# USER GUIDE - SUPPLEMENTAL

## CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Instructions for RX2702V receiver</td>
<td>2</td>
</tr>
<tr>
<td>5.3</td>
<td>Channel connection of receiver</td>
<td>2</td>
</tr>
<tr>
<td>10</td>
<td>Walkera V450D01 Flybarless System Setting RX2702V</td>
<td>3</td>
</tr>
<tr>
<td>10.5</td>
<td>Flybarless system setting</td>
<td>3</td>
</tr>
<tr>
<td>10.5.1</td>
<td>Swashplate mechanical travel and neutral point setup</td>
<td>3</td>
</tr>
<tr>
<td>10.5.2</td>
<td>Swashplate mixing set-up for Elevator and Aileron servo travel</td>
<td>4</td>
</tr>
<tr>
<td>10.5.3</td>
<td>Elevator and aileron gyro function normal/reverse setting</td>
<td>6</td>
</tr>
<tr>
<td>10.5.4</td>
<td>Rudder travel setting and check-UP</td>
<td>6</td>
</tr>
<tr>
<td>10.5.5</td>
<td>Rudder gyro reverse switch setting</td>
<td>7</td>
</tr>
<tr>
<td>10.5.6</td>
<td>Flybarless system setting test</td>
<td>8</td>
</tr>
</tbody>
</table>
5 INSTRUCTIONS FOR RX2702V RECEIVER

5.3 CHANNEL CONNECTION OF RECEIVER (FOR MODE 2 USERS ONLY?)

**CAUTION:** Please note that when using a MODE 2 transmitter set-up PIT and AILE servos are inverted compared to the original manual. There are 2 options to correct this:

1) Physically move the servos in the helicopter frame
2) Switch the AILE and PIT servo channel plugs on the receiver

Failing to make this switch will make the system appear to move as if using a mix of transmitter modes.

If your transmitter is set to MODE 2, it will appear to operate as if in MODE 1 for PIT & ELEV but in MODE 2 for throttle. (i.e. Max ELEV & Max THROTLE are on the same channel! Your helicopter will be uncontrollable.)
10 WALKERA V450D01 FLYBARLESS SYSTEM SETTING RX2702V

10.5 FLYBARLESS SYSTEM SETTING

CAUTION: Unplug the wires connecting the ESC to the main motor to avoid the accidental movement of the main rotor. Reconnect when set-up is complete.

- Prior to this section it is recommended to make a copy of the settings in your 2801 transmitter and setting one pitch curve to the following: 0 – 50 – 50 – 50 – 100. This helps in setting min – mid – max pitch settings.
- Set all TRIMS and SUBTRIMS to neutral positions before binding or re-bind after setting neutrals.

10.5.1 SWASHPLATE MECHANICAL TRAVEL AND NEUTRAL POINT SETUP

- **Step 1: Enter ‘SET-UP’ mode**

  Connect the battery to the ESC as normal and wait for the TX/RX to bind. Move the small rudder/swashplate DIP switch to “SW.SET” position. Press the “SET” button until the STATUS LED flashes RED. The RX is now in mechanical travel and neutral point set-up mode.

- **Step 2: Swashplate functional check**

  Check if the swashplate moves in the correct directions when using ELEV, AILE and PIT controls.

  Normal movements are:

<table>
<thead>
<tr>
<th>Control Input</th>
<th>Swashplate reaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full forward ELEV</td>
<td>Swashplate moves down at front and up at rear</td>
</tr>
<tr>
<td>Full aft ELEV</td>
<td>Swashplate moves up at front and down at rear</td>
</tr>
<tr>
<td>Full right AILE</td>
<td>Swashplate moves down at right and up at left</td>
</tr>
<tr>
<td>Full left AILE</td>
<td>Swashplate moves down at left and up at right</td>
</tr>
<tr>
<td>Full positive PIT</td>
<td>Swashplate moves up and remains level</td>
</tr>
<tr>
<td>Full negative PIT</td>
<td>Swashplate moves down and remains level</td>
</tr>
</tbody>
</table>

- **Step 3: Mechanical neutral setting**

  Servo and main blade pitch neutral point set-up

  CAUTION: This step is very important to the correct set-up of the helicopter. If the neutral point is set incorrectly it will not only affect the flight stability but may cause a complete loss of control and personal injury.
- **Step 4: Main blade pitch setting**
  The recommended pitch range is ±10°; the flight limit is ±11°.

  **CAUTION:** The adjustment of servo travel in a CCPM system must be made using the transmitter ‘SWASHMIX’ function, do not adjust the servo travel individually.

10.5.2 **SWASHPLATE MIXING SET-UP FOR ELEVATOR AND AILERON SERVO TRAVEL**

- **Step 1: Enter set-up mode for ELEV travel**
  Follow the steps in section 10.5.1 to enter neutral point set-up, once completed return PIT to the neutral point and press the “SET” button a second time.
  The STATUS LED will turn constant RED and the ELEV LED will flash GREEN. The elevator servo travel mode is now selected.

- **Step 2: Swashplate elevator travel setting**
  Without moving any of the other controls push the elevator control stick of the transmitter to the highest position, while keeping max ELEV, press the “SET” button to confirm the extent. The receiver calculates the CCPM mixing ratio and the usable travel of forward and backward.
  The STATUS LED remains RED, the ELEV LED turns off and the AILE LED flashes GREEN. Return the elevator stick on the transmitter to neutral.
• **Step 3: Swashplate aileron travel setting**

With the AILE LED flashing GREEN the receiver is ready to accept the maximum limit of AILE input. Without moving any of the other controls push the aileron control stick of the transmitter to the far right position, while keeping max AILE, press the "SET" button to confirm the extent. The receiver calculates the usable travel of right and left. The STATUS LED remains RED; the ELEV & AILE LEDs flash together twice and turn off. The swashplate will hop up and down three times horizontal and level. Release the AILE stick and return it to the neutral position.
10.5.3 ELEVATOR AND AILERON GYRO FUNCTION NORMAL/REVERSE SETTING

- **Step 1: Elevator gyro reverse switch setting**
  Tilt the helicopter forward and check if the gyro corrects the motion by tilting the swashplate aft. If it tilts to the front move the ELEV GYRO DIP switch to the other position. Re-check that the swashplate now tilts aft.

  Tilting the helicopter fore and aft, the gyro tries to keep the swashplate level. If this is not achievable there maybe another problem, please re-check and if the problem persists contact your dealer.

- **Step 2: Aileron gyro reverse switch setting**
  Tilt the helicopter right and check if the gyro corrects the motion by tilting the swashplate left. If it tilts to the right move the AILE GYRO DIP switch to the other position. Re-check that the swashplate now tilts left.

  Tilting the helicopter left and right, the gyro tries to keep the swashplate level. If this is not achievable there maybe another problem, please re-check and if the problem persists contact your dealer.

10.5.4 RUDDER TRAVEL SETTING AND CHECK-UP

- **Step 1: To enter rudder set-up mode**
  On the receiver, move the rudder swashplate setting switch to the “TAIL SET” position. Press the “SET” button until the RED STATUS LED turns OFF and the rudder LED flashes GREEN. The receiver is in rudder check-up mode.

- **Step 2: Check the pushrod adjustment and the reverse setting of the rudder servo.**
  With the rudder servo in the neutral position, the servo arm should be at 90 to the servo case & pushrod, adjust if needed by moving the arm on the splines of the servo, by mechanically adjusting the servo gears or by adding subtrim (it is recommended to avoid over use of subtrim). Adjust the push rod length so the tail rotor pitch is 0.
To check the correct operation of the rudder direction move the rudder stick on the transmitter left and right. Full right rudder should set the pitch of the tail blades to move the tail left and the nose right as it rotates about the main shaft axis.

- **Step 3: Enter rudder servo travel set-up mode**

  **CAUTION:** Rudder setting mode differs from swashplate setting mode. The rudder extent setting does not need maximum rudder control on the transmitter to be input. The rudder extents setting is made by teaching the receiver the mechanical limits of the tail rotor pitch assembly.

  Press the “SET” button once again, the RUDD LED and STATUS LED will flash alternately then the STATUS LED will turn off. The GREEN RUDD LED makes a repeating double flash signal.

- **Step 4: Rudder servo travel limits setting**

  **LEFT**
  While watching the tail pitch control mechanism, push the rudder stick gently to the left until the rudder pitch control mechanism reaches its limit, back off a tiny amount using a little right rudder control to prevent the tail servo from stalling and possible damage. Once the left limit is set satisfactorily press the “SET” button once more. The extent is registered and the servo moves back to neutral.
  The RUDD LED and STATUS LED will flash alternately then the STATUS LED will turn off. The GREEN RUDD LED makes a repeating triple flash signal.

  **RIGHT**
  For right limit setting, repeat the procedure above this time using right rudder control input. Move the pitch control to its limit using right rudder input and when reached, back off a little with left rudder input. Once the limit is correctly set mechanically, press the “SET” button once more.
  The RUDD LED and STATUS LED will flash alternately then the RUDD LED will turn off and STATUS LED will be constant RED.
  The tail rotor pitch moves left/right twice to confirm setting completed.

10.5.5 RUDDER GYRO REVERSE SWITCH SETTING
To check the correct gyro operation, lift the helicopter and push the nose to the left, the pitch setting of the tail should be the same as right rudder input from the transmitter. If this is not the case, move the RUDD reverse switch to the other position and re-check.
10.5.6 FLYBARLESS SYSTEM SETTING TEST

- **Step 1:** Make sure everything is off and all receiver leads are connected. Make sure main motor leads are still disconnected.
- **Step 2:** Turn on the transmitter power and connect the helicopter main battery, wait for binding to complete. During this the swashplate should move up and down twice horizontal and level. If it moves up and down at an angle then there is an error and the flybarless setup process needs to be repeated.
- **Step 3:** Push the throttle stick to maximum and minimum positions, repeat the process with the elevator, aileron and rudder controls to check the movements are as expected (see section 10.5.1 Step 2). If all is not as expected then repeat the set-up process.
- **Step 4:** After all functions are confirmed as normal and operating disconnect the battery from the ESC and turn off transmitter power.
- **Step 5:** Reconnect main motor and ESC plus complete all the usual pre-flight checks before going to fly.