DataPod User Guide for Vortex

Doc. V3.01 ©2004-2014

Spartan

CONFIGURING THE VORTEX

To configure your new Vortex you will need a Spartan DataPod (Part no: SRC-DTPOD). The DataPod is only required for configuring the Vortex parameters and does not need to remain on the helicopter during flight.

As the Vortex and DataPod production runs rarely coincide it is possible that the units are delivered to you with incompatible firmware which will result to error messages such as "No gyro found" or "Comms Error". The Vortex is constantly evolving and it is thus a good practice to update your new units to the latest firmware nevertheless.

MENU SYSTEM OVERVIEW

For clarity the configuration parameters affecting the flight behaviour of each major subsystem (Rotor, Tail and Governor) are listed under their own individual menus. A fourth "System" menu includes all remaining items outside the scope of the rotor, tail and governor. Finally the "Setup" menu is effectively an installation wizard and contains items that you would typically configure only once when installing your new Vortex. These include receiver and servo type selection, direction reversing and travel adjustments.
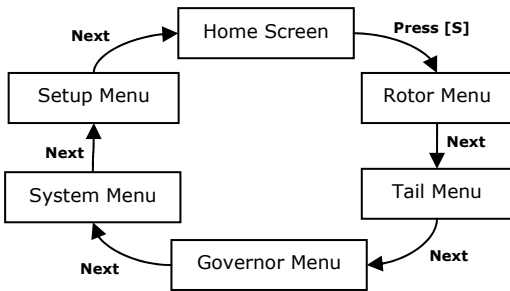
You may connect the DataPod to the Vortex at any time even when the Vortex is already powered on. Use the lower plug of the DataPod as shown in the illustration and connect the other end to the DPOD plug of the Vortex.

With the exception of Setup menu (see Warning note below), you can disconnect the DataPod from the Vortex at any time without the need to return to the home screen.


1. Brown
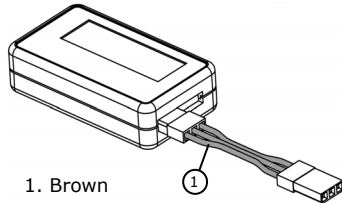
WARNING!

To aid adjustment of certain parameters the setup process will override the pilot's controls.
• Switch off the engine and disconnect electric motors before accessing Setup Menu options.
• Do not disconnect the DataPod whist Setup menu adjustments are active as this may leave servo override functions enabled.
• Do not attempt to fly the helicopter whist Setup menu adjustments are active.
• Always confirm that that collective pitch, cyclic, rudder and throttle controls operate properly before takeoff.

HOME SCREEN

1. The Product name is an indication that we are in the home screen.
2. Displayed when the throttle stick is raised above the value set in Gov::Stick On/Off
3. Displayed when the governor sensor is detecting the magnet.
4. Indicates that the governor is armed. It appears when all of these conditions are met: i) The governor function is enabled in the Setup menu. ii) The governor is enabled in the current flight mode. iii) The STK label (2) is displayed.
5. Indicates that self-levelling is active (currently not available).
6. Displays the voltage at the Vortex servo power bus.
7. "2000rpm" – The currently selected governor RPM. "Gov.Inh" - The governor is inhibited via the Setup menu. "Gov.Off" - The governor is set to "Off" in the currently active flight mode. "RPM Error" - The combination of rotor RPM and gear ratio has pushed the engine RPM outside the range that the governor can regulate.
8. The commanded yaw rate. Changes when the rudder stick is operated.
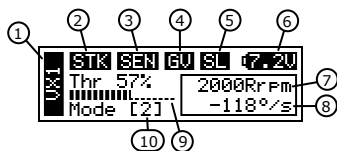
9. The throttle stick position.
10. The currently selected flight mode.

MENU NAVIGATION

MENU - Use the increment [+] and decrement [-] buttons to highlight an option from the menu. Press the select [S] button to activate your selection. Press [+] and [-] together to quickly return to the top of the menu.

ADJUST - In parameter adjustment screens use the [+] and [-] buttons to select the desired value. Press [+] and [-] together to reset the parameter to the factory default value. Press the [S] to return to the menu.
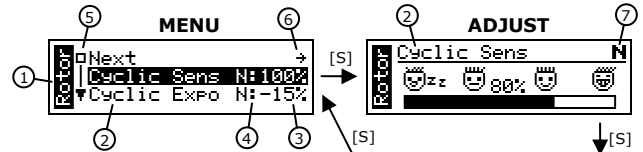

1. Menu name
2. Parameter name
3. Parameter value
4. The colon symbol indicates that different values can be set for each flight mode. The active flight mode is shown on the left of the colon.
5. The square indicates that the top/end of the menu has been reached.
6. The first option in each menu is "Next". This takes us to the next menu.
7. Displayed only for parameters that offer different value in each flight mode. It indicates which flight mode is currently being edited.

ACCESSING EXPERT PARAMETERS

By default only the essential configuration parameters are displayed in each menu. There are several more parameters available to expert users which are normally hidden. To access them navigate to the last option of the menu, then press and hold the [+] button for around two seconds. The remaining part of the menu will open.

DATAPOD REMOTE ADJUST

A spare channel and dial of your radio system can be used to remotely control any bar or slider type adjustment. You can choose the channel that controls this function via System::DataPod Ctrl. If you are using a standard receiver you can connect a spare channel to the DataPod's top (black) plug to instead.
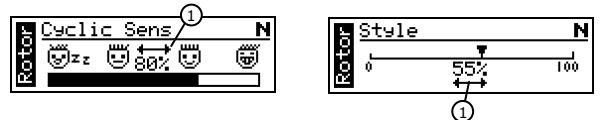
Open the parameter you wish to adjust and press both [+] and [-] buttons for two seconds. The DataPod will beep and the remote adjust indicator (1) will appear on the screen. The value is now adjusted using the radio dial. To exit remote adjust mode press [S].

The first time you use this feature tweak the endpoints of the controlling channel so that the bar/slider reaches both the low and high ends as you rotate the dial. Similarly reverse the controlling channel so that the dial operates in the correct direction.

It is often desirable to restrict the remote adjustment in a safe range. Rotate the dial fully so that the bar/slider reaches its minimum point. Use the [+] and [-] buttons to adjust it. Repeat for the maximum side.

WARNING!

Adjusting some configuration parameters too high or too low can make the helicopter unflyable. For example, setting the tail gain too high will result to rapid tail oscillations. Before taking off ensure that the remotely adjusted value is set to an acceptable safe level for flight. Always proceed in small steps and be prepared to quickly reverse any changes made.

TRANSMITTER LIVE

During setup you will be asked to match your radio's channel output (reversing, mid-points and endpoints) to the range the Vortex expects. The Transmitter Live screen aids this process.

1. Cyclic viewing area.
2. Up arrow indicated positive collective.
3. A round marker is displayed when the rudder and collective sticks are at mid-point.
4. Shows the currently selected flight mode. Use this for guidance whilst matching the transmitter's flight modes with Vortex's flight modes.