine flame-out will be noticed by an indicated drop in ITT, torque pressure, Ng and Np. The recommended air start technique is to initiate the Immediate Relight procedure immediately after the flame-out occurs, always assuming the flame-out was not the result of an engine malfunction and the aircraft's altitude does not allow to perform a Normal Relight Procedure. If the Ng is less than 46%, a Normal Relight should be initiated. The relight envelope for successful air starts covers all operational altitudes and airspeeds. Above 20,000 ft starting temperatures may tend to be high.

IMMEDIATE RELIGHT (NG > 46%)

1.	Power Lever	RETARD TO DETENT
2.	Idle Control Lever	LOW-IDLE
3.	Aux Fuel Pump	ON
4.	Starter Switch	ON
5.	Ignition Switch	ON
6.	ITT/Ng/Np/Fuel Flow Indicators	MONITOR
7.	Oil Pressure Indicator	MIN. 40 PSI

> When engine stabilized in LOW-IDLE:

8.	Starter Switch	OFF

IMMEDIATE RELIGHT (NG > 46%) (continued)

9.	Ignition Switch	OFF
10.	Idle Control Lever	HIGH-IDLE
11.	Power Lever	AS REQUIRED
12.	Land as soon as possible	

> Immediate relight should only be carried out when height is critical for normal relight. Use only during real emergency, do not practice during training due to possible high ITT. If the Immediate Relight procedure is unsuccessful or Ng is less than 46%, the Engine Securing procedure should be performed.

(Immediate Relight (NG > 46%) checklist complete)

ENGINE SECURING

1.	Idle Control Lever	CUT-OFF
2.	Propeller Control Lever	FEATHER
3.	Power Lever	RETARD to detent
4.	Aux Fuel Pump Switch	OFF
5.	Fuel System Valve	CLOSE
6.	Generator Switch	OFF
7.	Anti-ice Switch	OFF – if not required

ENGINE SECURING (continued)

8.	Prop de-ice Switch (if installed)	OFF – if not required
9.	Electrical Power	REDUCE all non-essential electrical equipment to a battery discharge current of less than 35A

(Engine Securing checklist complete)

NORMAL RELIGHT

1.	Propeller Control Lever	FORWARD
2.	Power Lever	RETARD
3.	Idle Control Lever	CUT-OFF
4.	BAT Radio/GEN Radio BUS Switches	OFF
5.	Fuel System Valve	OPEN
6.	Generator Switch	OFF
7.	Aux Fuel Pump Switch	ON
8.	Starter Switch	ON
9.	Ignition Switch	ON
10.	Oil Pressure Indicator	CHECK RISING

NORMAL RELIGHT (continued)

➤ When Ng stabilized above 12%:	
11. Idle Control Lever	LOW-IDLE
12. ITT	MONITOR
➤ When Ng 52%:	
13. Oil Pressure	CHECK, GREEN ARC
14. Starter Switch	OFF
15. Ignition Switch	OFF
16. Generator Switch	ON
17. Idle Control Lever	HIGH IDLE
18. Power Lever	AS REQUIRED
19. BAT Radio/GEN Radio BUS Switches	ON
20. Land as soon as possible	
➤ For a power off landing establish the best glide speed, which should be not less than 75 knots IAS.	

(Normal Relight checklist complete)

Emergency Procedures

SMOKE AND FIRE

ENGINE FIRE ON THE GROUND (WITHIN THE ENGINE)

> The following procedure is to be used if there is evidence of a fire within the engine. Air passing through the engine is utilized to purge the fire from the combustion section, gas generator turbine, power turbine and exhaust system.

1.	Idle Control Lever	CUT-OFF
2.	Fuel System Valve	CLOSE
3.	Ignition Switch	OFF
4.	Generator Switch	OFF
5.	Aux Fuel Pump Switch	ON (to lubricate fuel pump)
6.	Starter Switch	ON

> SHOULD THE FIRE PERSIST, INDICATED BY SUSTAINED ITT, CLOSE FUEL SYSTEM VALVE AND CONTINUE MOTORING (STARTER OPERATION).

> DO NOT EXCEED STARTER LIMITATION (30 seconds).

7.	Starter Switch	OFF
8.	Aux Fuel Pump Switch	OFF
9.	Battery Switch	OFF
10.	Aircraft	EVACUATE

(Engine Fire On The Ground checklist complete)

CLEARING THE ENGINE ON THE GROUND

> The following procedure is used to clear the engine when it is necessary to remove internally trapped fuel and vapor. Air passing through the engine is utilized to purge fuel and fuel vapor from the combustion section, gas generator turbine, power turbine and exhaust system.

1.	Idle Control Lever	CUT-OFF
2.	Ignition Switch	OFF
3.	Generator Switch	OFF
4.	Aux Fuel Pump Switch	ON (to lubricate fuel pump)
5.	Starter Switch	ON

> Maintain starter operation for 10 seconds then allow starter to cool one minute before re-engaging.

> DO NOT EXCEED STARTER LIMITATION (30 SECONDS).

6.	Starter Switch	OFF
7.	Aux Fuel Pump Switch	OFF

(Clearing The Engine On The Ground checklist complete)

Emergency Procedures

FORCED LANDING (ENGINE INOPERATIVE)

1.	Prop control lever	FEATHER
2.	Fuel System Valve	CLOSE
3.	Flaps	TO
4.	Turn to nearest airfield and glide for range	
5.	Speed	75 KIAS (Best Glide Speed)
6.	Harness (Crew and Pax)	TIGHT
7.	Radio	EMER-CALL
➤	When landing assured:	
8.	Flaps	LD
9.	Battery	OFF
10.	Speed	70 KIAS
	(Forced Landing checklist complete)	

COCKPIT DOORS EMERGENCY OPENING

> The following procedure is to be used if a cockpit door needs to be jettisoned. A red-painted, safety-wired door jettison lever is located on the upper forward door frame.

1.	Cockpit Door Handle	UNLOCK POSITION
2.	Door Jettison Lever	PULL INBOARD and DOWN
3.	Cockpit Door	PUSH OUTWARD

(Cockpit Doors Emergency Opening checklist complete)

TRIM RUNAWAY

HORIZONTAL STABILIZER TRIM

1.	Airspeed	REDUCE to obtain acceptable residual control forces

> MINIMUM SAFE AIRSPEEDS MUST BE OBSERVED.

2.	TRIM INTERRUPT Switch	SELECT 'INTERRUPT' UP
3.	STAB TRIM CB's	PULL
4.	TRIM INTERRUPT Switch	SELECT 'INTERRUPT' DOWN

> IF TRIM DOES NOT MOVE (IT INDICATES A MAIN SYSTEM TRIM RUNAWAY):

5.	ALTERNATE STAB TRIM NOSE DN/UP Switch	OPERATE to achieve required trim

HORIZONTAL STABILIZER TRIM (continued)

> IF TRIM DOES MOVE (IT INDICATES AN ALTERNATE SYSTEM TRIM RUNAWAY):

6.	TRIM INTERRUPT Switch	SELECT 'INTERRUPT' UP
7.	STAB TRIM CB's	PUSH
8.	Main Trim Switch	PRESS and HOLD in opposite direction
9.	TRIM INTERRUPT Switch	SELECT 'INTERRUPT' DOWN

> Both motors (main and alternate) will operate. As the main motor is faster, it will override the alternate.

> As soon as trim is in desired position:

10.	TRIM INTERRUPT Switch	SELECT 'INTERRUPT' UP
11.	Land without further trim operation	

(Horizontal Stabilizer Trim Runaway checklist complete)

RUDDER TRIM

1.	TRIM INTERRUPT Switch	SELECT 'INTERRUPT' UP
2.	RUDDER TRIM CB	PULL
3.	TRIM INTERRUPT Switch	SELECT 'INTERRUPT' DOWN

(Rudder Trim Runaway checklist complete)

Emergency Procedures

AILERON TRIM

1.	TRIM INTERRUPT Switch	SELECT 'INTERRUPT' UP
2.	AILERON TRIM CB	PULL
3.	TRIM INTERRUPT Switch	SELECT 'INTERRUPT' Down

(Aileron Trim Runaway checklist complete)

LOSS OF ELEVATOR CONTROL

> THE PITCH TRIM IS POWERFUL AND LARGE TRIM CHANGES CAN RESULT FROM CHANGES IN AIRSPEED AND POWER. TO AVOID LARGE PITCH EXCURSIONS, AVOID LARGE POWER CHANGES AND ADJUST ELEVATOR TRIM CONSTANTLY.

1.	PWR	OUT of Beta range
2.	Elevator trim	OPERATE to achieve required aircraft attitude
3.	Land as soon as practical	

> MINIMUM SAFE AIRSPEEDS HAVE TO BE OBSERVED

> It is recommended to perform a controllability check (simulated approach/ landing attitude) at a safe altitude. Consider use of FLAPS to assist in maintaining the required aircraft attitude.

(Loss Of Elevator Control checklist complete)

Emergency Procedures

INADVERTENT SPIN

- Intentional spinning is prohibited
- In case of inadvertent spin entry, the recovery procedure is as follows:

1. REDUCE POWER
2. RETRACT FLAPS IMMEDIATELY (IF EXTENDED)
3. CHECK SLIP BALL, THEN APPLY FULL OPPOSITE RUDDER
4. STICK CENTERED

- ALTITUDE LOSS CAN BE AS MUCH AS 1300 FT FROM SPIN ENTRY TO RECOVERED LEVEL FLIGHT

(Inadvertent Spin checklist complete)

Performance Information

PERFORMANCE FOR 2800 KG, GROSS WEIGHT, WITH NO WIND, ON LEVEL, PAVED RUNWAY
(Idle Control at High Idle Position)

CONDITIONS		OUTSIDE AIR TEMPERATURE					
	Altitude (Feet)	ISA -30°C	ISA -20°C	ISA -10°C	ISA 0°C	ISA +10°C	ISA +20°C
TAKE-OFF DISTANCE		m	m	m	m	m	m
Distance required to take-off and climb to 15 m (50 ft.)	S.L	460	465	470	475	480	490
» Take-off Power	2000	470	475	480	485	490	505
» Flaps TO 28°	4000	475	480	485	490	505	590
» Climb speed 69 KCAS	6000	485	490	495	505	570	675
LANDING DISTANCE		m	m	m	m	m	m
At gross landing weight							
Distance required to land over 15 m obstacle	S.L.	285	295	305	315	325	335
and stop with brakes and reverse thrust	2000	300	310	320	330	340	350
» Flaps LD 38°	4000	310	320	330	340	350	360
» Approach at 68 KCAS	6000	325	335	345	355	365	375
NORMAL RATE-OF-CLIMB		ft/min	ft/min	ft/min	ft/min	ft/min	ft/min
Take-off/Maximum continuous power							
» Flaps up	S.L:	1070	1050	1030	1010	990	970
» Airspeed	2000	1040	1020	1000	980	960	930
» 77 KCAS	4000	1010	990	970	950	930	835
	6000	980	960	940	920	895	735
BALKED LANDING CLIMB		ft/min	ft/min	ft/min	ft/min	ft/min	ft/min
Take-off/Maximum continuous power							
» Flaps LD	S.L.	800	780	760	740	720	700
» Airspeed	2000	770	750	730	710	690	660
» 65 KCAS	4000	740	720	700	680	660	565
	6000	710	690	670	650	610	460

SHORT TAKE-OFF PERFORMANCE FOR 2800 KG, GROSS WEIGHT, WITH NO WIND, ON LEVEL, PAVED RUNWAY

(Idle Control at High Idle Position)

CONDITIONS		OUTSIDE AIR TEMPERATURE					
	Altitude (Feet)	ISA -30°C	ISA -20°C	ISA -10°C	ISA 0°C	ISA +10°C	ISA +20°C
TAKE-OFF DISTANCE		m	m	m	m	m	m
Distance required to take-off and climb to 15 m (50 ft.)	S.L	425	430	435	440	445	455
» Take-off Power	2000	435	440	445	450	455	470
» Flaps TO 28°	4000	440	445	450	455	470	555
» Climb speed 69 KCAS	6000	450	455	460	470	530	635

STALLING SPEED

The stalling speeds for gross weight of 2800 kg are given in Figure 3-3 below for various angles of bank, and flap setting.

FLAP SETTING		ANGLE OF BANK		
		0° KCAS	30° KCAS	60° KCAS
Clean	0°	58	62	82
TO	28°	53	57	75
LD	38°	52	56	74

Credits

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Sound Environment	**Mike Maarse - SimAcoustics**
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