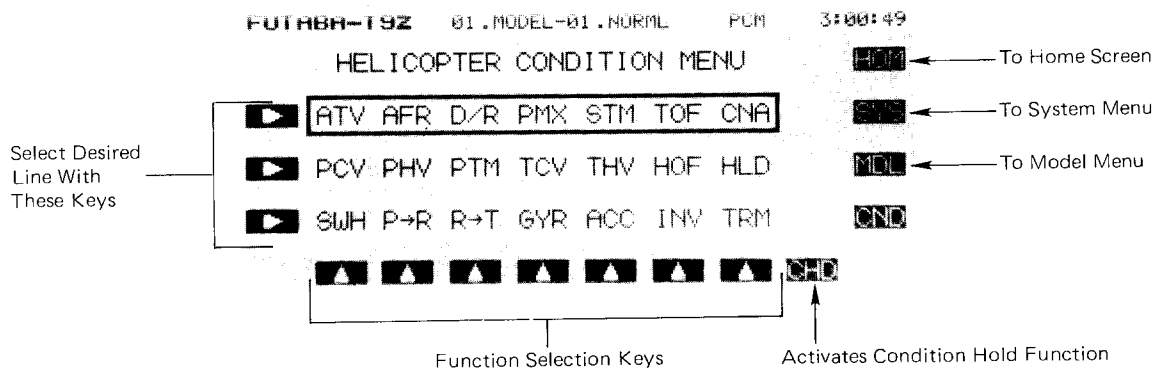


HELICOPTER SECTION

This section contains information on the commands that apply to helicopters only. Each of these functions can be set independently for different flight conditions.

To get to these settings, press the MDL key from any menu in a Helicopter setup. To select one, first select the line containing the desired function with the **B**, **C**, or **D** keys. Then use the **F** to **L** keys to select the function to be entered.

For conditions that apply to all models (ATV, AFR, D/R, PMX, STM, TOF, CNA, and TRM functions), refer to the Common Conditions section. For instructions on Airplanes and Sailplanes, refer to the sections pertaining to those aircraft.

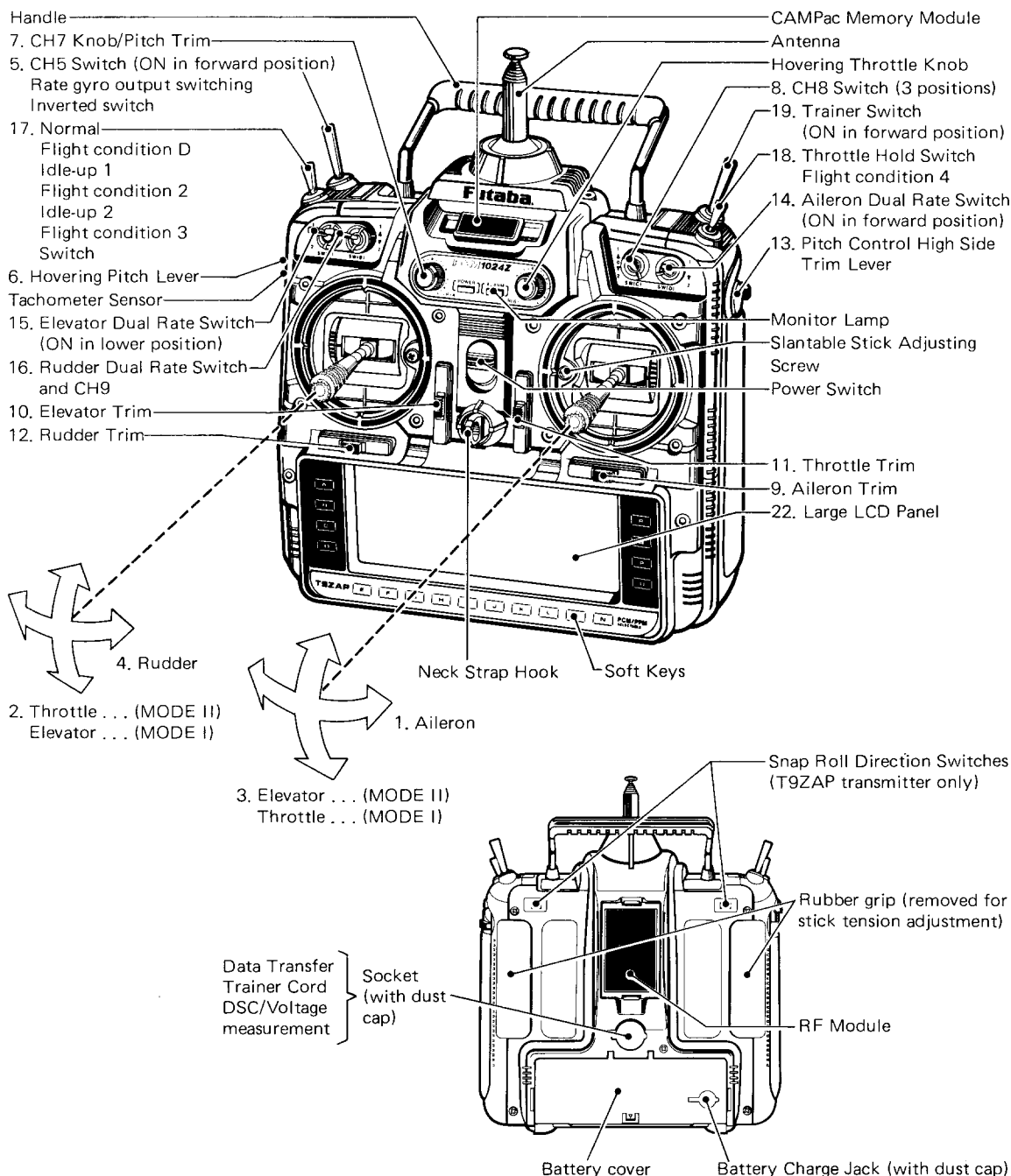


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HELICOPTER TRANSMITTER CONTROLS AND FUNCTIONS

Functions and locations given in this drawing are the factory default positions, which occur upon startup. Each setting can be easily changed as the owner desires. The Function Change menu [FNC] may be used for this purpose.



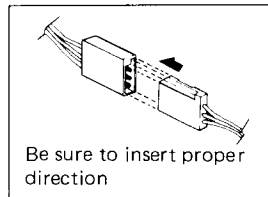
Note that all stick & switch positions may be changed

1. Aileron control
2. Throttle control . . . (MODE II)
Elevator control . . . (MODE I)
3. Elevator control . . . (MODE II)
Throttle control . . . (MODE I)
4. Rudder control
5. CH5 switch
Rate gyro output switching/inverted switch.
6. Hovering rate lever (CH6)
Adjusts the hovering point pitch independently from the throttle. Used in pitch trimming when hovering. When the throttle stick is at the SLOW or HIGH side, the pitch servo does not operate even if this lever is moved.
7. CH7/pitch trim knob
Used as a spare channel, or as the pitch trimmer.
8. CH8 switch
Used as a spare channel (3 positions).
9. Aileron trim lever trims the ailerons.
10. Elevator trim lever trims the elevators.
11. Throttle trim lever (with ATL) Adjustable throttle limiter type trim lever. Operates at the throttle stick SLOW side. Movement is maximum at maximum slow. Since the HIGH side does not change even if the SLOW side is adjusted, it is very convenient when connecting the linkage, etc.
12. Rudder trim lever trims the rudder.
13. Pitch control HIGH side trim lever.
Pitch control servo HIGH pitch trimmer.
Adjusted for optimum pitch during flight.
14. Aileron dual rate switch.
Aileron deflection angle switch.
15. Elevator dual rate switch.
Elevator deflection angle switch.
16. Rudder dual rate switch.
Rudder deflection angle switch.
Can also be used as the CH9 switch.
17. Normal/idle-up 1/idle-up 2 switch.
Idle-up ON/OFF switch.
The On direction is set by condition select (CSL) function (page 40).
(Flight condition switch.)
18. Throttle hold switch.
This switch is used during auto rotation.
The ON direction is set by condition select (CSL) function (page 40).
(Flight condition switch)
19. Trainer switch.
This switch is turned on in the forward position. It is spring loaded and is turned off when released. It can also be changed to an alternate switch (page 29).

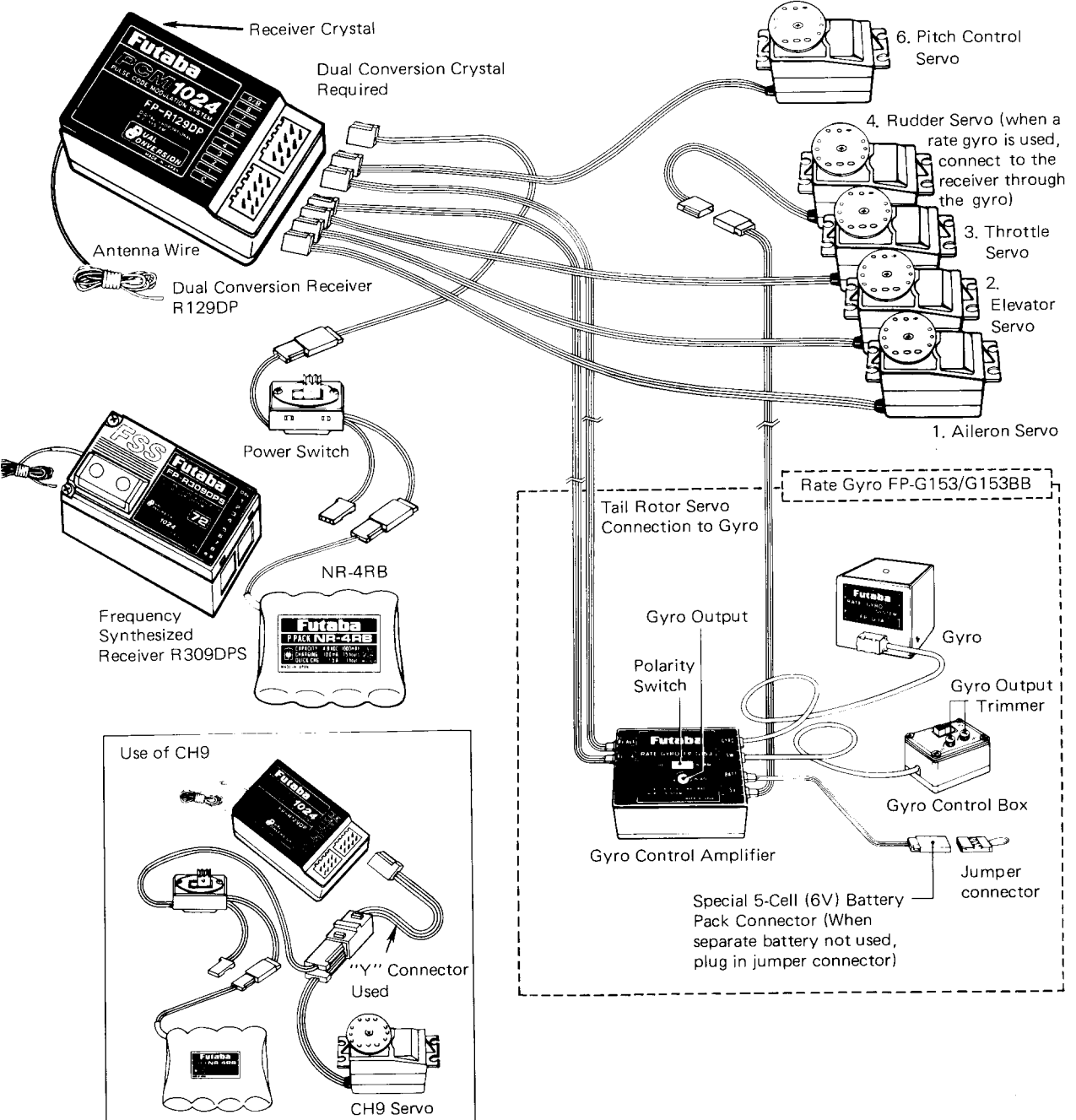
HELICOPTER RECEIVER AND SERVO CONNECTION

The receiver output order is shown below:

1. AIL Aileron
2. ELE Elevator
3. THR Throttle
4. RUD Rudder
5. GYR Rate Gyro Sensitivity Switching
6. PIT Pitch
7. AU1 (Spare)
8. AU2 (Spare)
9. CH9 Channel 9



Five Servos are supplied as standard

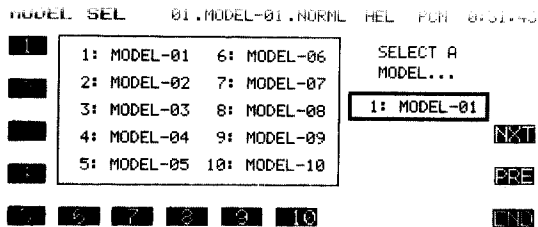


SAMPLE HELICOPTER SETUP INSTRUCTION

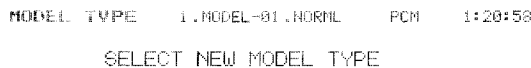
The following example shows how the PCM 1024ZH may be programmed for a contest helicopter model, although for completeness we have added other functions (these will be marked by a "+" sign). The settings presented here are for a typical model. Your model's settings are likely to vary from these, but the procedures given will still be applicable.

1 Memory Selection

Use the Model Select function **MSL** to select a model memory.



Choose the Helicopter Setup using the Type **TYT** function from Model menu.



2 Model Naming

Name the model using the Model Name **MNA** function in the model menu. Note that the default flight condition is named "NORML" (the condition name is located next to the model name). The system automatically adds and names three other flight conditions, which you will program later in this example.

3 Set Control Order

If desired, reset the Control Order using the Function Control **FNC** in the model menu. Here you may choose what sticks, sliders, and trims control the different functions.

4 Hook Up Controls

Hookup the aileron, elevator, throttle, and rudder servos in accordance with the model's instructions or plans.

5 Plug Servos Into Receiver

Plug Servos into Correct Channel Numbers

- 1AILAileron
- 2ELEElevator
- 3THRThrottle
- 4RUDRudder
- 5GYRRate Gyro Sensitivity
- 6PITPitch
- 7AU1(Spare)
- 8AU2(Spare)
- 9CH9Channel 9

6 Set Servo Throw Direction

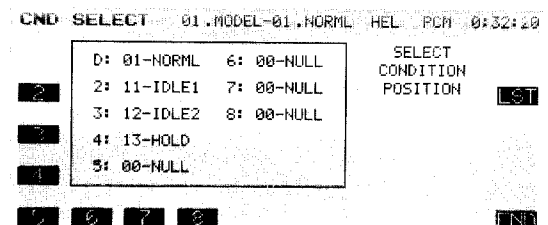
Check the proper direction of throw for each servo. Use Reversing Function **REV** in the Model menu to set proper throw directions. Reverse channels as necessary to correct throws. Link the carburetor to the throttle servo so that the carb may be fully closed to shut off engine.

7 Flight Conditions Switching

You may set up the system to call up more than one function or switch to a new set of trims or control settings simultaneously by moving a single switch. This is very convenient for loading different flight conditions such as Idle-up 1 **IDL1**, Idle-up 2 **IDL2**, and Throttle Hold **HOLD** in addition to the normal flight condition. You may change EVERY parameter between flight modes.

We recommend that you fly the model and adjust trims and control responses to your liking before defining another flight condition. Then, as described below, you will copy the set of adjustments to a new flight condition (this will maintain all trim settings between the different conditions), and define the condition switches that activate them. Each may be modified for the new desired conditions, and you may add new functions as necessary.

Use the Condition Select **CSL** button in the Model Menu. The four flight conditions listed above have already been allocated. The position and ON direction of each flight condition call switch are set as follows:



- D. NormalOperation whenUsed in hovering, all switches OFF etc.
- 2. Idle-up 1ON at SW (E)For 540° stall Center position turns, looping, rolling stall turns

3. Idle-up 2ON at SW (E)Used for rolling Forward position aerobatics.
4. ThrottleON at SW (G)Activate for Hold Forward position autorotation.

In the case above, the flight condition priority is $4 > 3 > 2 > D$, with 4 having the highest priority. This means that if the Idle-Up 1 switch is on, and Throttle hold is turned on, the system will use the Throttle hold settings.

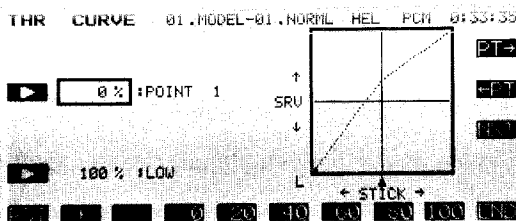
To set the condition data for each flight condition, be sure that you call the appropriate condition by turning on the correct switch (as given above). Read the condition name after the model name to be sure you are changing the condition you want.

8 Normal Flight Programs

Select the Normal flight settings by turning off all the flight condition switches.

9 Throttle Curve Setting

Call the Throttle Curve **THA** function from the Model Menu. Check to see that it is activated **ACT**.



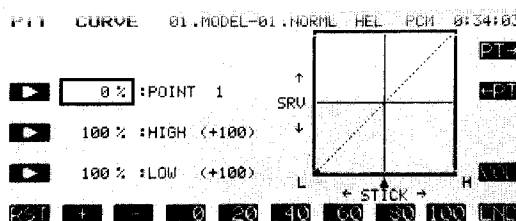
Next, move to the condition menu and press **TCV** to get the setting menu. Set the throttle curve to the values shown in the table below:

Point	1	2	3	4	5	6	7	8	9	10	11	12	13
Setting (%)	0	9	15	22	28	35	43	51	59	70	80	91	100

The throttle responds slowly at first and then the response rate increases at the top end.

10 Pitch Curve Setting

Call the pitch curve **PIT** function from the model menu. Verify that the PIT curve function is activated (**ACT**).



The following settings assume a semi-symmetrical rotor blade with no twist. For the pitch curve, the initial LOW rate is 100% and the HIGH rate is 100%. Set the maximum pitch angle in advance. The pitch angle is -4° to $+12^\circ$.

When setting the pitch angle, set the hovering pitch lever and the HIGH side pitch lever to the center positions. These levers may be activated in flight to make adjustments. Next, input the data so that the normal pitch used in hovering becomes -2.5° to $+10^\circ$ by LOW/HIGH side rate setting.

Although unimportant in calm conditions, the pitch angle should be set to that the High side pitch rate is large. This provides high collective sensitivity to help cope with windy conditions.

Pitch Curve Setting.

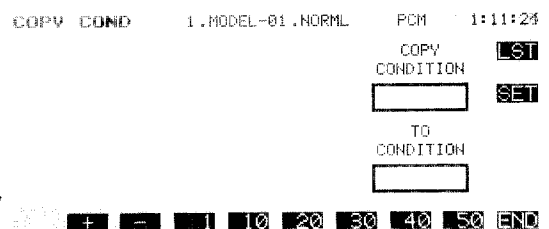
Move to the Condition menu, and select the pitch curve **PCV** key. Set the pitch curve to the following values:

Point	1	2	3	4	5	6	7	8	9	10	11	11	13
Setting (%)	9	18	27	35	43	52	59	67	73	78	82	86	88

The rise at the low end is fast, and then the rise rate is reduced at the high end. We recommend setting the hovering pitch to $+4.5^\circ$.

11 Flight Condition Copying

Use the Condition Select **CSL** button in the Model Menu. This function displays the flight conditions associated with the model in active memory. Note the condition number next to the D (default) in the display. This is the set of conditions associated with the trimmed model. Also note the three numbers following: these are the conditions associated with Idle-up 1&2 and Throttle Hold, that will be copied into and modified.



Use the Copy Condition **CPC** from the System menu. This function may be used to copy the contents of one condition into another. Choose the default flight condition number (next to the D), press the **SET** button, then choose the Idle-up 1 condition number in the lower box "TO CONDITION." Give the command to copy. Repeat for Idle-up 2 and Throttle-hold conditions.

Normal→Idle-up 1
Normal→Idle-up 2
Normal→Throttle Hold

12 Idle-Up 1 Setting

The switch that calls the Idle-up 1 conditions (SW-E, center position) is not yet activated. In the Model menu, press the Condition Select **CSL** key, then select the condition position. Press the Switch button **SWT**, select SW-E (if it is not already selected), and press the center position button (**Q**). Hit the previous key **PRE** and **END** to finish.

Move the Idle-up 1 switch to its ON position and verify that the condition name after the model name refers to Idle-up 1. Then you may go through the Condition menu items to revise the desired settings in the new mode.

Throttle Curve Setting: move to the condition menu and press TCV to get the setting menu. Change the first seven Idle-up 1 throttle curve points to the values shown in the table below:

Point	1	2	3	4	5	6	7
Setting (%)	30	32	34	36	38	42	46

Pitch Curve Setting: Select the pitch curve **PCV** key. The Normal curve copied already appears on the screen. The Idle-up 1 pitch curve uses the same curve as the normal condition, but the maximum HIGH side pitch angle should be 8° to 10° , depending on the engine used. Set the pitch angle by curve or rate.

13 Idle-Up 2 Setting

Call up the Idle-up 2 conditions by setting SW-E to the 1 (forward) position. Be sure that the switch is defined using CSL as in the previous case. Now, you may go through the menu items to revise the desired settings in the new mode (be sure that the condition name after the model name refers to Idle-up 2).

Throttle Curve Setting: move to the condition menu and press TCV to get the setting menu. Change the first seven Idle-up 2 throttle curve points to the values shown in the table below:

Point	1	2	3	4	5	6	7
Setting (%)	58	52	47	44	40	39	44

Pitch Curve Setting: Select the pitch curve **PCV** key. The Normal curve copied already appears on the screen. Set the HIGH side pitch the same as Idle-up 1. Values may be easily compared by switching between Idle-up 1 & 2 with the condition switch, so settings may be easily matched. Set the LOW side pitch curve to the following values:

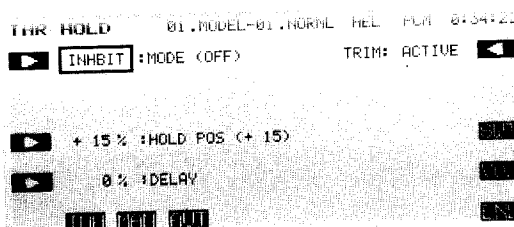
Point	1	2	3	4	5	6	7
Setting (%)	0	8	16	24	33	43	56

Adjust the pitch curve low side to -4° .

14 Throttle Hold Setting

Now the Throttle Hold conditions are set for use in autorotation. Call up the Throttle Hold conditions by setting SW-G to the 1 (forward) position. Now you will set the Throttle Hold ON/OFF switch so that SW (G) is turned on in the 1 (forward) position, the same as the flight condition call switch:

Call the Throttle Hold **HLD** function from the condition menu. Set the condition switch SW (G) to the 1 (forward) position. Select the Manual mode MAN and activate the throttle hold function. Press the SWT button to get to the Switch menu, and activate the SW (G)-1 position. Hit **PRE** and **END** to exit.



When SW (G) is in the 1 (forward) position, the throttle hold function is turned on and when SW (G) is in the 2 (rear) position, the function is turned off. In throttle hold, set the throttle to move the servo to engine idle (approximately 15%).

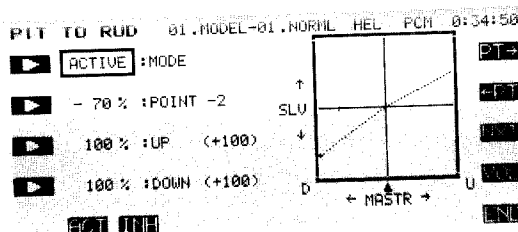
Pitch Curve Setting: Select the pitch curve **PVC** key. The Normal curve copied already appears on the screen. During autorotation, maximum pitch is used at both the HIGH and LOW sides. Therefore, normally set the HIGH and LOW rates to 100% each. The curve must be set so that the rise matches the rotor near points 2 to 6. The rotor blade pitch angle is -4° to $+12^{\circ}$.

The pitch angle for each flight condition is shown below:

Normal	$-2.5^{\circ} \sim 4.5^{\circ} \sim 10^{\circ}$
Idle-up 1	$-2.5^{\circ} \sim 4.5^{\circ} \sim 8^{\circ}$
Idle-up 2	$-4^{\circ} \sim 4.5^{\circ} \sim 8^{\circ}$
Throttle Hold	$-4^{\circ} \sim 4.5^{\circ} \sim 12^{\circ}$

15 Pitch→Rudder Mix Setting

Pitch→Rudder **P→R** mixing uses the tail rotor to suppress the torque reaction of the main rotor due to changes in collective pitch. The shape of the mixing curve may be set independently for each flight condition.



To set this feature, call the Pitch→Rudder **P→R** from the Condition Menu. The Normal setting is used during hover, so it should be set to match take-off, landing, and constant speed vertical climbing.

16 Normal Setting:

Select the normal flight conditions by turning off all the flight condition switches. Set the rudder mixing curve to the following values (initial settings):

Point	-2	-1	0	+1	+2
Setting (%)	-70	-35	0	+25	+50

Idle-up 1 Setting:

These settings are used in 540° stall turns, looping, and rolling stall turns and is set to be straight ahead when the model is pointing directly into or away from the wind. Call the Idle-up 1 flight conditions by moving switch **E** to the 0 (center) position. Set the rudder mixing curve to the following values:

Point	-2	-1	0	+1	+2
Setting (%)	-15	-15	-15	-15	-15

When these values are input, the rudder is offset at the half-throttle position.

Idle-up 2 Setting:

These settings are used in rolls. Activate the Idle-up 2 flight conditions by moving switch **E** to the 1 (forward) position. Set the rudder mixing curve to the following values:

Point	-2	-1	0	+1	+2
Setting (%)	-30	-22	-15	-15	-15

The rudder is offset at the half-throttle position.

Throttle Hold Setting:

Throttle Hold settings are intended to keep the model pointed straight ahead during linear autorotation. The tail rotor pitch angle is nearly 0°. Set the Throttle Hold flight conditions by moving switch **G** to the 1 (forward) position. Set the rudder mixing curve to the following values:

Point	-2	-1	0	+1	+2
Setting (%)	-45	-45	-45	-45	-45

Delay Settings

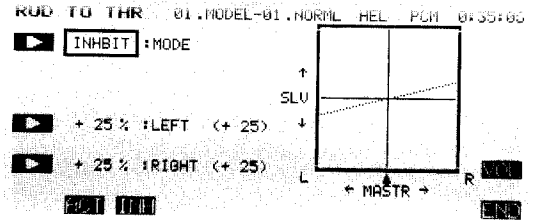
Set the amount of delay for each flight condition. We recommend the following settings:

- Normal 20%
- Idle-up 1 20%
- Idle-up 2 20%
- Throttle Hold 60%

The delay for Throttle hold should be large, because the rudder angle changes significantly during flight condition changes.

17 Rudder→Throttle Mix Setting

Rudder→Throttle **R→T** mixing is effective in hovering eight, nose in circle, top hat, pirouette, and other aerobatics. It should be set so that at half-throttle, if the rudder stick is operated, the rotor speed is maintained to keep altitude constant.

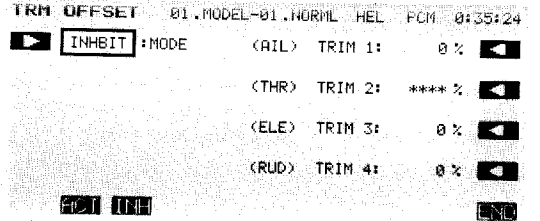


For normal models, commanding right rudder should increase throttle slightly, while using left rudder should decrease throttle slightly.

To set this feature, return to the Normal flight condition. Press the Rudder→Throttle **R→T** from the Condition Menu. Press the **ACT** button to activate it, and set the Left value to -10%, and the Right value to +10%.

18 Trim Offset Setting

The Trim Offset **TOF** setting should be adjusted for Idle-up 1 and Idle-up 2. Aileron, elevator, and rudder are offset so that the model flies straight ahead during normal flight.

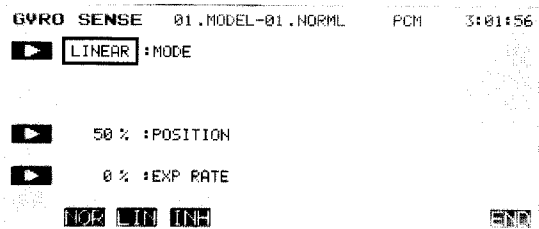


Call the Idle-up 1 or 2 flight condition by setting Switch **E** to the 0 (center) position. Press the **TOF** button from the Condition menu. Recommended settings for aileron and elevator offsets are 6% to 10%. A delay can be set with the digital trim **TRM** function.

Rudder offset is set by the Pitch→Rudder function set previously, so is not set here.

19 Gyro Sensitivity Switching

Gyro Sensitivity switching may be set for each flight condition. To set sensitivity, call the Gyro Sensitivity Function **GYR** from the condition menu.



Assuming that the sensitivity of the gyro is set so that the 1 side was made low sensitivity, and the 2 side was defined as high sensitivity, set the type at each flight condition as follows:

- Normal Type 2
- Idle-up 1 Type 1
- Idle-up 2 Type 1
- Autorotation Type 1 (if the tail rotor is driven during auto-rotation, high gyro sensitivity (type 2) may be more effective.)

20 Engine Cut Setting

At the conclusion of a flight, you may use the Engine Cut function to kill your engine by one touch with a special switch. Because it is performed by stick lever, there is no need to fumble for the trim position, and the idle trim position need never be lost.

Press the Engine Cut **CUT** button from the model menu, activate it, and set the desired switch. Set the throttle a bit above the lowest throttle position, then press the **SET** button to memorize the position. This makes it so the engine cut function will only operate when the throttle is at the idle position, so the engine can't inadvertently be shut off.

Adjust the throttle servo motion so that there is no binding or excess travel.

21 Condition Hold Setting

If you want to set condition data while the engine is running, always use the Condition Hold function **CHD** to limit the throttle operation range. Press the CHD button on the Model menu. Set the maximum throttle position to be a bit above the idle position, and press the **SET** key. This should produce a maximum throttle setting of about 13%. Be sure not to set the maximum too high.

You may activate the Condition Hold menu from the Home menu (use the **G** key), from the Model menu (2nd line, **G** key), or from the Condition menu (use the **M** key). When Condition Hold is activated, a double beep repeats every few seconds to remind you that it is engaged, so that you do not attempt to fly with it on. This setting allows you to control the throttle between 0% and 13% with the throttle stick when the function is activated.

This concludes the setup procedure example. Be sure to browse through the pages following this example to see what other menus are available for helicopters, such as **HOF** , **GYR** , **ACC** , and **INV** . Many may be used to enhance flight capabilities or to correct bad tendencies. All of these menus may have different settings in different flight modes. For this reason, we recommend you set them up and use them in the Normal flight condition and trim the model before setting up the alternate flight modes.

PITCH CURVE (PCV)

This function may be used to set different pitch response curves for each flight condition (normal, idle-up 1, idle-up 2, throttle hold, etc.). This function is activated when the respective flight condition is selected.

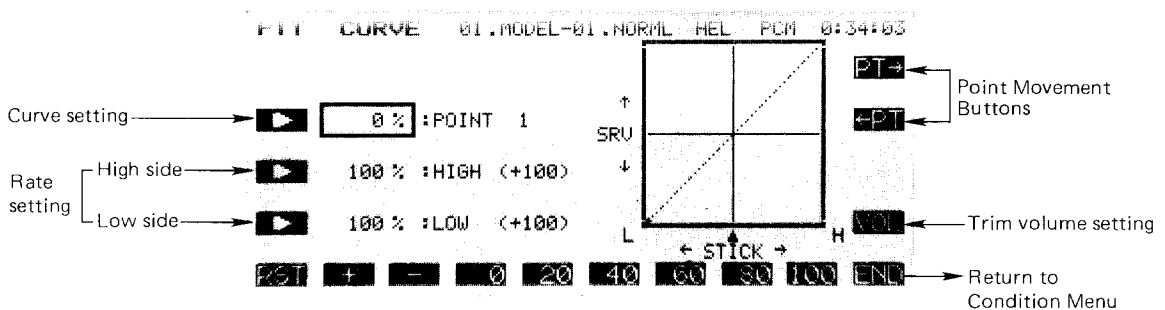
A 13-point curve can be input, and Point 7 can

be defined as the pitch curve reference point. You may also define High and low side rate trim volumes (the high-side pitch trim volume control is defined as the right side lever at initial setting). Pitch curve activation should be done with the model menu pitch curve (PIT) function (page 58).

Setting Up Pitch Mixing

Pitch Curve Inputting

In the Condition Menu, press the **PCV** key to get the PIT CURVE menu shown below.



Setting Point Selection (Points 1 to 13)

Press the **B** (▶) key to turn on the curve inputting function. Use the movement keys **O** and **R** to select the point whose value is to be set. The **PT→** key increases the point number by one, and the **←PT** key reduces the point number by one. The active point on the curve is shown as a black dot.

Curve Point Rate Setting

Once you have selected the desired point on the curve, you may input the rate with the rate setting keys **E** to **M**. The numeric keys **0** through **100** input the value directly. The **+** and **-** keys increase or decrease the value by 0.5 with each button pressing (so it takes two hits to see a number change because of numeric rounding).

You may set or reset each point on the curve by repeating these steps for each point.

High-Side Rate Adjustment

Press the **C** key to adjust the High-Side rates. The numeric keys **E** to **M** are used to directly set the rate, which may vary from 0 to 110%. The default value is 100%.

Low-Side Rate Adjustment

You may set the Low-Side rates by pressing the **D** key. As before, the rate may be set with the numeric keys **E** to **M**. This rate may vary from 0 to 110%, and its default value is 100%.

Trim Volume Setting

If you'd like to be able to change the pitch curve while in flight, you can set up this feature in the volume setting screen. Press the **O** key to get into this screen, and choose the control you'd like to use for this feature. For a description of the volume setting method, see page 37). The right slider is set as the high side trim volume when Pitch Curve is activated.

Note: when Point 7 of the pitch curve is changed after setting the HIGH/LOW side rates, the other points change also. This is because Point 7 is used as the rate setting reference point.

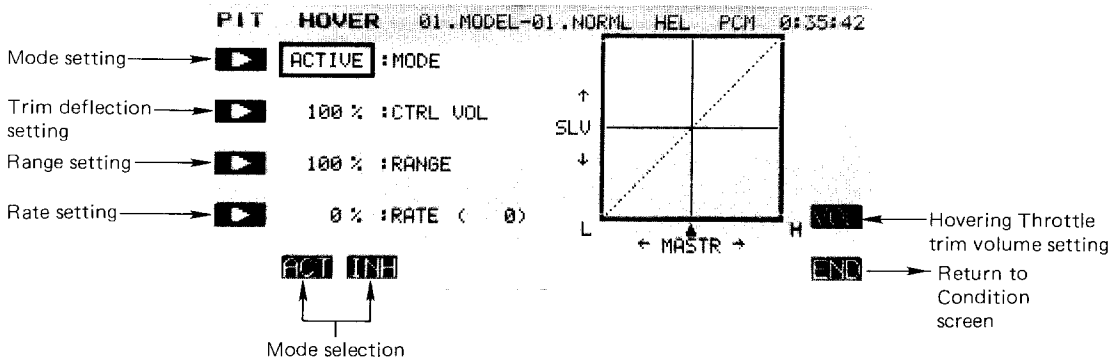
HOVERING PITCH (PHV)

This function trims the pitch near the hovering point. By setting a range, adjustment is possible without changing the high and low points. This Hovering pitch setting can be made for each flight condition, but is commonly used for Normal flight condition.

At initial definition, the left sliding lever controls hovering pitch volume.

Activation of command

In the Condition Menu, press the **PHV** key to get the PIT HOVER menu shown below. Use the **A** (**▶**) key to activate mode setting, then press the **ACT** or **INH** keys (**F** and **G**) to activate or inhibit the function.



Hovering Pitch Trim Deflection Setting

Press the **B** key to allow input to this setting, and input the rate with the numeric keys **F** to **M**. The deflection may be set from 0 to 100% (the initial value of this parameter is defined to be 100%).

Setting of Range

Now you will set the Range of travel over which HIGH/LOW sides do not change. Press the **C** key and set the rate with the numeric keys **F** to **M**. The Range may be set from 0 to 100% (when activated, the initial value of this parameter is defined to be 100%).

Offset Rate Setting

The offset amount is entered by pressing the **D** key, and input with the numeric keys **F** to **M**. This may be input from -100 to +100%, and the initial value is programmed to 0%.

Hovering Pitch Trim Selection and Operation Direction Setting

Call up the volume setting screen by pressing the **VOL** **O** key. Set the volume control as desired (the left-side slider is set as the pitch trim volume control initially). For a description of the volume setting method, see page 37).

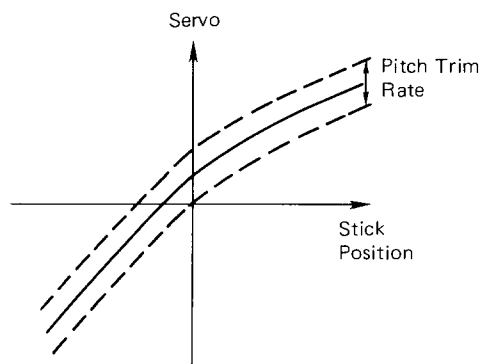
Precautions

When the range is set to 100%, the rate changes between points 1 and 13. When the range is set to 0%, the rate changes only between points 6 and 8. When you use this function, set up the numbers so that when the range is small, the trim deflection is also small, and make sure that the preceding and following points are not exceeded when the range is moved to its maximum position.

PITCH TRIM (PTM)

This function enables you to move the pitch trim (offset the trim) without changing the pitch curve. The amount of pitch trim can be adjusted, and may change for each condition.

At initial setting, the left side knob VR(A) is defined as the pitch trim volume control. However, the knob is not activated at initial setting.



Activation of command

In the Condition Menu, press the **PTM** key to get the PITCH TRIM menu shown below. Use the **A** (**▶**) key to activate mode setting, then press the **ACT** or **INH** keys (**F** and **G**) to activate or inhibit the function.

```

PITCH TRIM  01.MODEL-01.NORML  PCM  3:01:27
Mode setting → ▶ INHBIT :MODE
Pitch Trim Rate → ▶ 30 % :PITCH TRIM (+ 30)
Adjustment
  
```

```

ACT INH
  ↑   ↑
Mode selection
  
```

VOL ← Pitch trim Volume setting

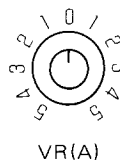
END → Return to Condition screen

Rate setting

Press the **B** to input the rate to be set with the numeric keys **F** to **M**. The rate setting may range from 0 to 100%, and is initially programmed as 30%.

Volume selection

Enter the volume setting screen by pressing the **O** key. For a description of the volume setting method, see page 37. The left side knob is set as the volume control at initial setting, but is not activated. Be sure that you are setting for the desired condition by first turning on the condition switch and verifying the condition name.



THROTTLE CURVE (TCV)

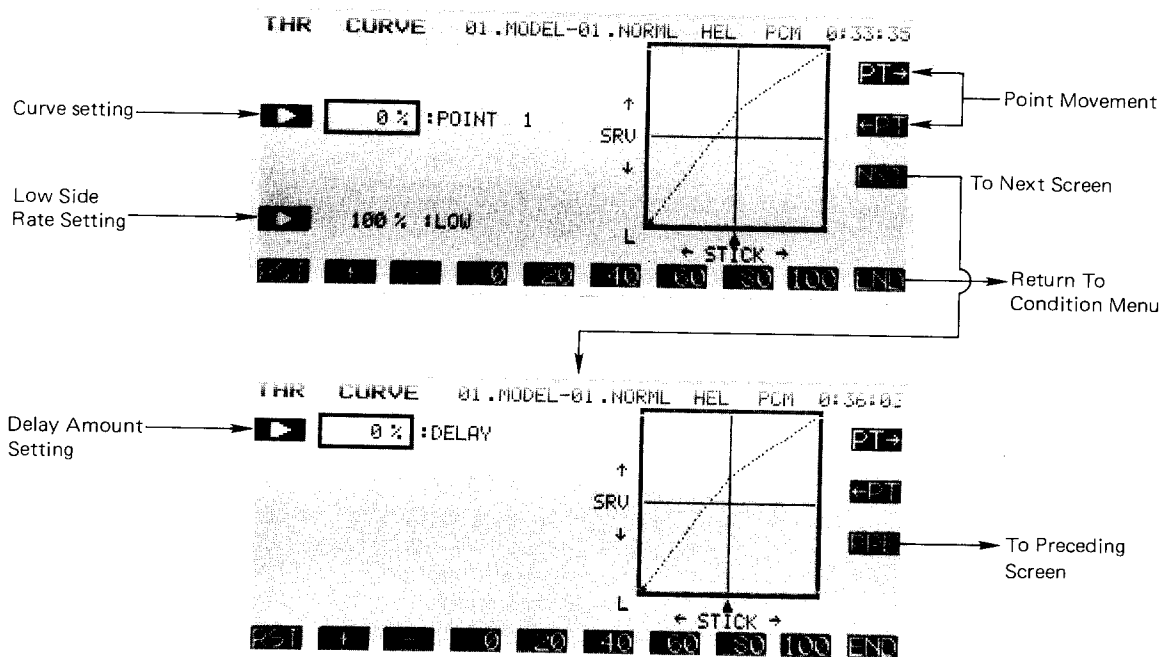
This function programs throttle curves to perform hovering, loops, rolls, and other aerobatics in the different flight modes. The throttle curve sets the servo response over the full stroke of the

throttle stick by a 13-point curve. The low side rate can be input (point 7 is the reference). The servo delay at idle-up and other flight condition switching can be programmed.

Setting Up The Throttle Curve Function

Throttle Curve Inputting

In the Condition Menu, press the **TCV** key to get the THR CURVE menu shown in the upper portion of the figure below.



Setting Point Selection (Points 1 to 13)

Press the **B** (**▶**) key to turn on the curve inputting function. Use the movement keys **O** and **R** to select the point whose value is to be set. The **PT+** key increases the point number by one, and the **PT-** key reduces the point number by one. The active point on the curve is shown as a black dot.

Once you have selected the desired point on the curve, you may input the rate with the rate setting keys **E** to **M**. The number keys **0** through **100** input the value directly. The **+** and **-** keys increase or decrease the value by 0.5 with each button pressing (so it takes two hits to see a number change because of numeric rounding).

You may set or reset each point on the curve by repeating these steps for each point.

Low-Side Rate Adjustment

Press the **D** key and you may input the rate with the numeric keys **E** to **M**. You may set anywhere in the range from 0 to 110% (initially the rate is set to 100%).

Delay setting

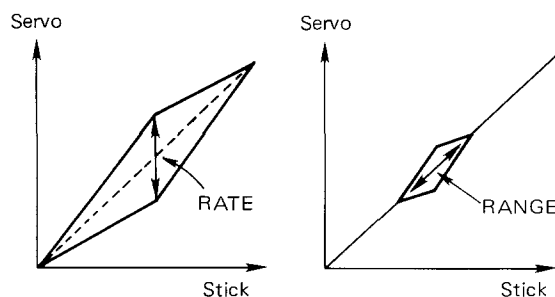
Shift to the next screen (the lower one in the figure) by pressing the **NEXT** (**P**) key. Enter the delay with the rate setting keys **E** to **M**. The delay may be set from 0 to 100%, and is initially set to 0%.

Use the **END** (**N**) key to leave this menu.

HOVERING THROTTLE (THV)

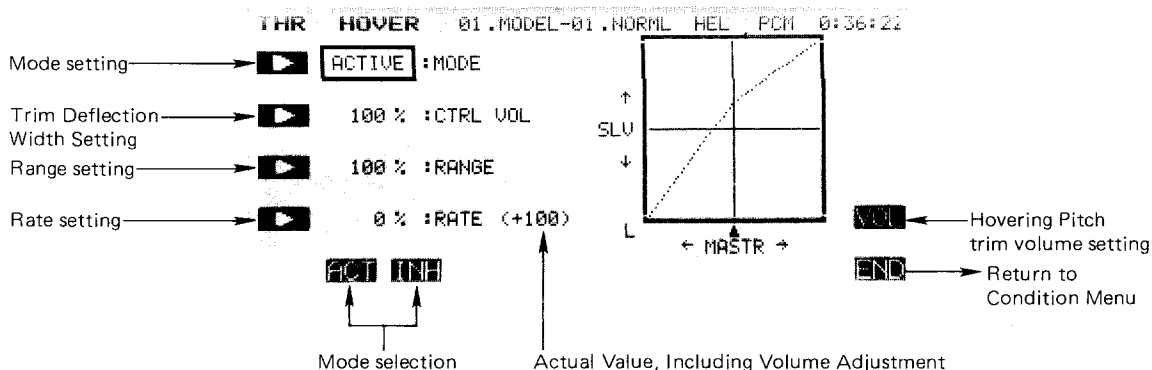
This function is used to trim the throttle around is hovering position. By setting a range, adjustment is possible without changing the high and low points. This Hovering throttle setting can be changed between the flight conditions, and ACT/INH may be set separately for each.

At initial definition, the right knob VR(B) controls hovering throttle trim.



Activation of command

In the Condition Menu, press the **THV** key to get the THR HOVER menu shown below. Use the **A** (**▶**) key to activate mode setting, then press the **ACT** or **INH** keys (**F** and **G**) to activate or inhibit the function.



Hovering Throttle Trim Deflection Setting

Press the **B** key to allow input to this setting, and input the rate with the numeric keys **F** to **M**. The deflection may be set from 0 to 100% (when activated, the initial value if this parameter is defined at 100%).

Setting of Range

Now you will set the Range of travel over which HIGH/LOW sides do not change. Press the **C** key and set the rate with the numeric keys **F** to **M**. The Range may be set from 0 to 100% (when activated, the initial value if this parameter is defined at 100%).

Offset Rate Setting

The offset amount is entered by pressing the **D** key, and input with the numeric keys **E** to **M**. This may be input from -100 to +100%, and the initial value is programmed to 0%.

Hovering Throttle Trim Selection and Operation Direction Setting

Call up the volume setting screen by pressing the **VOL** **O** key. Set the volume control as desired (the right-side knob VR(B) is set as the pitch trim volume control initially). For a description of the volume setting method, see page 37).

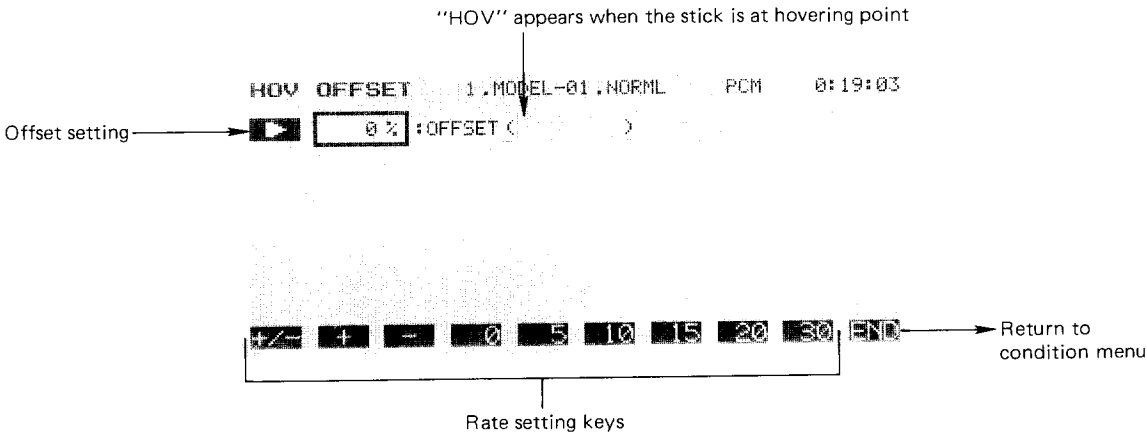
HOVERING OFFSET (HOF)

This function is used to program the pitch mixing hovering point. It is used to set the HIGH/LOW side switching point to the pitch hovering point when the pitch hovering point has drifted

above or below the stick neutral position. The model should be adjusted so that hovering is performed around the mid-throttle position.

Activation of command

In the Condition Menu, press the **HOF** key to get the HOV OFFSET menu shown below.



Setting Method

Offset setting

During flight, make a note of where the throttle stick is positioned during hover. Set the throttle stick to the hovering position and adjust the offset with the **F** and **G** keys until "HOV" is displayed on the screen. This function has a range of -30 to +30%, and its initial value is 0%.

THROTTLE HOLD (HLD)

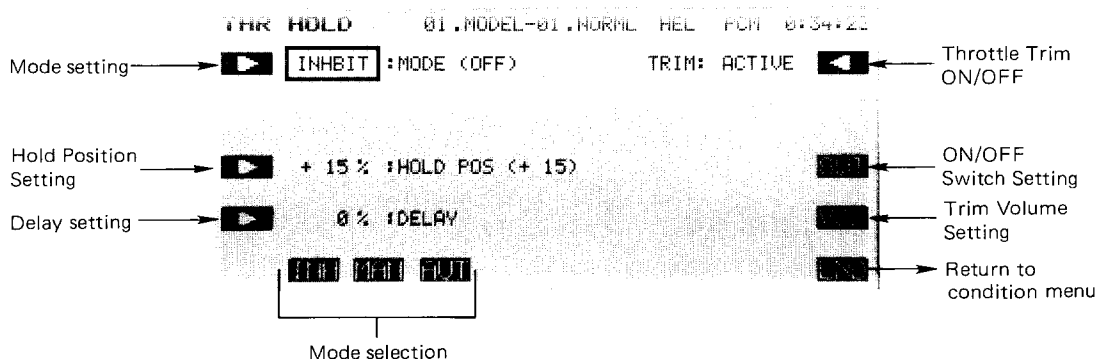
This function moves the throttle servo to idle during auto rotation. Either a Manual mode or an Auto mode can be selected. In the manual mode, the throttle servo is held by turning on the throttle hold switch. In the auto mode, the throttle servo is held when the throttle stick is moved past the set

position on the low throttle side after the throttle hold switch is turned on.

A delay up to the servo hold position can be set. Throttle trim can be turned on and off during throttle hold, but it is usually turned on.

Activation of command

In the Condition Menu, press the **HLD** key to get the THR HOLD menu shown below.



Select Operation Mode

Use the **A** (**P**) key to activate mode setting. Now you must decide on Manual or Auto operation.

Select the manual mode by pressing the **MAN** (**G**) key. Select the auto mode by pressing the **AUT** (**H**) key. You may deactivate the function by pressing the **F** (**INH**) key.

Throttle hold ON/OFF switch setting

Call the switch setting screen by pressing the **SWT** (**P**) key. At initial setting, SW (G) is defined as the control switch. You may choose another switch with this menu. For a description of the switch setting method, see page 37.

Stick Position Setting (Auto Mode Only)

For the Auto mode, you need to input the position at which the function will take effect. Press the **B** key, then move the throttle stick to the desired position, and press the **SET** (**F**) key to memorize the position. If the throttle stick is near half-throttle position for hovering, this should be around 20% throttle position.

Servo Hold Position Setting

Press the **C** key and set the Idling position with the rate setting keys **F** to **M**. This setting may vary from 0 to 100%, and is initially set to 15% by the system. At the set position, the carburetor should be fully closed.

Delay setting

Press the **D** key and set the delay with the rate setting keys **F** to **M**. The setting range is 0 to 100%, and the initial value loaded is 0%.

Throttle trim ON/OFF at throttle hold

Press the **R** key to enter the throttle trim activation menu. The function may be activated by pressing the **ACT** (**F**) key, and deactivated by pressing the **INH** (**G**) key.

Servo Hold Position Trim Volume Selection and Operating Direction Setting

You may set a control to adjust the trim volume during flight. For a description of the volume setting method, see page 37. This volume is not loaded at initial setting, but may be adjusted $\pm 10\%$ by the volume control.

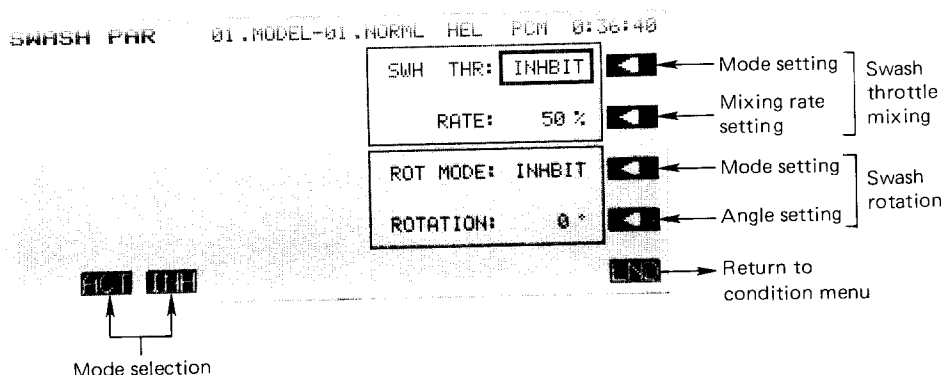
SWASHPLATE TYPE (SWP)

The SWP function has two built-in functions: Swash→Throttle mixing, and Swash rotation. These functions can be set for each flight condition. Swash→Throttle mixing is used to correct the tendency of the model to change altitude when

the rotor is tilted by aileron, elevator, and other controls. The Swash Rotation function is used when the swash plate connections are shifted a fixed angle from the reference position.

Using the Swashplate Menu

In the Condition Menu, press the **SWP** key to get the SWASH PAR menu shown below.



Activation of Swash-Throttle Mixing command

Use the **R** key to activate mode setting, then press the **ACT** or **INH** keys (**F** and **G**) to activate or inhibit the aileron differential function.

Swash-Throttle Mixing Rate Setting

Press the **O** key and enter the desired mixing rate with the rate setting numeric keys **F** to **M**. Mixing may be set from 0 to 100%; the system enters an initial value of 50%.

Swash Rotation Setting

Press the **P** to turn the swash rotation setting menu on. You may activate the offset mixing by pressing the **ACT** (**F**) key, and deactivate by pressing the **INH** (**G**) key.

Swash Rotation Angle Inputting

Press the **O** key and set the angle with the angle setting numeric keys **E** to **M**. This value may be set anywhere between -30° to $+30^\circ$, and its initial value is set to 0° .

PITCH→RUDDER (P→R)

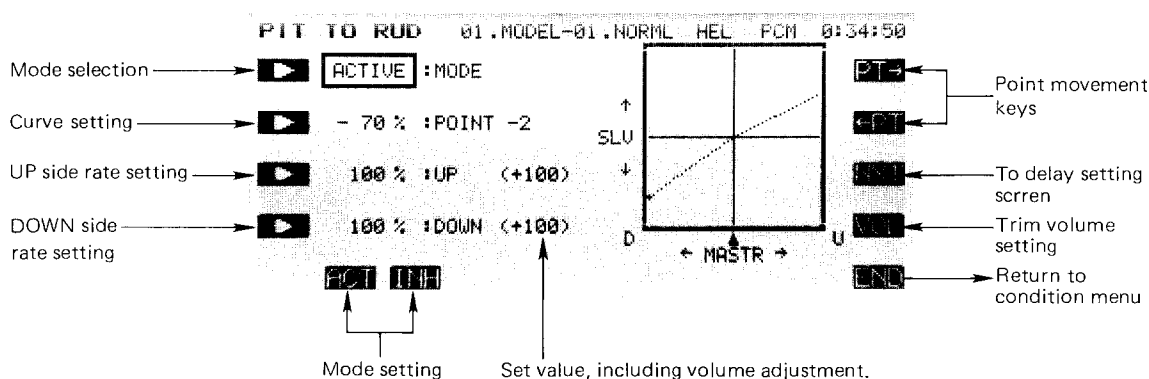
This mixing, also called Revolution Mix, mixes pitch commands into rudder in order to suppress the torque generated by changes in the main rotor's pitch angle. A five-point curve can be used to control the shape of the mixing curve for each

flight condition. The up-side and down-side mixing rates can be set, using Point 0 as the reference. A trim volume can be input for each direction, and a time delay to transition smoothly between flight conditions may also be set.

Setting Up Pitch→Rudder Mixing

Pitch Mixing Activation

In the Condition Menu, press the **P→R** key to get the PIT TO RUD menu shown below.



Use the **A** (**▶**) key to activate mode setting, then press the **ACT** or **INH** keys (**F** and **G**) to activate or inhibit the function.

Setting Points -2, -1, 0, +1, +2

Press the **B** (**▶**) key to turn on the curve inputting function. Use the movement keys **Q** and **R** to select the point whose value is to be set. The **PT+** key increases the point number by one, and the **PT-** key reduces the point number by one. The active point on the curve is shown as a black dot.

Once you have selected the desired point on the curve, you may input the rate with the rate setting keys **E** to **M**. The number keys **0** through **100** input the value directly. The **+** and **-** keys increase or decrease the value by 0.5 with each button pressing (so it takes two hits to see a number change because of numeric rounding). The **+/-** key changes the sign of the entered number.

You may set or reset each point on the curve by repeating these steps for each point.

Up-Side Rate Adjustment

Press the **C** key and you may input the rate with the numeric keys **E** to **M**. You may set anywhere in the range from 0 to 100% (initially the rate is set to 100%).

Down-Side Rate Adjustment

Press the **D** key and you may input the rate with the numeric keys **E** to **M**. You may set anywhere in the range from 0 to 100% (initially the rate is set to 100%).

Up & Down Sides Trim Volume selection

Enter the volume setting screen by pressing the **O** key. For a description of the volume setting method, see page 37. The volume control has an adjustment range of $\pm 25\%$ of the rates input above. No control is set as the volume control at initial setting. Be sure that you are setting the desired condition by verifying the condition name.

Delay setting

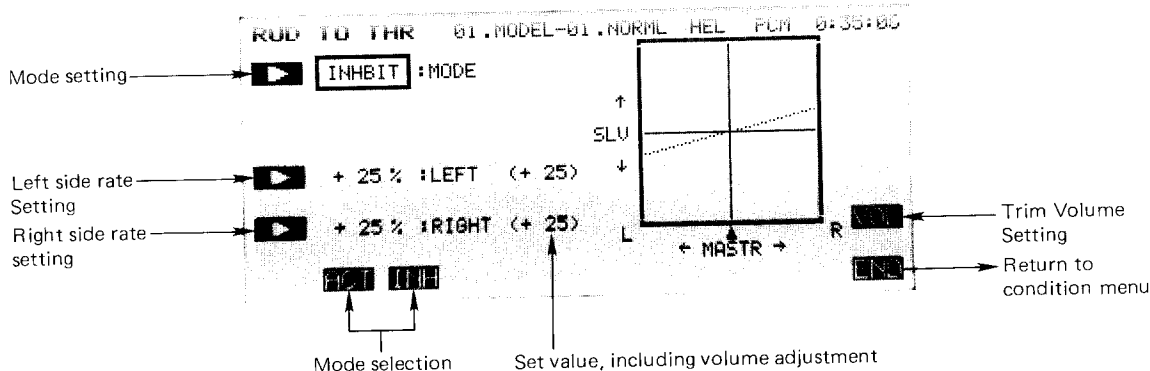
Call the delay setting screen by pressing the **NXT** (**P**) key. Now press the **Q** key and set the delay with the rate setting keys **E** to **M**. The setting range is 0 to 100%, and the initial value loaded is 0%.

RUDDER→THROTTLE (R→T)

This mixing adjusts the throttle setting to account for the changes in power required when rudder commands are made. The amount of mixing can be set for each condition, and the left and right rates may be set separately. Trim volumes may also be set.

Setting Up Rudder→Throttle Mixing

In the Condition Menu, press the **R→T** key to get the RUD TO THR menu shown below.



Activation of Rudder-Throttle Mixing command

Use the **A** key to activate mode setting, then press the **ACT** or **INH** keys (**F** and **G**) to activate or inhibit the Rudder-Throttle function.

Left-Side Rate Adjustment

Press the **C** key and you may input the rate with the numeric keys **E** to **M**. You may set anywhere in the range from -50 to +50% (initially the rate is set to +25%, but a rate between 0 and 20% is recommended). Use the **+/-** key to change the sign if necessary.

Right-Side Rate Adjustment

Press the **D** key and you may input the rate with the numeric keys **E** to **M**. You may set anywhere in the range from -50 to +50% (initially the rate is set to +25%; again a rate from 0-20% is recommended).

Trim Volume Selection and Operating Direction Setting

You may set a control to adjust the trim volume during flight. Call the volume setting screen by pressing **VOL** (**O**) key. For a description of the volume setting method, see page 37. This volume may be adjusted by the volume control.

GYRO SENSITIVITY (GYR)

This function switches the gyro sensitivity. The mode depends on the gyro used. Usually, sensitivity 1 or 2 is switched in the normal mode.

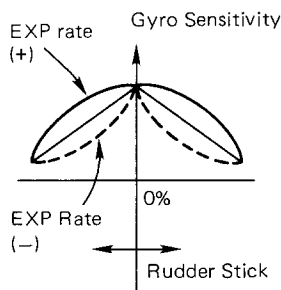
The Normal mode is used with gyros having two-step switching. The sensitivity is pre-adjusted at two values and is selected by means of this function.

The Linear mode is used with gyros whose sensitivity can be switched linearly. The sensitivity can be lowered according to the rudder travel by means of this function.

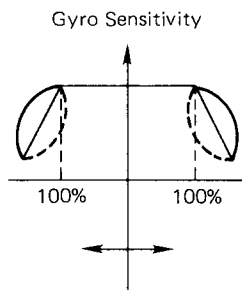
An EXP mixing curve may also be input. The sensitivity remains constant (maximum sensitivity) up to the point at which gyro sensitivity is suppressed according to rudder operation. However, the maximum and minimum sensitivities are set at the gyro.

Linear Mode

Position 0%



Position 100%



Using the Gyro Sensitivity Menu

In the Condition Menu, press the **GYR** key to get the GYRO SENSE menu shown below.

```

GYRO SENSE  01.MODEL-01.NORML  PCM  3:01:42
Mode setting → [▶] INHBIT :MODE
Sensitivity No. Selection → [▶] 1 :TYPE

NOR LIN INH
END → Return to condition menu
  
```

```

GYRO SENSE  01.MODEL-01.NORML  PCM  3:01:56
Mode setting → [▶] LINEAR :MODE

Rudder stick position setting → [▶] 50 % :POSITION
EXP rate setting → [▶] 0 % :EXP RATE

NOR LIN INH
Mode selection
END
  
```

Select the Gyro Mode

Press the **A** key to enter the mode selection menu.
Select the normal mode by pressing the **NOR** (**F**) key.
Select the linear mode by pressing the **LIN** (**G**) key.
Deactivate the function by pressing the **INH** (**H**) key.

Normal mode	Linear mode
Select the sensitivity number by pressing the F (1) or G (2) key.	Set Rudder Stick Position Press the C key and set the rudder stick position with the numeric keys F to M . You may input from 0 to 100% (initially 50% is entered). The numeric keys input the number; (+) and (-) change the inputted value by +/- 1, and the +/- key changes the sign. Set EXP rate Press the D key and set the curve rate with the numeric keys F to M . The numeric keys work the same as given in the previous paragraph.

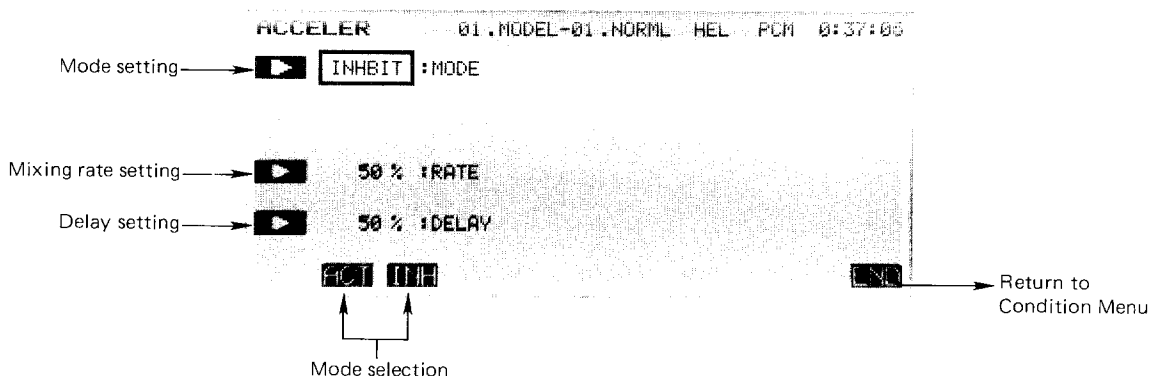
Press the **END** (**N**) key to exit this menu.

ACCELERATION (ACC)

This mixing function is used to cancel the reaction torque generated by sudden throttle changes. The amount of mixing and the rudder servo return delay can both be programmed.

Using the Acceleration Function

In the Condition Menu, press the **ACC** key to get the ACCELER menu shown below.



Activation of Acceleration Command

Use the **A** key to activate mode setting, then press the **ACT** or **INH** keys (**F** and **G**) to activate or inhibit the Acceleration function.

Mixing rate setting

To input the mixing rate, press the **C** key and set the mixing rate with the rate setting keys **F** to **M**. The mixing rate is initially set to a value of 50%, but may be set from 0 to 100% using the numeric keys.

Delay setting

Call the delay setting screen by pressing the **D** key. Now set the delay with the rate setting keys **F** to **M**. The setting range is 0 to 100%, and the initial value loaded is 50%.

Exiting

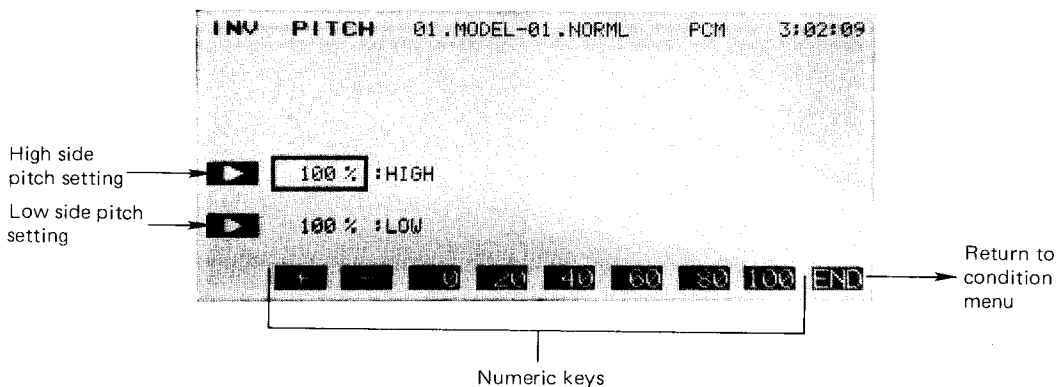
To exit the Acceleration Mix function, use the **END** **N** key.

INVERTED PITCH (INV)

This function sets the inverted pitch high-side and low-side rates during inverted flight. All linkages should be set up for inverted flight. Inverted flight function activation and cross position setting are performed with the Inverted Pitch (INV) function in the model menu (page 57).

Setting Up The Inverted Pitch Function

In the Condition Menu, press the **INH** key to get the INV PITCH menu shown below.



Inverted Flight High Pitch Rate Setting

Press the **C** key and you may input the rate with the numeric keys **F** to **M**. You may set anywhere in the range from 0 to 110% (initially the rate is set to 100%).

Inverted Flight Low Pitch Rate Adjustment

Press the **D** key and you may input the rate with the numeric keys **F** to **M**. You may set anywhere in the range from 0 to 100% (initially the rate is set to 100%).

Exiting

To exit the Acceleration Mix function, use the **END** key.

SAILPLANE SECTION

This section contains information on the commands that apply to sailplanes only. Each of these functions can be set independently for different flight conditions. The sailplane model types are grouped into 2-S type, 4-S type, and 5-S type by number of servos in the wing. The Condition menus for these three sailplane types are shown on the next page.

In this manual, speed flaps are controls that can move together (as flaps) or differentially (as ailerons), and are commonly found on most high-performance models. Brake flaps move together only, and are used for landing. Brake flaps are sometimes found on scale models. Butterfly is a high drag configuration, used for landings, referred to as "Crow" elsewhere.

If you plan to use the PCM 1024Z system primarily for sailplanes and would like to have a three position switch on the left-hand side, we recommend you purchase a Mode I airplane radio (and convert to Mode II) or a Mode II helicopter radio.

For conditions that apply to all models (ATV, AFR, D/R, PMX, STM, TOF, CNA, and TRM functions), refer to the Common Conditions section. For instructions on Helicopters and Airplanes, refer to the sections pertaining to those aircraft.

Sailplane Section Table of Contents

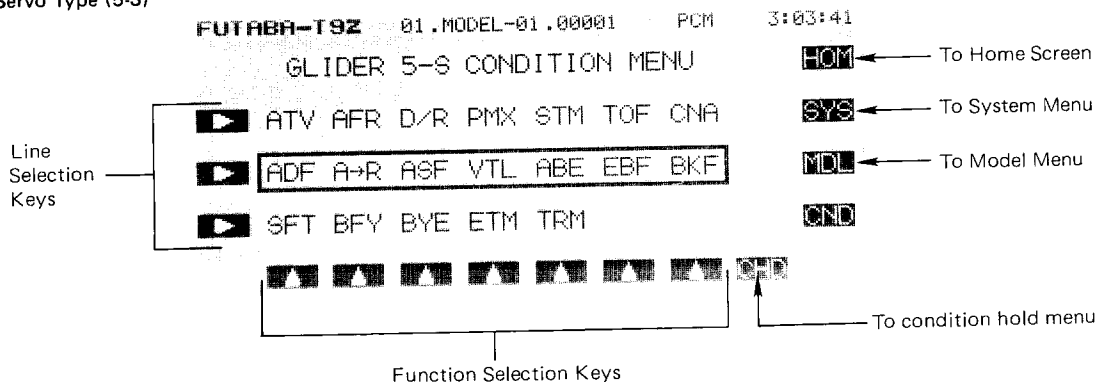
Sailplane Transmitter Controls and Functions.	120
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Control Setup Definitions

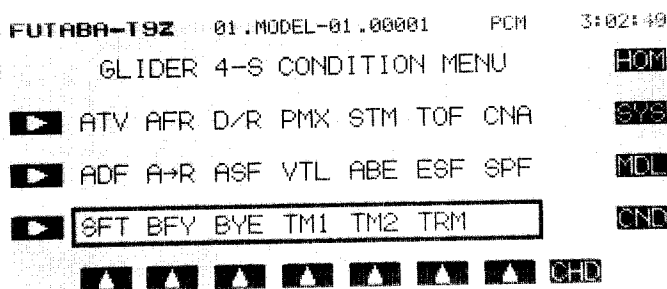
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SAILPLANE CONDITION MENUS

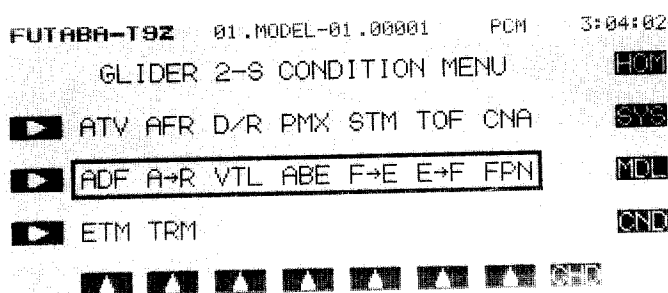
Five Servo Type (5-S)



Four Servo Type (4-S)



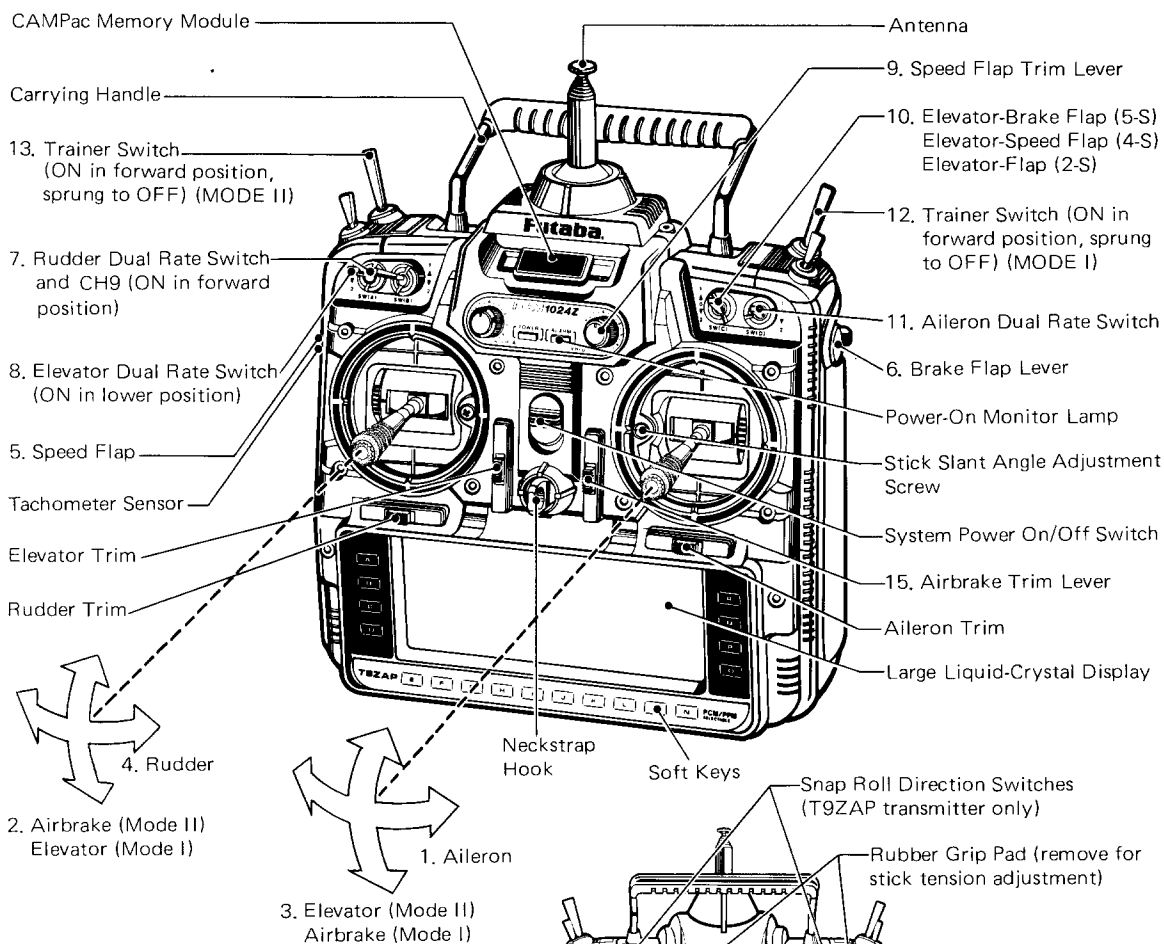
Two Servo Type (2-S)



To get to these settings, press the **MDL** key from any menu in an Sailplane setup. To select one, first select the line containing the desired function with the **B**, **C**, or **D** keys. Then use the **F** to **L** keys to select the function to be entered.

SAILPLANE TRANSMITTER CONTROLS AND FUNCTIONS

Functions and locations given in this drawing are the factory default positions. Each setting can be easily changed as the owner desires. The Function Change menu [FNC] may be used for this purpose.



Note that all stick & switch positions may be changed

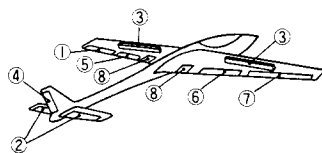
1. Aileron Control
2. Airbrake Control (MODE II)
Elevator Control (MODE I)
3. Elevator Control (MODE II)
Airbrake Control (MODE I)
4. Rudder Control
5. Speed Flap Trim Lever
6. Brake Flap Lever
7. Rudder Dual Rate/(CH9) Switch
8. Elevator Dual Rate Switch
9. Speed Flaps
10. Elevator-Brake Flap (5-S)
Elevator-Speed Flap (4-S)
Elevator-Flap (2-S)
11. Aileron Dual Rate Switch
12. Trainer Switch (MODE I)
13. Trainer Switch (MODE II)

SAILPLANE RECEIVER AND SERVO CONNECTIONS

The order for connecting the servos depends on the selected number of wing servos (two, four, or five wing servos). When dual aileron or flap servos

are not required, the receiver output channels are available for other uses. V-tail connections = * The receiver output order is shown below:

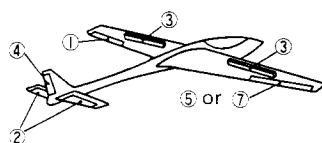
GLIDER 5-S



Glider 5-S

Ch 1 = Ail 1
Ch 2 = Elevator*
Ch 3 = Airbrake
Ch 4 = Rudder*
Ch 5 = Flap 1
Ch 6 = Flap 2
Ch 7 = Ail 2
Ch 8 = Brake flap

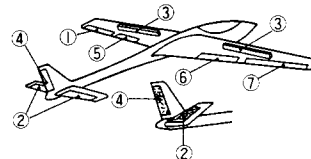
GLIDER 2-S



Glider 2-S

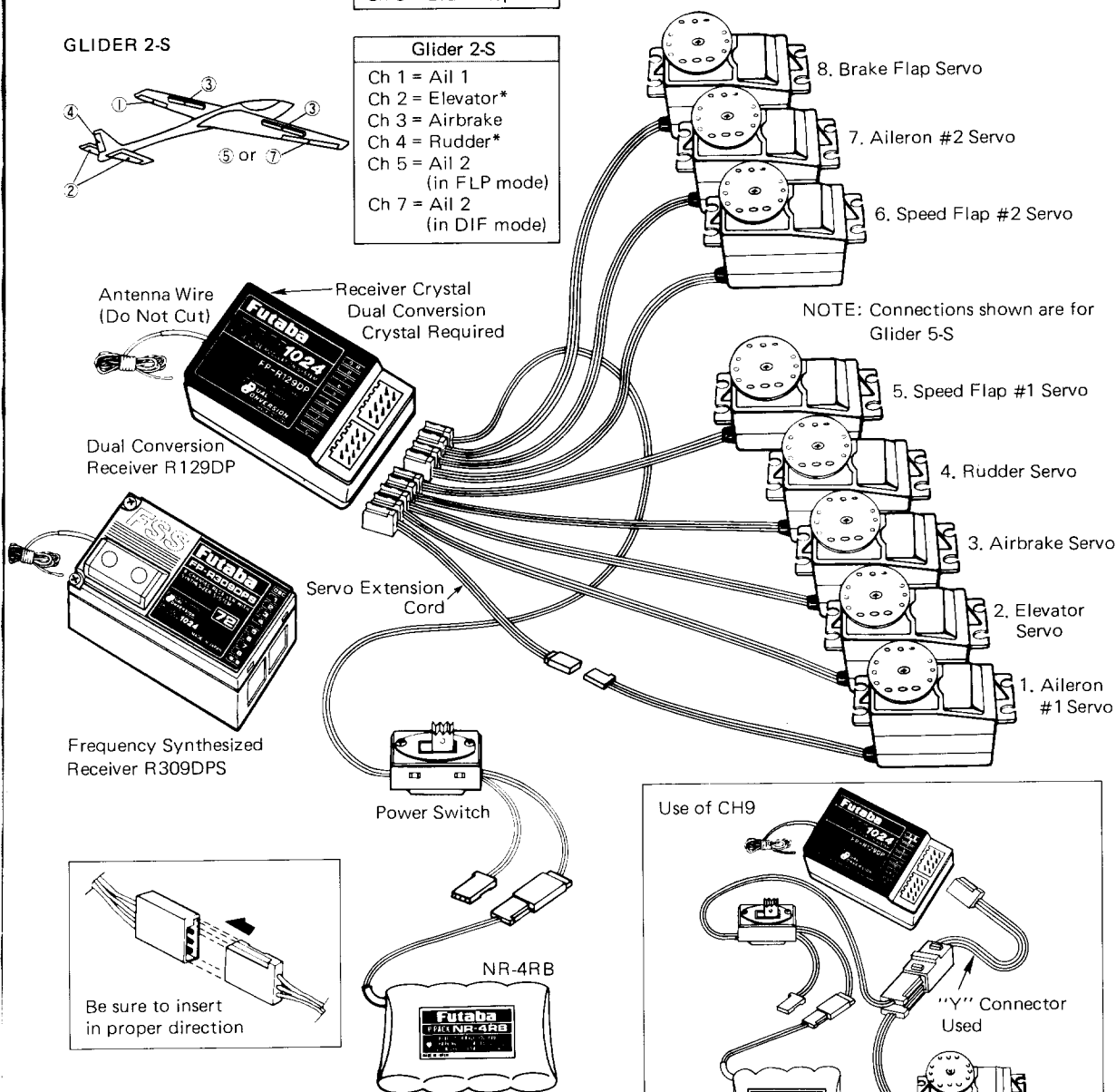
Ch 1 = Ail 1
Ch 2 = Elevator*
Ch 3 = Airbrake
Ch 4 = Rudder*
Ch 5 = Ail 2
(in FLP mode)
Ch 7 = Ail 2
(in DIF mode)

GLIDER 4-S

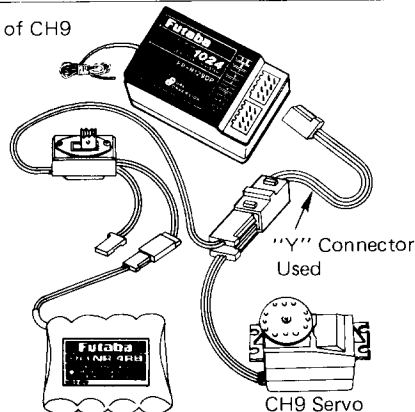


Glider 4-S

Ch 1 = Ail 1
Ch 2 = Elevator*
Ch 3 = Airbrake
Ch 4 = Rudder*
Ch 5 = Flap 1
Ch 6 = Flap 2
Ch 7 = Ail 2



Use of CH9



EXAMPLE SAILPLANE SETUP INSTRUCTIONS

The following example shows how the PCM 1024Z may be programmed for a sailplanes with two, four, or five wing servos. The settings presented here are for typical models of the three types. Your model's settings are likely to vary somewhat from these, but the procedures given will still be applicable. To make things easier, be sure that the horns and linkages are all at the same angles and of the same length. This will make it so identical servo motion produces identical control surface movement on both sides.

This manual refers to ailerons, speed flaps, and brake flaps. Here are the definitions of each: Ailerons are control surfaces located nearest the tips of the sailplane's wings. Speed flaps are controls that can move together (as flaps) or differentially (as ailerons), and are commonly found on most high-performance models. Brake flaps move together only, and are used for landing. Brake flaps are sometimes found on scale models. Additionally, any sailplane can have airbrakes or spoilers, and electrics will of course have a motor control.

1	Use the Model Select function [MSL] to select a vacant model memory, and choose desired sailplane type using the Type [TYP] function from Model menu.	Two Wing Servos [2-S] Flaperons, Delta Wing, Electrics. Optional airbrakes or spoilers	Four Wing Servos [4-S] F3B, multitask, scale. Optional airbrakes or spoilers	Five Wing Servos [5-S] Multitask or Scale with Optional Airbrakes and/or spoilers
2	Be sure to select a vacant memory. Choose the desired sailplane type. RENAME model now using the Model Name [MNA] function in the model menu. Switch to the Condition menu [CND] and name the default flight condition (we recommend NORML). Later you may add Launch, Speed, Distance, Landing, etc. (Step 16).			
3	Set Control Order using the Function Control [FNC] in the model menu. Here you may choose what sticks and sliders control the different functions.	Set Flaperon [FPN] (recommended). Aileron differential [ADF] doesn't allow Flaperon mixing. You can get differential in [FPN] by setting endpoints.	To get Butterfly control on the throttle stick, change the SF2 control to J3. If you will want full-span camber changing, assign SF1 to LS (for left slider control) or whatever device you want (LS is the default). Be sure to cut its authority down in all flight modes using AFR; around 10% is plenty for most models. Check direction of travel.	

	Instruction	2-S	4-S	5-S
4	Set V-Tail (if needed). Choose motor control channel from spares (if used).			
5	Plug Servos into Correct Channel Numbers * = V-Tail outputs Unnumbered receiver outputs are spares.	Ch 1 = Ail 1 Ch 2 = Elevator* Ch 3 = Airbrake Ch 4 = Rudder* Ch 5 = Ail 2 (in FLP mode) Ch 7 = Ail 2 (in DIF mode)	Ch 1 = Ail 1 Ch 2 = Elevator* Ch 3 = Airbrake Ch 4 = Rudder* Ch 5 = Flap 1 Ch 6 = Flap 2 Ch 7 = Ail 2	Ch 1 = Ail 1 Ch 2 = Elevator* Ch 3 = Airbrake Ch 4 = Rudder* Ch 5 = Flap 1 Ch 6 = Flap 2 Ch 7 = Ail 2 Ch 8 = Brake flap
6	Use Reversing Function REV in the Model menu to set proper throw directions. Reverse channels as	necessary to correct throws.		
7	If you will use multiple flight modes, choose and set switch for default flight mode. We recommend using the center position of the 3-position switch E.	Typically down is used for launch presets, and up is used for speed presets. These conditions are set in step 16.		
8	Set Aileron Differential ADF . More up (reflex) than down helps make coordinated low-drag turns.	Approximately 2:1 up:down ratio is a good starting point. At high speeds less or none is needed.		
9	Set Aileron→Rudder coupling A→R if desired. Only a small percentage is needed, around 10–15%. This reduces drag of fuselage yawing to make low-drag turns. Be sure that rudder moves in correct direction.	Little or no coupling is needed for high speeds. Use the switch SWT command to define the ON position of SW-E.		
10	Glide path control activation. Set these up for steeper descent and more precise landings.	Set flap travel (usually as much as you can get and still have roll control). Spoilers will help steepen approach.	Set Butterfly BFY . Be sure Aileron go up equal amounts, speed flaps go down equal amounts. Lots of flap (90°) is better.	Set Butterfly BFY . Be sure Ailerons go up equal amounts, Brake Flaps may be coupled to speed flaps BKF for more drag.
11	Couple Flaps to elevator for tighter pylon turns ("Nobler" mixing). Most models don't need much (1/16"—1/8" at wing trailing edge)	Set Elev→Flap E→F	Set Elev→Speed Flap ESF mixing. Add Speed Flap→Aileron Mixing SPF at 100% for uniform wing camber change.	Set Elev→Brake Flap EBF mixing. Brake Flaps may be coupled to speed flaps using BKF for more lift capability if desired.
12	Faster roll rate mixing (have the speed flaps move as ailerons)	—	Aileron→Speed Flap mixing ASF . Suggest 50% for thermalling, 80–100% for speed.	Aileron→Speed Flap mixing ASF . Suggest 50% for thermalling, 80–100% for speed.
13	Trim inboard flaps	—	Set speed flap trim SFT . This might be used for landing or cruise preset positions.	
14	Switchable elevator trim (make small changes)	Set Elev trim offset ETM for different flight conditions.	—	Set Elev trim offset ETM for different flight conditions.
15	Set Throw Volumes ATV to prevent binding. Check each servo at each extreme of motion in all flight modes.			

	Instruction	2-S	4-S	5-S
16	<p>After a few flights to trim the model, you may set different flight modes. You may trim for launch flap/ aileron droop, speed camber reflex, or other desired flight modes. You can have different subtrims, rudder coupling, differential, aileron/speed flap mixing. In fact you may change EVERY parameter between flight modes.</p> <p>Use the Condition Select CSL button in the Model Menu. This function allocates the necessary number of flight conditions to the model memory. Note the condition number next to the D (default) in the display. This is the set of conditions that will be copied into a new condition and modified. Also note the number after the next display. You will copy to this condition.</p> <p>Now use the Copy Condition CPC from the System menu to copy the contents of the default condition into another. Choose the default flight condition number, press the SET button, then choose the second condition number in the lower box "TO CONDITION." Give the command to copy.</p> <p>The switch that calls the flight conditions should be selected. Return to the Condition Select CSL function, press the desired flight condition number, and use the SWT button to choose the desired switch location.</p> <p>Once you have selected a condition, use the CNA (Condition Name) button to label the new condition (you may have to flip the chosen switch to the correct position to get the desired condition). Now,</p>		<p>you may go through the Condition menu items to get the desired settings in the new mode. Read the condition name after the model name to be sure you are changing the condition you want.</p> <p>Now, you may go through the Condition menu items (i.e. ADF, A→R, etc.) to get the desired settings in the new mode. Read the condition name after the model name to be sure you are changing the condition you want.</p> <p>As an example, for NORML we use approximately 50% ASF mixing, 50% differential, and 10% A→R coupling. In the speed mode, we use 100% ASF for better roll rate, 0% differential, and turn A→R down to zero because adverse yaw is very small at high speeds. Subtrims and Trim Mixes 1&2 may be used to offset controls for different conditions, like flap droop for launch.</p> <p>You can modify all of the settings and adjust each as you like. You can add a time delay on many of the menus: look for a DELAY setting. You can also have the mixing ratio vary with the motion of another slider or knob: look for the VOL key on the O button in some menus.</p> <p>(Note: In the 4-servo model, if you don't mind having the same differential, mixing, etc. settings for all modes, you can easily set Trim Mix 1 & Trim Mix 2 TM1, TM2 to droop flaps and ailerons, and trim elevator for both launching and speed. Then you do not have to use any other flight condition settings.)</p>	

After test flying, change compensation for glide path commands reacting & changing trim:

	Instruction	2-S	4-S	5-S
17	Set elevator presets for launch and speed, or other flight conditions as desired. Make small changes.			
18	Reduce rudder coupling A→R if fuselage points inward to center of turns, and increase if the fuse points outwards during turns. Turn it off for speed.			
19	Glidepath trimm correction (Caution: make only small changes in elevator mixing)	For flap actuation trim change: Set Flap→Elev F→E	For Butterfly trim change: Set Butterfly-Elev BYE	Set Butterfly-Elev BYE . Brake Flap→Elev BKF
20	Airbrake or spoiler trim correction	Use Airbrake→Elevator ABE mixing to correct trim change due to airbrake/spoiler. Make small changes as trim is very sensitive to this.		

AILERON DIFFERENTIAL (ADF)

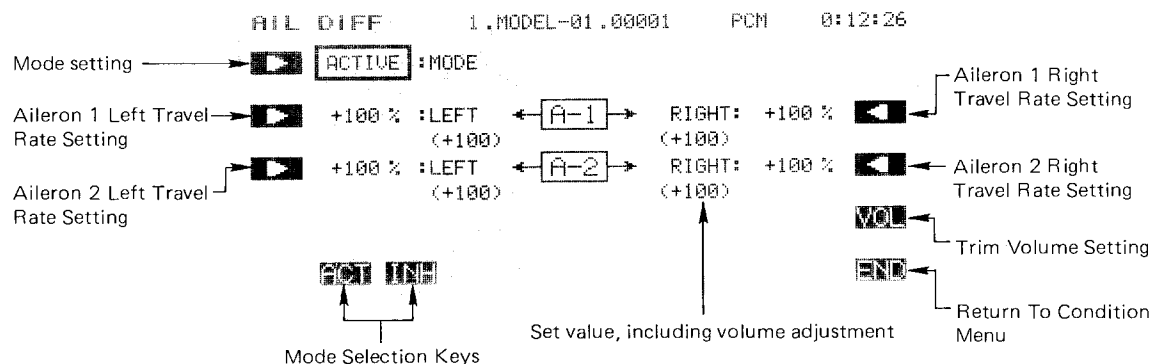
This applies to all three sailplane types, 5-S, 4-S, and 2-S. The aileron differential function is used to provide more deflection for the up aileron than for the down aileron. Depending on the model design, anywhere from 5 to 30% more up deflection is used. The up and down travel of each servo may be set separately. If desired, the amount of down aileron deflection may be trimmed in flight with a knob or trimmer.

When this function is defined, the required two servos plug into receiver output channels CH1 (aileron 1) and CH7 (aileron 2).

Setting Up Aileron Differential

Activation of command

In the Condition Menu, press the **ADF** key to get the AIL DIFF menu shown below. Use the **A** (**▶**) key to activate mode setting, then press the **ACT** or **INH** keys (**F** and **G**) to activate or inhibit the aileron differential function.



Aileron 1 Travel Setting

You now set the amount of servo throw for Aileron 1. Press the **B** key to activate travel setting for the Left direction and set the throw with the numeric keys. The number keys **0** through **100** input the value directly. The **+** and **-** keys increase or decrease the value by 1. The **+/-** key may be used to reverse the throw direction.

If you are not sure what you are changing, hold the stick to one side and press different keys — if there is no effect, move the aileron stick to the other side and continue. Your setting may vary from -120 to +120%, the initial value is +100%.

Now set the travel for the Right throw on Aileron 1. Press the **C** key to activate travel setting for the Right direction and set the throw with the numeric keys as before.

Aileron 2 Travel Setting

The setting process given above is repeated for Aileron 2. Press the **C** key to activate travel setting for the Left direction and set the throw with the numeric keys.

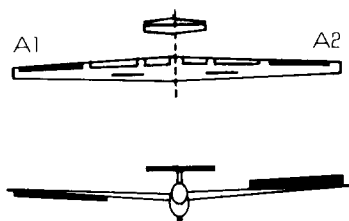
Finally, set the travel for the Right throw on Aileron 2. Press the **P** key to activate travel setting for the Right direction and set the throw with the numeric keys as before.

Trim volume setting

You may set up the Aileron Differential function so that its effect may be changed in flight by moving a trim control. The trim control adjusts the volume within $\pm 25\%$ of the set differential rate. This option is not activated at initial setup.

Call the volume setting screen by pressing the **VOL** **O** key, and select the desired control using the screen menus (for a description of the volume setting method, see page 37).

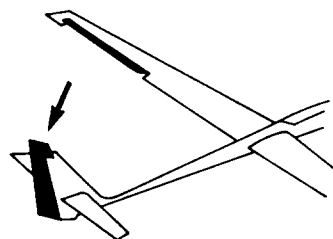
Use the **END** (**N**) key to leave this menu.



AILERON→RUDDER MIXING (A→R)

This function is used to mix rudder operation with aileron operation automatically, to make realistic, coordinated turns. It is especially effective when turning and banking scale models or large models that resemble full-sized aircraft. This mixing keeps the fuselage aligned into the wind, reducing drag, and helps to make what are called "coordinated turns."

The function allows you to set up the left and right mixing rates independently. Furthermore, mixing can be turned on and off during flight by setting a switch, or it may be set to stay on all the time if the function is activated (ACT) without



setting an ON/OFF switch. Also, it is possible to adjust the amount of rudder coupling in-flight, by setting a volume control.

Setting Up Rudder Coupling

Activation of command

In the Condition Menu, press the **A→R** key to get the AIL TO RUD menu, as shown below. Use the **A** (**▶**) key to activate mode setting, then press the **ACT** or **INH** keys (**F** and **G**) to activate or inhibit rudder coupling.

AIL TO RUD 01.MODEL-01.00001 GL5 PCM 0:41:37

Mode setting → **▶** **INHBIT** :MODE (OFF)

Mixing rate setting

- Left side → **▶** + 50 % :LEFT (+ 50)
- Right side → **▶** + 50 % :RIGHT (+ 50)

ACT **INH**

Mode Selection

Values in () are the mixing rate, including the trim volume.

SWT ← ON/OFF switch setting

VOL ← Trimming volume setting

END → Return to Condition screen

Setting the Mixing Ratio — Left and Right

First set the amount of mixing for left aileron command. Press the **C** key to activate mixing ratio for the Left direction and set the value with the numeric keys **E** to **M**. The number keys **0** through **100** input the value directly. The **+** and **-** keys increase or decrease the value by 1. The **+/-** key may be used to reverse the throw direction.

If you are not sure what you are changing, hold the stick to one side and press different keys — if there is no effect, move the aileron stick to the other side and continue. Your setting may vary from -100 to +100%, the initial value is +50%.

Now set the amount of mixing for the Right aileron command. Press the **D** key to activate mixing ratio for the Right direction and set the throw with the numeric keys as before.

On/Off Switch Setting

On initial setting, an activation switch for rudder coupling is not set, meaning that once activated, it is on all the time. If you would like to set a switch to turn it on and off, call the Switch Setting screen by pressing the **SWT** **P** key. Then use the keys to choose the desired switch location and on direction. For more information on the switch setting method, see page 37).

Trim Volume setting

You may set up the Rudder coupling function so that its effect may be changed in flight by moving a trim control. The trim control adjusts the volume within ±25% of the set mixing rate. This option is not activated at initial setup.

Call the volume setting screen by pressing the **VOL** **O** key, and select the desired control using the screen menus (see page 37 for a description of the volume setting method).

Use the **END** (**N**) key to leave this menu.

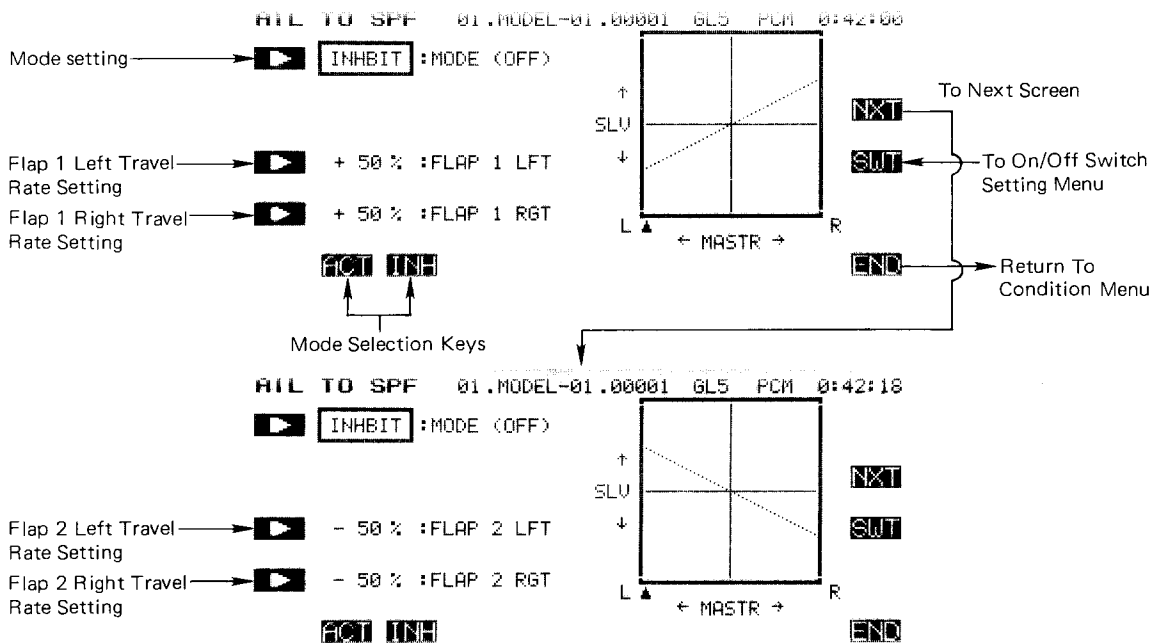
AILERON-SPEED FLAP COUPLING (ASF)

This function may be used to control mixing from the ailerons to the speed flaps, making the entire wing act as ailerons. When the aileron stick is moved, the aileron and speed flap servos operate simultaneously, which improves the model's roll rate.

Setting Up Speed Flap Coupling

Activation of command

In the Condition Menu, press the **ASF** key to get the AIL TO SPF menu, as shown below. Use the **A** (**▶**) key to activate mode setting, then press the **ACT** or **INH** keys (**F** and **G**) to activate or inhibit speed flap coupling.



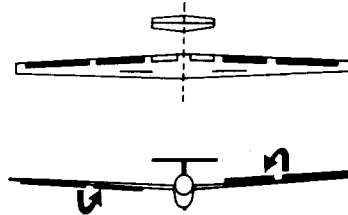
Flap 1 Left Travel Setting

First set the amount of mixing throw for Flap 1. Press the **C** key to activate travel setting for the Left direction and set the throw with the numeric keys **E** to **M**. The number keys **0** through **100** input the value directly. The **+** and **-** keys increase or decrease the value by 1. The **+/-** key may be used to reverse the throw direction.

If you are not sure what you are changing, hold the stick to one side and press different keys — if there is no effect, move the aileron stick to the other side and continue. Your setting may vary from -100 to +100%, the initial value is +50%.

Now set the travel for the Right throw on Flap 1. Press the **D** key to activate travel setting, and set the throw with the numeric keys as before.

The left and right deflection angles of the speed flap servos can be adjusted. Speed Flap mixing can be made to turn on and off during flight by setting a switch. Initially, an ON/OFF switch is not defined, so mixing remains on all the time.



Flap 2 Left Travel Setting

You now set the amount of mixing throw for Flap 2. Press the **NXT** **C** key to get to the flap 2 menu, then press the **C** key to activate travel setting for the Left direction and set the throw with the numeric keys **E** to **M** as you did for Flap 1.

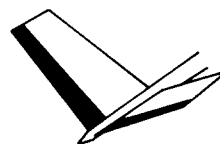
Now set the travel for the Right throw on Flap 2. Press the **D** key to activate travel setting, and set the throw with the numeric keys as before.

On/Off Switch Setting

On initial setting, an activation switch for speed flap mixing is not set, meaning that once activated, it is on all the time. If you would like to set a switch to turn it on and off, call the Switch Setting screen by pressing the **SWT** **P** key. Then use the keys to choose the desired switch location and on direction. For more information on the switch setting method, see page 37).

V-TAIL (VTL)

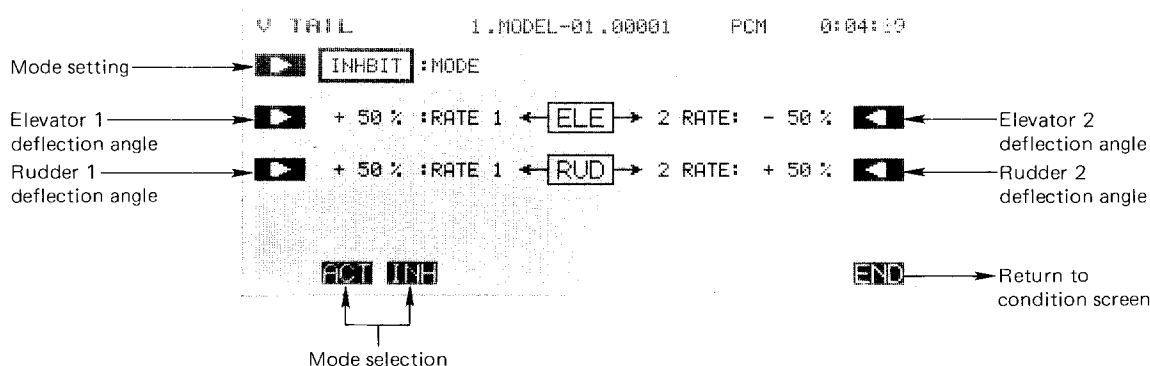
This function automatically sets up the PCM 1024Z to control a V-tail sailplane with combined elevator and rudder functions. It requires two servos, one hooked up to receiver output CH2 (elevator 1/rudder 2) and the second plugged into CH4 (elevator 2/rudder 1). The elevator and rudder deflections can be adjusted independently.



Setting Up V-Tail Mixing

Activation of command

In the Condition Menu, press the **VTL** key to get the V-TAIL Mixing menu shown below. Use the **A** (**▶**) key to activate mode setting, then press the **ACT** or **INH** keys (**F** and **G**) to activate or inhibit V-Tail Mixing.



Setting the Elevator Rates — 1 and 2

Begin by setting the rate for Elevator 1. Press the **B** key to activate rate setting for Elevator 1 and set the rate with the numeric keys **E** to **M**. The number keys **0** through **100** input the value directly. The **+** and **-** keys increase or decrease the value by 1. The **+/-** key may be used to reverse the throw direction.

If you are not sure what you are changing, hold the stick to one side and press different keys — if there is no effect, move the elevator stick to the other side and continue. Your setting may vary from -100 to +100%, the initial value is set to +50%.

Now set the rate for Elevator 2. Press the **O** key to activate Elevator 2 rate setting and set the rate with the numeric keys as before.

Setting the Rudder Rates — 1 and 2

You now set the rate for Rudder 1. Press the **C** key to activate rate setting for Rudder 1 and set the rate with the numeric keys **E** to **M** as before.

If you are not sure what you are changing, hold the rudder stick to one side and press different keys — if there is no effect, move the rudder stick to the other side and continue. The initial value is +50%, but your setting may vary from -100 to +100%.

Now set the rate for Rudder 2. Press the **P** key to activate Rudder 2 rate setting and set the rate with the numeric keys as before.

Checking Your Work

After you have set up the V-Tail rates, be sure that they move the correct directions. For up elevator command, both V-tails should move upward. For right rudder command, the trailing edge of both surfaces should move to the right. If they do not, use the **+/-** to reverse the direction as needed.

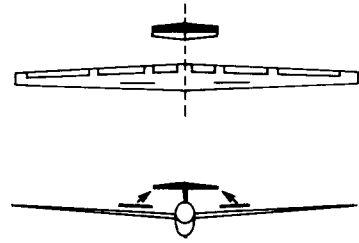
Use the **END** (**N**) key to leave this menu.

AIRBRAKE/SPOILER/GEAR TRIM COMPENSATION (ABE)

This mixing is used to compensate for trim changes when airbrakes, spoilers, or landing gear are operated. It may be used to correct dropping or raising of the nose by adding suitable elevator compensation.

The mixing rate to elevator can be adjusted independently at the high and low sides of the stick operation. If desired, the mixing neutral position can be offset from the air brake neutral position.

Airbrake compensation mixing can be turned on and off during flight if a switch is defined, otherwise, if activated it remains on always. The amount of mixing can also be trimmed by setting a volume control.



Setting Up Airbrake Mixing

Activation of command

In the Condition Menu, press the **ABE** key to get the ABK TO ELE menu as shown below.

ABK TO ELE 01.MODEL-01.00001 GL5 PCM 0:42:44

Mode setting → **INHBIT** :MODE (OFF)

Offset Setting → **+ 50 %** :OFFSET

Low Side Mixing Rate Setting → **+ 50 %** :DOWN (+ 50)

High Side Mixing Rate Setting → **+ 50 %** :UP (+ 50)

ACT INH

Mode Selection Keys

Mixing value, including volume adjustment

SLU

D

← MASTR →

U

SWT → To On/Off Switch Setting Menu

VOL → To Trim Volume Setting Menu

END → Return To Condition Menu

Mode Setting

Use the **A** (**▶**) key to activate mode setting, then press the **ACT** or **INH** keys (**F** and **G**) to activate or inhibit airbrake mixing.

Offsetting the Mixing Neutral Location

Press the **B** key. Then set the airbrake control to the desired offset position and press the **SET** **F** key.

Setting the Low-Side Mixing Rate

Press the **C** key, and then set the low-side mixing rate with the numeric keys **E** to **M**. The setting range may vary from -100 to +100% and the initial value is +50%.

High Side Mixing Rate Setting

Press the **D** key and set the rate with the numeric keys **E** to **M**. The setting range may vary from -100 to +100% and the initial value is +50%.

ON/OFF Switch Setting

An ON/OFF switch is not defined initially. To define one, display the switch setting screen by pressing the **SWT** **P** key. Use the keys to choose the switch and ON direction you want. For a description of the switch setting method, see page 37.

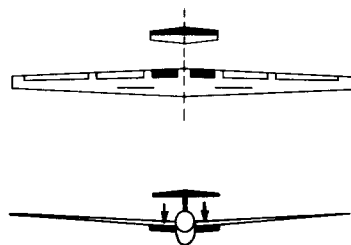
Mixing Rate Trim Volume Selection and Operating Direction

A mixing rate volume control is not defined initially. To define one, display the volume setting screen by pressing the **VOL** **O** key. For a description of the volume setting method, see page 37. The volume control adjusts ±25% of the set mixing rate.

ELEVATOR→BRAKE FLAP MIXING (EBF)—5-S

This mixing is used to command the lowering of the brake flaps when up elevator is given. This coupling increases the lift that the wing can deliver, resulting in tighter turns and better maneuverability.

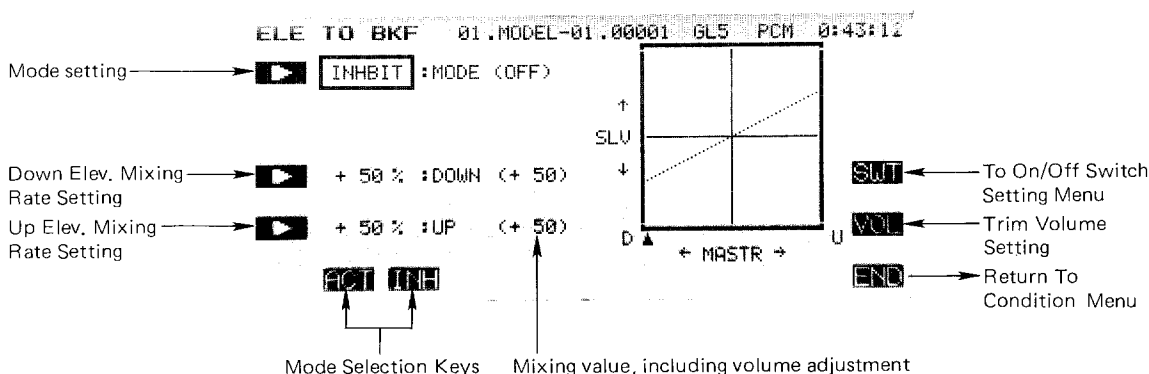
The mixing rates for elevator up and down deflections can be set independently (for many airfoils, down elevator to up flap mixing is not recommended because of a large drag increase). Mixing can be turned on and off during flight by setting a switch, and the amount of mixing may also be trimmed in flight by moving a volume control.



Setting Up Elevator-Brake Flap Coupling

Activation of command

In the Condition Menu, press the **EBF** key to get the ELE TO BKF menu, as shown below.



Use the **A** (**▶**) key to activate mode setting, then press the **ACT** or **INH** keys (**F** and **G**) to activate or inhibit brake flap coupling.

Setting the Down Elevator Mixing Rate

Press the **C** key, and then set the down elevator mixing rate with the numeric keys **E** to **M**. The setting range may vary from -100 to +100% and the initial value is +50%.

Up Elevator Mixing Rate Setting

Press the **D** key and set the up elevator mixing rate with the numeric keys **E** to **M**. The setting range may vary from -100 to +100% and the initial value is +50%.

ON/OFF Switch Setting

Display the switch setting screen by pressing the **SWT** **P** key. Initially, SW (C) is set to be ON at 1 position, but you may use the keys to choose the switch and ON direction you want. For a description of the switch setting method, see page 37.

Mixing Rate Trim Volume Selection and Operating Direction

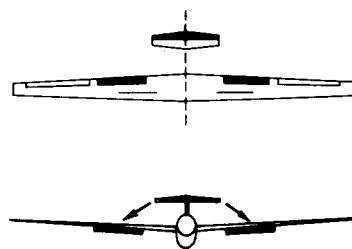
A mixing rate volume control is not defined initially. To define one, display the volume setting screen by pressing the **VOL** **O** key. For a description of the volume setting method, see page 37. The volume control adjusts $\pm 25\%$ of the set mixing rate.

Use the **END** (**N**) key to leave this menu.

ELEVATOR→SPEED FLAP COUPLING (ESF)—4-S

This mixing is used to command the lowering of the speed flaps when up elevator is given. This coupling increases the lift that the wing can deliver, resulting in tighter turns and better maneuverability.

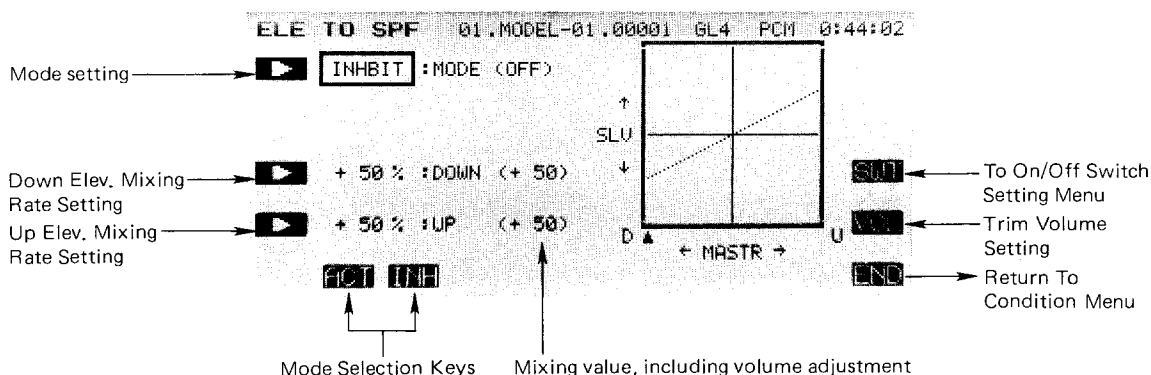
The mixing rates for elevator up and down deflections can be set independently (for many airfoils, down elevator to up flap mixing is not recommended because of a large drag increase). Mixing can be turned on and off during flight by setting a switch, and the amount of mixing may also be trimmed in flight by moving a volume control.



Setting Up Elevator-Speed Flap Coupling

Activation of command

In the Condition Menu, press the **ESF** key to get the ELE TO SPF menu, as shown below.



Use the **A** (**▶**) key to activate mode setting, then press the **ACT** or **INH** keys (**F** and **G**) to activate or inhibit speed flap coupling.

Setting the Down Elevator Mixing Rate

Press the **C** key, and then set the down elevator mixing rate with the numeric keys **E** to **M**. The setting range may vary from -100 to +100% and the initial value is +50%.

Up Elevator Mixing Rate Setting

Press the **D** key and set the up elevator mixing rate with the numeric keys **E** to **M**. The setting range may vary from -100 to +100% and the initial value is +50%.

Choosing An ON/OFF Switch

Display the switch setting screen by pressing the **SWT** **P** key. Initially, SW (C) is set to be ON at 1 position, but you may use the keys to choose the switch and ON direction you want. For a description of the switch setting method, see page 37.

Mixing Rate Trim Volume Selection and Operating Direction

A mixing rate volume control is not defined initially. To define one, display the volume setting screen by pressing the **VOL** **O** key. For a description of the volume setting method, see page 37. The volume control adjusts $\pm 25\%$ of the set mixing rate.

Use the **END** (**N**) key to leave this menu.

BRAKE FLAP MIXING (BKF)—5-S

This function is used to define the following types of brake flap mixing:

Brake flap → elevator mixing

Brake flap → aileron mixing

Brake flap → speed flaps mixing

These mixing functions are useful for compensating for flap actuation trim changes, increasing the lift capability of the wing, making tighter turns, and increasing maneuverability. The mixing neutral position can be offset from the brake flaps neutral position.

Activation of Brake Flap Mixing

In the Condition Menu, press the **BKF** key to get the BRAKE FLAP menu, as shown below.

Mixing Function
Selection

Brake flap → Elevator →

BRAKE FLAP 1.MODEL-01.00001 PCM 0:05:41

▶ BRAKE FLAP TO ELE

OFFSET: 0%

◀ Offset setting

Brake flap → Aileron →

▶ BRAKE FLAP TO AIL

Brake flap → Speed
Flaps →

▶ BRAKE FLAP TO SPF

SET

END

Return To Condition
Menu

Offset Point Set Key

Offsetting the Mixing Neutral Location

Press the **R** key. Then set the brake control to the desired offset position and press the **SET** **F** key.

Mixing Selection

Brake Flap → Elevator Mixing may be set up by pressing the **A** key. For a description of the setting method, see page 133 following.

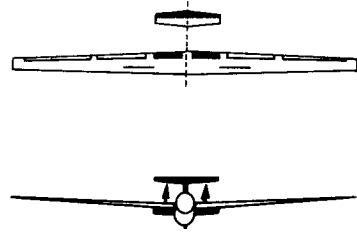
Brake Flap → Aileron Mixing: use the **B** key to call the setting screen. For a description of the setting method, see page 134.

Brake Flap → Speed Flaps Mixing: call the setting screen by pressing the **C** key. A description of the setting method may be found on page 135.

BRAKE FLAP→ELEVATOR MIXING —5-S

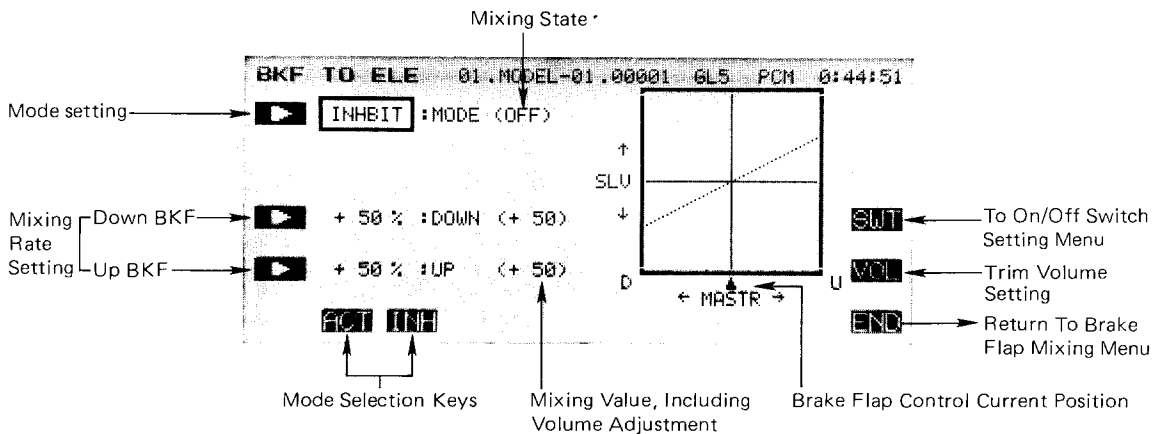
This function is used to correct the trim change that occurs when the brake flaps are moved by applying a small amount of elevator. For example, if the fuselage pitches up when the brake flaps are actuated, the elevator is commanded down simultaneously.

The mixing rates for up and down brake flap commands can be set independently. Mixing can be turned on and off during flight by setting a switch, and you may also define a volume control to change the mixing rate in flight. Brake flap mixing remains on all the time unless an ON/OFF switch is defined.



Activation of Brake Flap→Elevator Mixing

In the Condition Menu, press the **BKF** key to get the BRAKE FLAP menu. Press the **A** key to get the BKF TO ELE menu shown below.



Use the **A** (▶) key to activate mode setting, then press the **ACT** or **INH** keys (**F** and **G**) to activate or inhibit brake flap coupling.

Setting the Down Brake Flap Mixing Rate

Press the **C** key, and then set the down elevator mixing rate with the numeric keys **E** to **M**. The setting range may vary from -100 to +100% and the initial value is +50%.

Up Brake Flap Mixing Rate Setting

Press the **D** key and set the up elevator mixing rate with the numeric keys **E** to **M**. The setting range may vary from -100 to +100% and the initial value is +50%.

ON/OFF Switch Setting

On initial setting, an activation switch for brake flap-elevator mixing is not set, meaning that once activated, it is on all the time. If you would like to set a switch to turn it on and off, display the switch setting screen by pressing the **SWT** **P** key, and use the keys to choose the switch and ON direction you want. For a description of the switch setting method, see page 37.

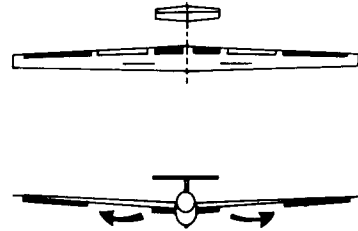
Mixing Rate Trim Volume Selection and Operating Direction

Display the volume setting screen by pressing the **VOL** **O** key. For a description of the volume setting method, see page 37. The volume control adjusts ±25% of the set mixing rate.

BRAKE FLAP→AILERON MIXING—5-S

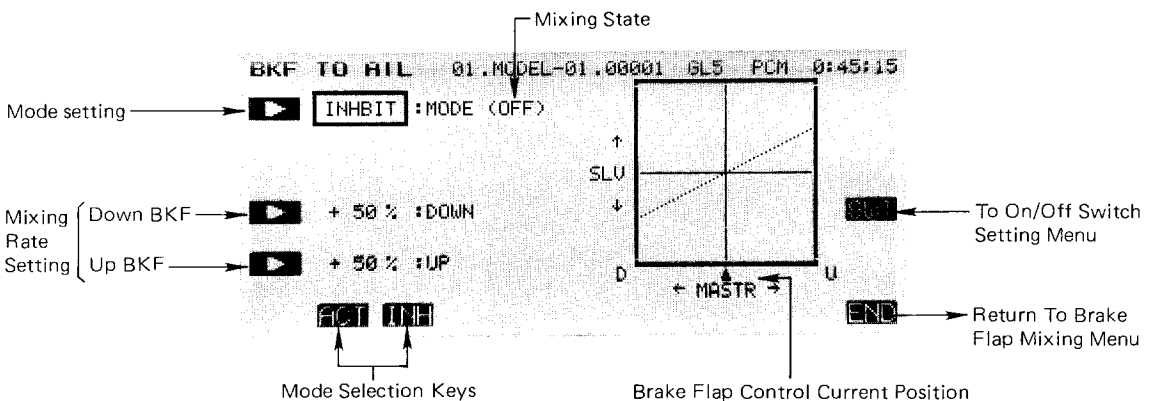
This mixing is used to make the ailerons operate together as brake flaps. When the brake flaps are deployed, the brake flaps and ailerons all perform the brake flap operation simultaneously.

The mixing rates for up and down brake flap movement can be set independently. You may also set up a switch for switching this mixing on and off during flight. If this mixing is activated without defining an ON/OFF switch, mixing remains on all the time.



Activation of Brake Flap→Aileron Mixing

In the Condition Menu, press the **BKF** key to get the BRAKE FLAP menu. Press the **B** key to get the BKF TO AIL menu shown below.



Use the **A** (**▶**) key to activate mode setting, then press the **ACT** or **INH** keys (**F** and **G**) to activate or inhibit brake flap coupling.

Setting the Down Brake Flap Mixing Rate

Press the **C** key, and then set the down aileron mixing rate with the numeric keys **E** to **M**. The initial value is +50% and the setting range may vary from -100 to +100%.

Up Brake Flap Mixing Rate Setting

Press the **D** key and set the up aileron mixing rate with the numeric keys **E** to **M**. The setting range may vary from -100 to +100% and the initial value is +50%.

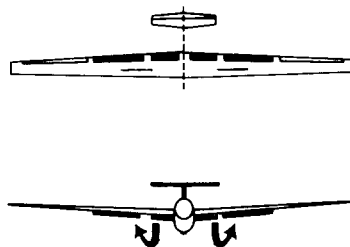
ON/OFF Switch Setting

On initial setting, an activation switch for brake flap-aileron mixing is not set, meaning that once activated, it is on all the time. If you would like to set a switch to turn it on and off, display the switch setting screen by pressing the **SWT P** key, and use the keys to choose the switch and ON direction you want. For a description of the switch setting method, see page 37.

BRAKE FLAP→SPEED FLAP MIXING—5-S

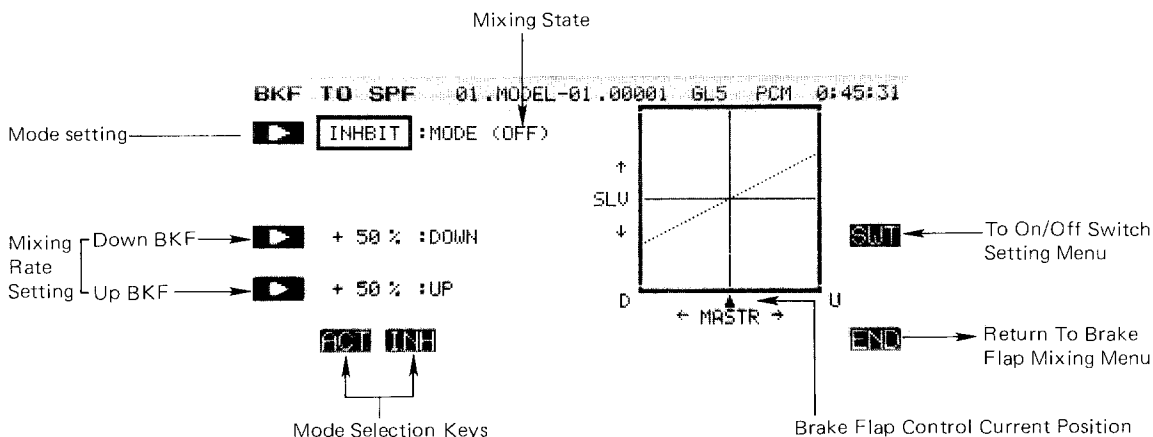
This mixing is used to make the speed flaps operate together as brake flaps. When the brake flaps are deployed, the brake flaps and speed flaps all perform the brake flap operation simultaneously.

The mixing rates for up and down brake flap movement can be set independently. You may also set up a switch for switching this mixing on and off during flight. If this mixing is activated without defining an ON/OFF switch, mixing remains on all the time.



Activation of Brake Flap→Speed Flap Mixing

In the Condition Menu, press the **BKF** key to get the BRAKE FLAP menu. Press the **C** key to get the BKF TO SPF menu shown below.



Use the **A** (**▶**) key to activate mode setting, then press the **ACT** or **INH** keys (**F** and **G**) to activate or inhibit brake flap coupling.

Setting the Down Brake Flap Mixing Rate

Press the **C** key, and then set the down speed flap mixing rate with the numeric keys **E** to **M**. The initial value is +50% and the setting range may vary from -100 to +100%.

Up Brake Flap Mixing Rate Setting

Press the **D** key and set the up speed flap mixing rate with the numeric keys **E** to **M**. The setting range may vary from -100 to +100% and the initial value is +50%.

ON/OFF Switch Setting

On initial setting, an activation switch for brake flap-speed flap mixing is not set, meaning that once activated, is on all the time. If you would like to set a switch to turn it on and off, display the switch setting screen by pressing the **SWT P** key, and use the keys to choose the switch and ON direction you want. For a description of the switch setting method, see page 37.

SPEED FLAP MIXING (SPF)—4-S

This function is used to define the following types of speed flap mixing:

Speed flap → elevator mixing

Speed flap → aileron mixing

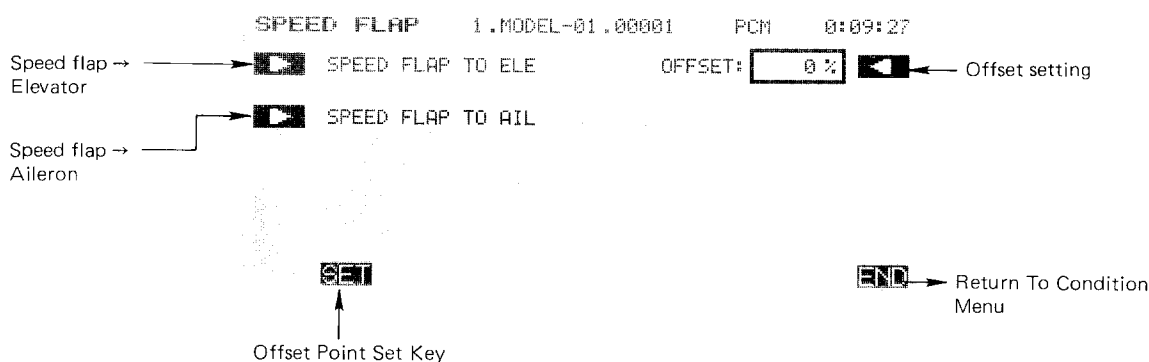
These mixing functions are useful for com-

pensating for flap actuation trim changes, increasing the lift capability of the wing, making tighter turns, and increasing maneuverability. The mixing neutral position can be offset from the speed flaps neutral position.

Activation of Speed Flap Mixing

In the Condition Menu, press the **SPF** key to get the SPEED FLAP menu, as shown below.

Mixing Function Selection



Offsetting the Mixing Neutral Location

Press the **R** key. Then set the speed flap control to the desired offset position and press the **SET F** key.

Mixing Selection

Choose from the two types of mixing as given below.

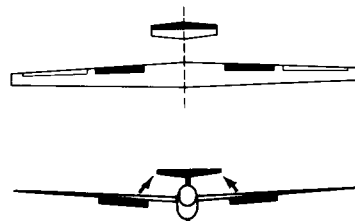
To set Speed Flap → Elevator Mixing, call up the setting screen by pressing the **A** key. For a description of the setting method, see page 137 following.

Speed Flap → Aileron Mixing: use the **B** key to call the setting screen. For a description of the setting method, see page 138.

SPEED FLAP→ELEVATOR MIXING—4-S

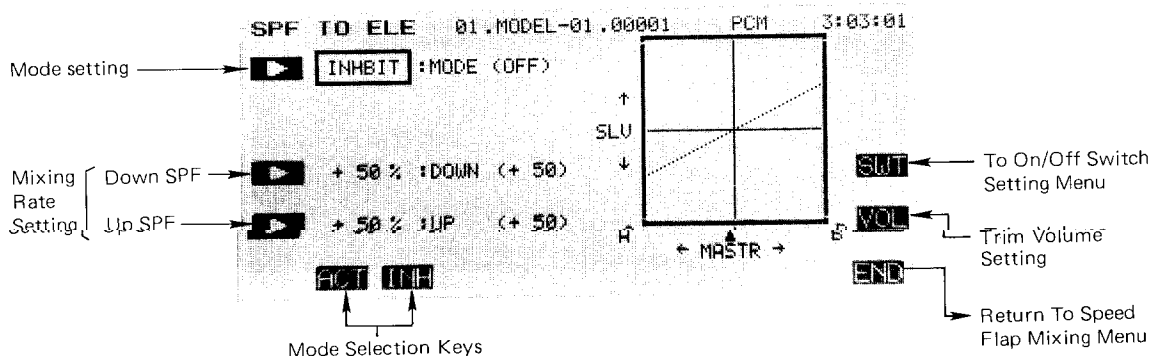
This function is used to correct the trim change that occurs when the speed flaps are moved by applying a small amount of elevator. For example, if the fuselage pitches up when the speed flaps are actuated, the elevator is commanded down simultaneously.

The mixing rates for up and down speed flap commands can be set independently. Mixing can be turned on and off during flight by setting a switch, and you may also define a volume control to change the mixing rate in flight. Speed flap mixing remains on all the time unless an ON/OFF switch is defined.



Activation of Speed Flap→Elevator Mixing

In the Condition Menu, press the **SPF** key to get the SPEED FLAP menu. Press the **A** key to get the SPF TO ELE menu shown below.



Use the **A** (▶) key to activate mode setting, then press the **ACT** or **INH** keys (**F** and **G**) to activate or inhibit speed flap coupling.

Setting the Down Speed Flap Mixing Rate

Press the **C** key, and then set the down elevator mixing rate with the numeric keys **E** to **M**. The setting range may vary from -100 to +100% and the initial value is +50%.

Up Speed Flap Mixing Rate Setting

Press the **D** key and set the up elevator mixing rate with the numeric keys **E** to **M**. The setting range may vary from -100 to +100% and the initial value is +50%.

ON/OFF Switch Setting

On initial setting, an activation switch for speed flap-elevator mixing is not set, meaning that once activated, it is on all the time. If you would like to set a switch to turn it on and off, display the switch setting screen by pressing the **SWT** **P** key, and use the keys to choose the switch and ON direction you want. For a description of the switch setting method, see page 37.

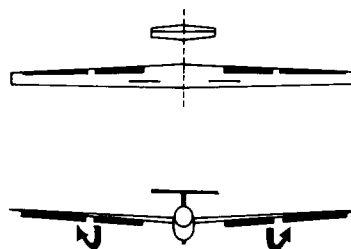
Mixing Rate Trim Volume Selection and Operating Direction

Display the volume setting screen by pressing the **VOL** **O** key. For a description of the volume setting method, see page 37. The volume control adjusts ±25% of the set mixing rate.

SPEED FLAP→AILERON MIXING—4-S

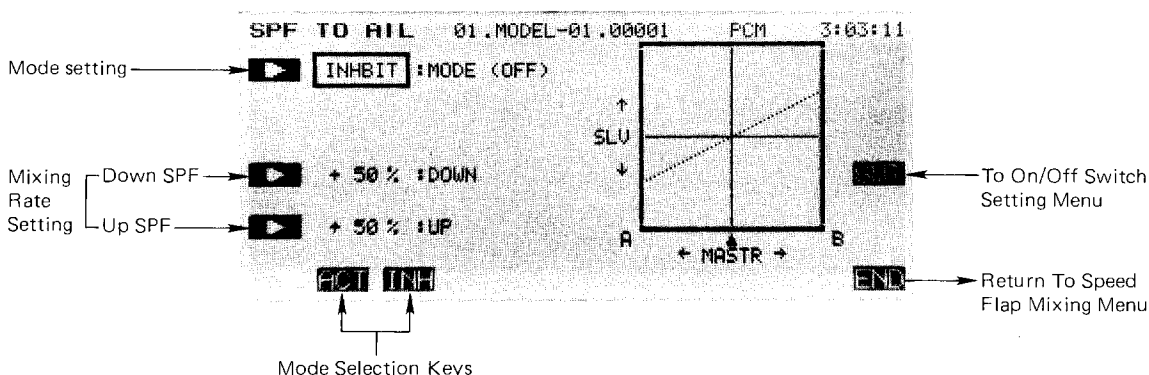
This mixing is used to make the ailerons operate together as speed flaps. When the speed flaps are deployed, the speed flaps and ailerons all perform the speed flap operation simultaneously.

The mixing rates for up and down speed flap movement can be set independently. You may also set up a switch for switching this mixing on and off during flight. If this mixing is activated without defining an ON/OFF switch, mixing remains on all the time.



Activation of Speed Flap→Aileron Mixing

In the Condition Menu, press the **SPF** key to get the SPEED FLAP menu. Press the **B** key to get the SPF TO AIL menu shown below.



Use the **A** (**▶**) key to activate mode setting, then press the **ACT** or **INH** keys (**F** and **G**) to activate or inhibit speed flap coupling.

Setting the Down Speed Flap Mixing Rate

Press the **C** key, and then set the down aileron mixing rate with the numeric keys **E** to **M**. The initial value is +50% and the setting range may vary from -100 to +100%.

Up Speed Flap Mixing Rate Setting

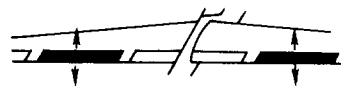
Press the **D** key and set the up aileron mixing rate with the numeric keys **E** to **M**. The setting range may vary from -100 to +100% and the initial value is +50%.

ON/OFF Switch Setting

On initial setting, an activation switch for speed flap-aileron mixing is not set, meaning that once activated, it is on all the time. If you would like to set a switch to turn it on and off, display the switch setting screen by pressing the **SWT** **P** key, and use the keys to choose the switch and ON direction you want. For a description of the switch setting method, see page 37.

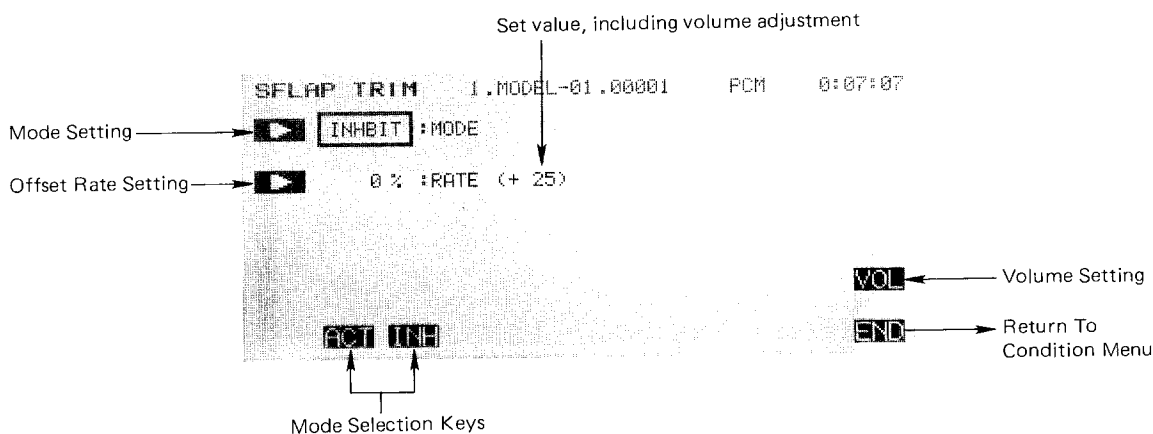
SPEED FLAP TRIM SETTING (SFT)—4-S/5-S

The Speed Flap Trim Setting function may be used to adjust the speed flap neutral position. The offset can be trimmed by setting a volume. However, the right knob RD is set at initial setting.



Activation of Speed Flap Trim

In the Condition Menu, press the **SFT** key to get the SFLAP TRIM menu.



Mode Setting

Use the **A** (**▶**) key to activate mode setting, then press the **ACT** or **INH** keys (**F** and **G**) to activate or inhibit speed flap trim setting.

Offsetting the Mixing Neutral Location

Press the **B** key, then set the rate with the numeric keys **E** to **M**. The initial value is 0%, but the setting may vary from -100 to +100%.

Offset Rate Trim Volume Selection and Operating Direction Setting

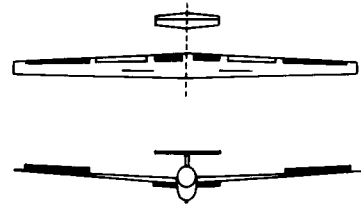
At initial setup, the right knob RD is defined as the trim volume control, and the adjustment rate is $\pm 25\%$. To change this, call the volume setting screen by pressing the **VOL** **O** key. For a description of the volume setting method, see page 37.

BUTTERFLY MIXING (BFY)—4-S/5-S

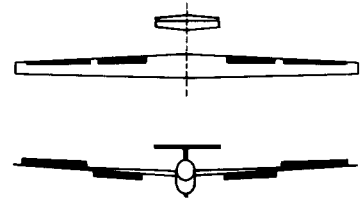
Butterfly mixing, sometimes called "crow" mixing, is a way to get effective glide path control without using spoilers. The butterfly action simultaneously raises the left and right ailerons and lowers the speed flaps (brake flaps for 5-S).

The total travel can be adjusted by CH6 volume. The butterfly neutral position can be offset from the center position. Butterfly mixing can be turned on and off during flight by setting a switch. If a switch is not set, mixing remains on all the time.

5-S BUTTERFLY OPERATION



4-S BUTTERFLY OPERATION



Setting Up Butterfly Mixing

Butterfly is often controlled with the throttle stick, but at initiation the control is assigned to the left knob VR(A). The FNC command in the Model menu may be used to change the assignment. In that menu, select SF2 with the **J** key, then press CTR. Select the throttle stick by choosing J3 with the **K** key (null the CTR for airbrake **ABK** if you want). At this time, be sure that both ailerons and speed flaps (or brake flaps for 5-S) move the proper directions. The default speed flap control is the left slider. If you use speed flap-aileron mixing, this will become the camber control.

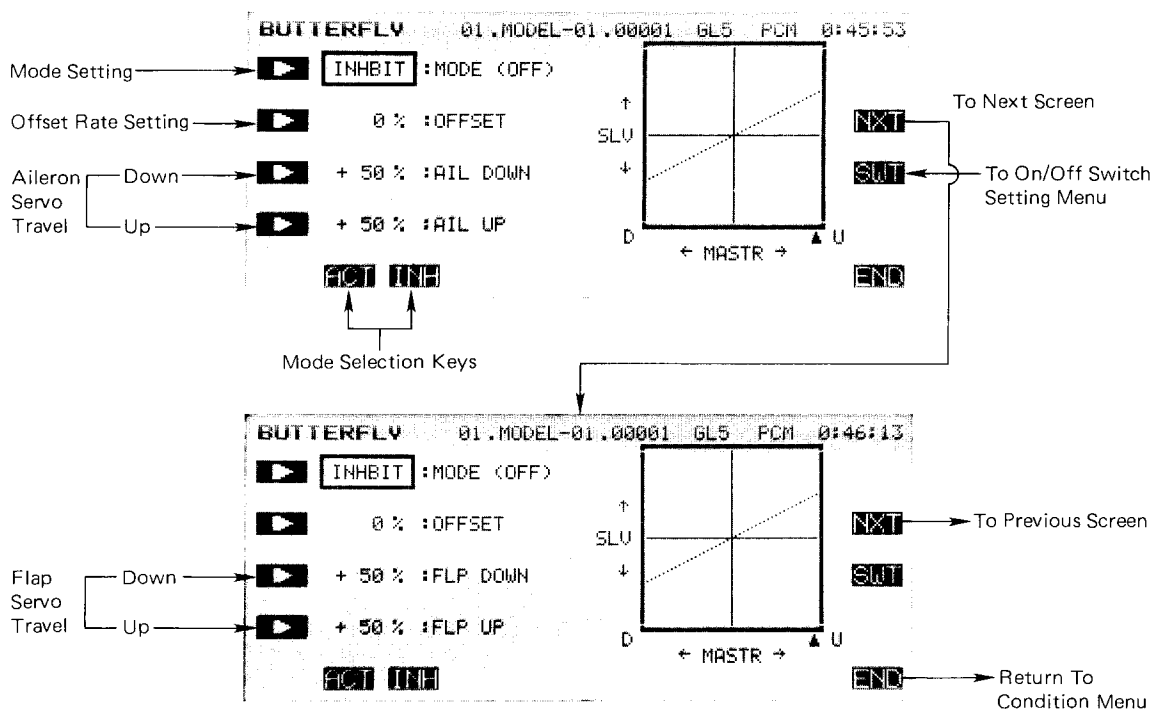
Activation of command

In the Condition Menu, press the **BFY** key to get the BUTTERFLY menu, as shown in the figure.

Mode Setting

Press the **A** key to activate mixing, then press the **ACT** or **INH** key (**F** or **G**) to activate or inhibit the butterfly function. When you activate, you will notice two things: first, all four wing servos move, unless the throttle stick happens to be at center. Second, the Alarm light begins flashing. The alarm light is on whenever BFY is active. This is OK, except the transmitter will beep if it is on when first powered up. This is annoying, because you can't stop it!

In just a moment, you will set the offset position for the butterfly stick. The alarm light and beeping at startup may be taken care of two ways: either an activation switch may be defined, or the on position may be set slightly away from the zero-butterfly position. In the latter case, the function is off until the stick is moved slightly.



Offset Position Setting

This sets the position where butterfly begins working. Press the **B** key, then set the butterfly control (throttle stick or left side knob) to the position to be set and press the **F** (**SET**) key. We recommend one or two clicks down from the high throttle position.

Aileron Servo Down Side Travel Setting

Press the **C** key and set the rate with the numeric keys **E** to **M**. The setting range may vary from -100 to +100% and the initial value is +50%. If you set the BFY to be activated with the throttle stick moving down from the top (full throttle) position, this setting has no effect because motion is all on the Up side.

Aileron Servo Up Side Travel Setting

Press the **D** key and set the rate with the numeric keys **E** to **M**. The setting range may vary from -100 to +100% and the initial value is +50%. If you set the BFY with the throttle stick, this setting is the important one.

Flaps Servo Down Side Travel Setting

Press the **NXT** **O** key to get to the flap setting menu. Then press the **C** key and set the rate with the numeric keys **E** to **M**. The setting range may vary from -100 to +100% and the initial value is +50%. If you set up with throttle stick, this setting has no effect.

Flaps Servo Up Side Travel Setting

Press the **D** key and set the rate with the numeric keys **E** to **M**. The setting range may vary from -100 to +100% and the initial value is +50%. This is the effective setting to make if throttle stick is used as mentioned before.

ON/OFF Switch Setting

An ON/OFF switch is not defined initially. To define one, display the switch setting screen by pressing the **SWT** **P** key. Use the keys to choose the switch and ON direction you want. For a description of the switch setting method, see page 40.

If you want BFY on all the time but don't like the alarm, press the **SWT** **P** key, then press the **STK** **O** key, to get to the stick setting menu. Choose the throttle stick **U3** and set it just above the offset position. Press the **SET** **O** button to input the On position, then move the throttle stick to be sure. You may need to switch direction with the **+/-** **P** key.

BUTTERFLY TRIM MIX (BYE)—4-S/5-S

Butterfly trim mixing uses elevator motion to correct any change in model attitude when butterfly is activated. The CH6 volume up side and down side correction rates can be set independently.

The correction neutral position can be offset to a point different from the butterfly neutral position, but it should be matched to the butterfly mixing offset point. Butterfly trim mixing can be turned on and off during flight by setting a switch.

Setting Up Butterfly Trim Mixing

Activation of command

In the Condition Menu, press the **BYE** key to get the BFY TO ELE menu as shown below.

BFY TO ELE 01.MODEL-01.00001 GL5 PCM 0:46:33

Mode setting —————▶ **INHBIT** :MODE (OFF)

Offset Setting —————▶ **0 %** :OFFSET

Correction Rate Setting

Down —▶ **+ 50 %** :DOWN
 Up —▶ **+ 50 %** :UP

ACT INH
 ↑ ↑
 Mode Selection Keys

Mode Setting

Use the **A** (▶) key to activate mode setting, then press the **ACT** or **INH** keys (**F** and **G**) to activate or inhibit butterfly trim mixing.

Offsetting the Mixing Neutral Location

Press the **B** key. Then set the butterfly control to the desired offset position (usually where it begins working) and press the **SET F** key.

Down Side Correction Rate Setting

Press the **C** key and set the rate with the numeric keys **E** to **M**. The setting range may vary from -100 to +100% and the initial value is +50%. If you use BFY on throttle as described previously, this may not do anything.

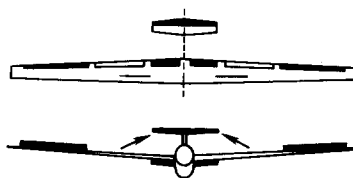
Up Side Correction Rate Setting

Press the **D** key and set the rate with the numeric keys **E** to **M**. The setting range may vary from -100 to +100% and the initial value is +50%.

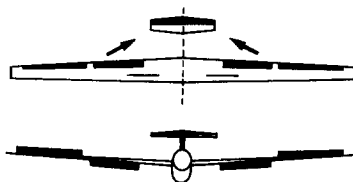
ON/OFF Switch Setting

An ON/OFF switch is not defined initially, so the mixing will be on all the time. To define one, display the switch setting screen by pressing the **SWT P** key. Use the keys to choose the switch and ON direction you want. For a description of the switch setting method, see page 37.

5-S



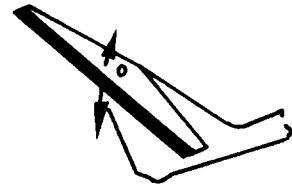
4-S



ELEVATOR TRIM (ETM)—2-S/5-S

The two Elevator Trim functions program an elevator offset position which may be called by a switch, for example to set the elevator position for thermalling or cruising. The two offsets may be set independently. Elevator trim 2 has priority.

To prevent a sudden trim change when the elevator trim is switched, a delay time can be entered. The amount of offset may be changed in flight by moving a volume control.



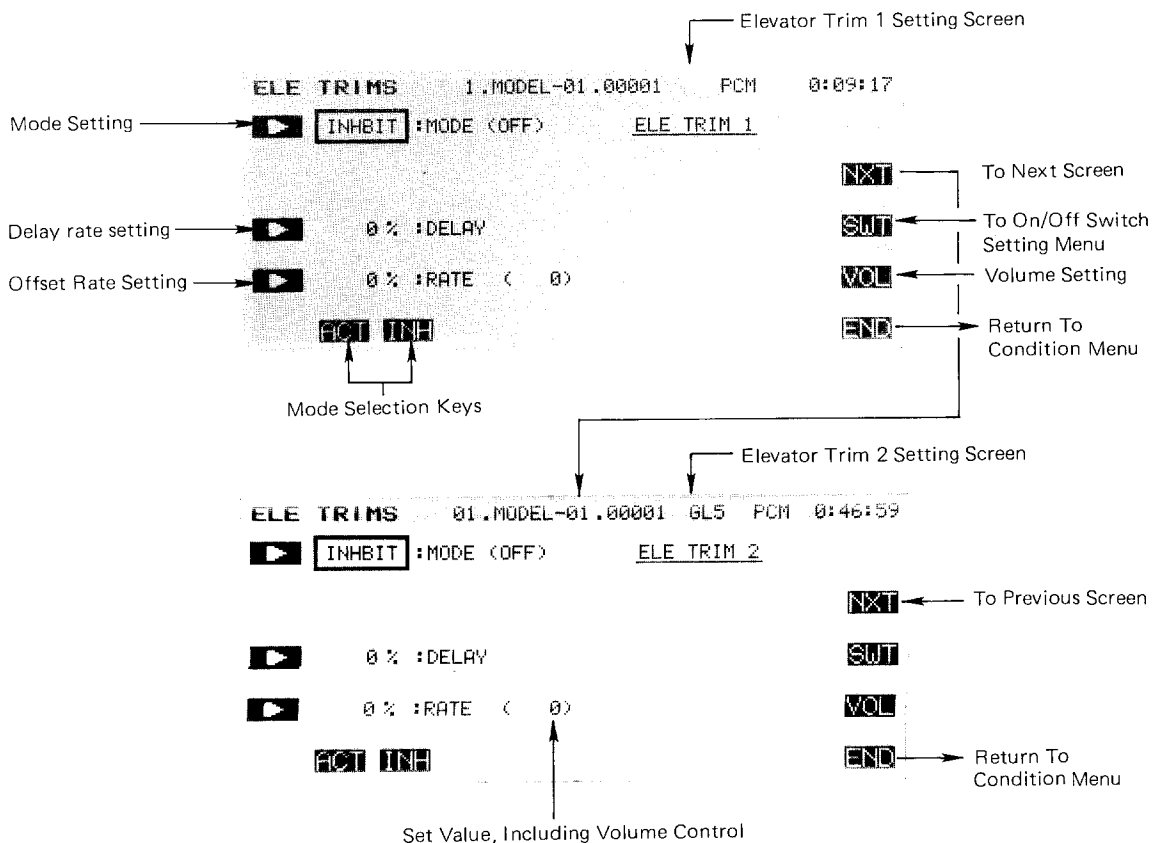
Activation of command

In the Condition Menu, press the **ETM** key to get the ELE TRIMS menu, as shown in the figure.

Mode Setting

The same procedure is used to program both Trim 1 and Trim 2 settings. To switch between the elevator trim 1 and 2 setting screens, press the **NXT** **O** key.

Press the **A** key to activate mixing, then press the **ACT** or **INH** key (**F** or **G**) to activate or inhibit the elevator trim function.



Delay Rate Setting

Press the **C** key and enter the rate with the numeric keys **F** to **M**. The delay may vary from 0 to 100% (the initial value is 0%). A 100% delay takes about five seconds to move full travel.

Entering the Preset Position

Press the **D** key and set the rate with the numeric keys **E** to **M**. The setting range may vary from -100 to +100% and the initial value is 0%. Press the number you want. Caution: use small numbers as elevator trim changes are very effective!

ON/OFF Switch Setting

An ON/OFF switch is not defined initially. To define one, display the switch setting screen by pressing the **SWT P** key. Use the keys to choose the switch and ON direction you want. For a description of the switch setting method, see page 37.

Mixing Rate Trim Volume Selection and Operating Direction

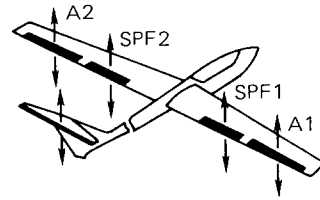
A mixing rate volume control is not defined initially. To define one, display the volume setting screen by pressing the **VOL O** key. For a description of the volume setting method, see page 37. The volume control adjusts $\pm 25\%$ of the set mixing rate.

TRIM MIX 1 (TM1) & TRIM MIX 2 (TM2) — 4-S

TRIM PRESETS CALLED BY A SWITCH

The Trim Mix 1 & 2 function are used to program a preset position of the ailerons, elevator, and speed flaps with the use of a switch. They can be used to program setting for different flight conditions. For example, Trim mix 1 could be set up for launching, with speed flaps and ailerons drooped, and a slight amount of up elevator. Trim mix 2 might be used for high speed flying, with both ailerons and speed flaps reflexed slightly, and a bit of down elevator.

The Trim Mix functions can be activated during flight by setting a switch (trim mix 2 has priority). To prevent sudden trim changes when switching flight conditions, a delay can be set to provide a smooth transition between the two. This might be used during launch, so the flaps don't suddenly come back to neutral position and dump the lift all at once.

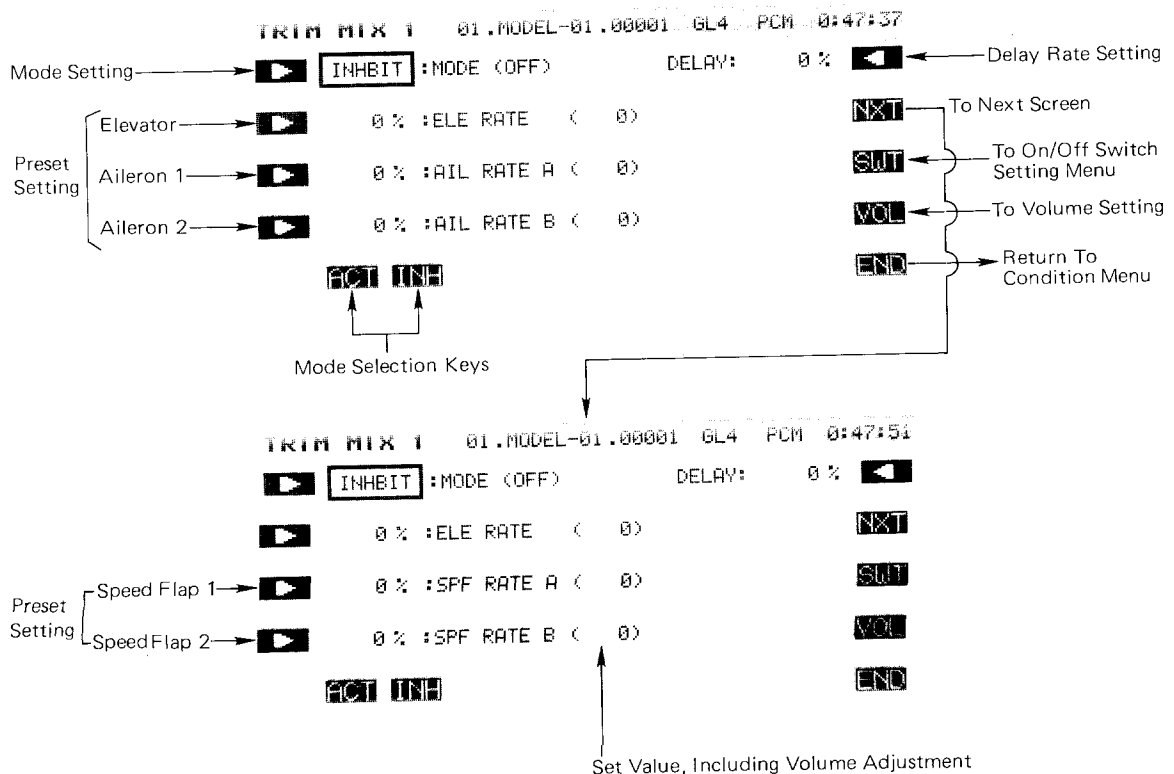


The presets as a group can be adjusted by moving a volume control. When this is done, each servo is adjusted at the same rate.

Setting Up Trim Mixing

Activation of command

In the Condition Menu, press the **TM1** (or **TM2**) key to get the TRIM MIX 1 (or 2) menu (Trim Mix 1 is shown in the figure).



Mode Setting

Press the **A** key to activate mixing, then press the **ACT** or **INH** key (**F** or **G**) to activate or inhibit the trim mix 1 (or 2) function. Now you will input the desired presets for the elevator, ailerons, and speed flaps.

Setting the Elevator Preset Amount

Press the **B** key and set the rate with the numeric keys **E** to **M**. The initial preset value is set to 0%, but may vary from -100 to +100%.

Entering the Aileron 1 Servo Preset Amount

Press the **C** key and set the rate with the numeric keys **E** to **M**. The setting range may vary from -100 to +100% and the initial value is 0%.

Aileron 2 Servo Preset Inputting

Press the **D** key and set the rate with the numeric keys **E** to **M**, as before. If your linkages and horns are identical, this setting should be the same as for Aileron 1.

Speed Flap 1 Preset

To get to the Flap preset inputting menu, press the **NXT** **O** key. Then press the **C** key and set the rate with the numeric keys **E** to **M**. As with the ailerons, the initial value is set to 0%, but may vary from -100 to +100%.

Speed Flap 2 Preset

Press the **D** key and set the rate with the numeric keys **E** to **M**, as before. If your linkages and horns are identical, this setting should be the same as for Speed Flap 1.

Delay Rate Setting

Press the **R** key and set the rate with the numeric keys **F** to **M**. The initial delay is set to 0%, but may vary from 0 to 100%. A 100% delay takes about five seconds to complete changing.

ON/OFF Switch Setting

An ON/OFF switch is not defined initially. To define one, display the switch setting screen by pressing the **SWT** **P** key. Use the keys to choose the switch and ON direction you want. For a description of the switch setting method, see page 37.

We recommend using the three-position switch for Trim Mix activation. The lower position is usually defined to be the launch mode (use TM1), middle position is normal, and the upper position is used for the speed settings (use TM2).

If you use the three position switch, you will want to activate Trim mix on the middle position also. This will give the delay in switching both to and From the trim mix.

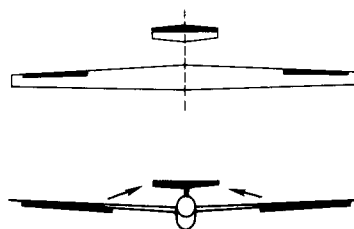
Trim Volume Control and Direction Setting

You may adjust all the presets as a group, but a volume control is not defined initially. Call the volume setting screen by pressing the **VOL** **O** key. The volume setting method is described on page 37. The volume control adds or subtracts $\pm 25\%$ from all the preset positions.

FLAP-ELEVATOR MIX (F→E)—2-S

This function is used to compensate for trim changes when flaps are deployed for slow flight or landing by mixing in a small movement of elevator. The elevator should be adjusted to move only a small deflection amount: too much elevator can make the model difficult to control.

The amount of correction can be adjusted separately for both positive and negative flap inputs, and the neutral mixing position can be offset from the flap neutral position. Flap-to-elevator mixing can be turned on and off during flight by setting a switch, but if an ON/OFF switch is not set, it remains on all the time. The amount of mixing can be changed by setting a volume control.



Setting Up Flap-to-Elevator Mixing

Activation of command

In the Condition Menu, press the **F→E** key to get the FLP TO ELE menu shown below.

FLP TO ELE 01.MODEL-01.00001 GL2 PCM 0:48:26

Mode setting → **INHBIT** :MODE (OFF)

Offset amount setting → **0 %** :OFFSET

Down side → **+ 50 %** :DOWN (+ 50)

Up side → **+ 50 %** :UP (+ 50)

Mixing rate setting → **ACT INH**

Mode Selection

Rate including volume adjustment

ON/OFF switch setting

Trimming volume setting

Return to Condition screen

Use the **A** (**▶**) key to activate mode setting, then press the **ACT** or **INH** keys (**F** and **G**) to activate or inhibit flap-to-elevator coupling.

Offset Position Setting

Use the **B** (**▶**) key to activate offset setting mode. Then set the flap control to the offset position, and press the **SET** key **F** to store the desired position in memory.

Setting the Mixing Ratio — Down and Up Side

You now set the amount of mixing for down flap command. Press the **C** key to activate mixing ratio for the down direction and set the value with the numeric keys **E** to **M**. The number keys **0** through **100** input the value directly. The **+** and **-** keys increase or decrease the value by 1. The **+/-** key may be used to reverse the throw direction. Your setting may vary from -100 to +100%, the initial value is set to +50%.

Now set the amount of mixing for the up flap command. Press the **D** key to activate mixing ratio for the Up direction and set the throw with the numeric keys as before.

On/Off Switch Setting

Initially an activation switch for is not set, meaning that once activated, this function is on all the time. If you would like to set a switch to turn it on and off, call the Switch Setting screen by pressing the **VOL** **O** key. Then use the keys to choose the desired switch location and on direction. For more information on the switch setting method, see page 37.

Trim volume setting

You may set up the Flap-to-Elevator mixing so that its effect may be changed in flight by moving a trim control. The trim control allows you to adjust the volume within $\pm 25\%$ of the set mixing rate, which can be handy for getting the best value while flying the model. This option is not activated at initial setup.

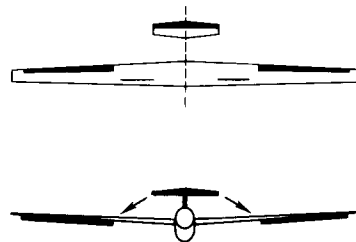
Call the volume setting screen by pressing the key, and select the desired control using the screen menus (for a description of the volume setting method, see page 37).

Use the **END** (**N**) key to leave this menu.

ELEVATOR-FLAP MIX (E→F)—2-S

This mixing is used to droop the flaps whenever an up elevator command is given (and may be set up for down elevator as well, helpful during 'outside' maneuvers). It helps aerobatic aircraft to make tight, square corners in maneuvers.

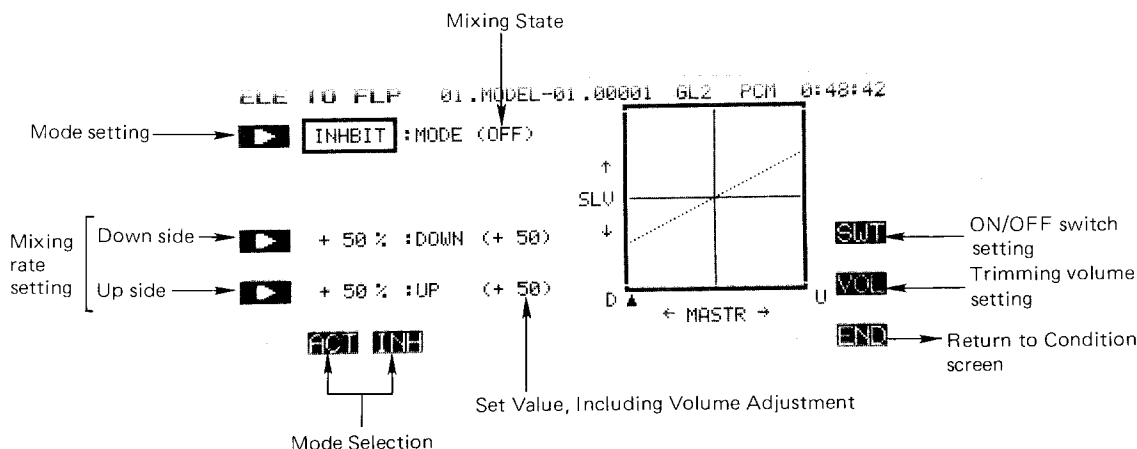
Elevator-to-flap mixing can be set up to be turned on and off during flight by a switch (if no switch is activated, this mixing remains on all the time). You can also set the flap trim rate in this function. If the flaperon function is activated, the elevators are mixed with the ailerons, otherwise, the mixing is with the flaps only.



Setting Up Elevator-to-Flap Mixing

Activation of command

In the Condition Menu, press the **E→F** key to get the ELE TO FLP menu shown below. Use the **A** (**▶**) key to activate mode setting, then press the **ACT** or **INH** keys (**F** and **G**) to activate or inhibit Elevator-to-Flap.



Setting the Mixing Ratio — Down and Up Side

You now set the amount of mixing for down elevator command. Press the **C** key to activate mixing ratio for the Down direction and set the value with the numeric keys **E** to **M**. The number keys **0** through **100** input the value directly. The **+** and **-** keys increase or decrease the value by 1. The **+/-** key may be used to reverse the throw direction. Your setting may vary from -100 to +100%, the initial value is set to +50%.

Now set the amount of mixing for the up elevator command. Press the **D** key to activate mixing ratio for the Up direction and set the throw with the numeric keys as before.

On/Off Switch Setting

On initial setting, the activation switch for Elevator-to-

Flap mixing is set as SW **C** on at the upper position. If you would like to change the switch or turn mixing on all the time, call the Switch Setting screen by pressing the **SWT** **P** key. Then use the keys to choose the desired switch location and on direction. For more information on the switch setting method, see page 37).

Mixing Rate Trim Volume Selection and Operating Direction

A mixing rate volume control is not defined initially. To define one, display the volume setting screen by pressing the **VOL** **O** key. For a description of the volume setting method, see page 37. The volume control adjusts $\pm 25\%$ of the set mixing rate.

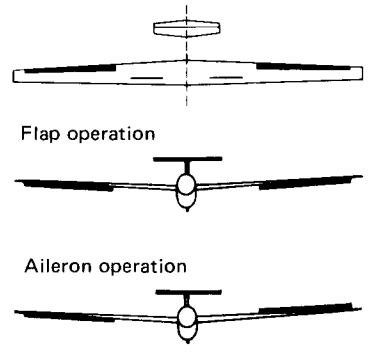
Use the **END** (**N**) key to leave this menu.

FLAPERON MIXING (FPN)—2-S

This function allows you to program the ailerons to work in the same direction, giving a flap response as well as aileron control (see figure). For good square maneuvers, and landing, both ailerons can be raised and lowered simultaneously. While this function is on, regular aileron operation is always present.

The Flaperon function requires two separate channels: Receiver CH1 (aileron 1/flap 2) and CH5 (aileron 2/flap 1) are the operating channels. The Aileron 1 and Aileron 2 left and right deflection angles can be adjusted independently, making it easy to apply differential to the ailerons. With differential, the up side travel is set to around 5% larger than the down travel.

You may also adjust the Flap 1 and Flap 2 throws independently, and you can set the flap trim rate as large or small as you like. Also, the flap trim offset can be adjusted, allowing you to



freely change the flap neutral angle.

When setting aileron differential with this function, set the trim volume at the aileron differential (ADF) function setting screen.

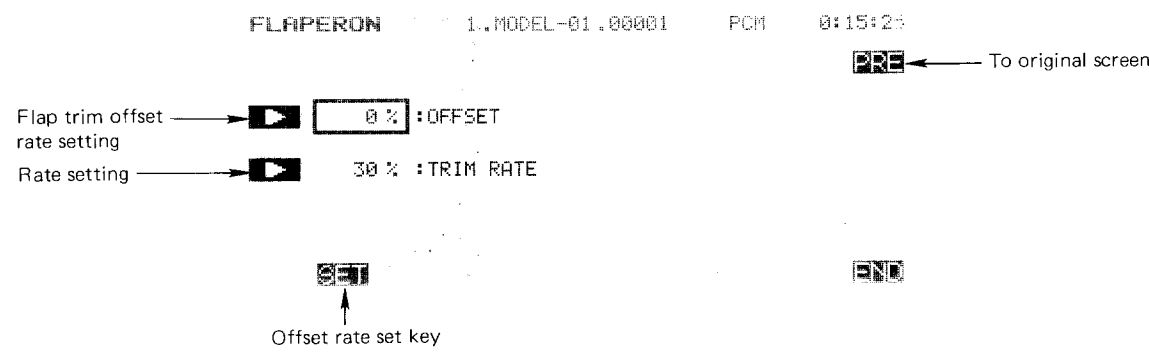
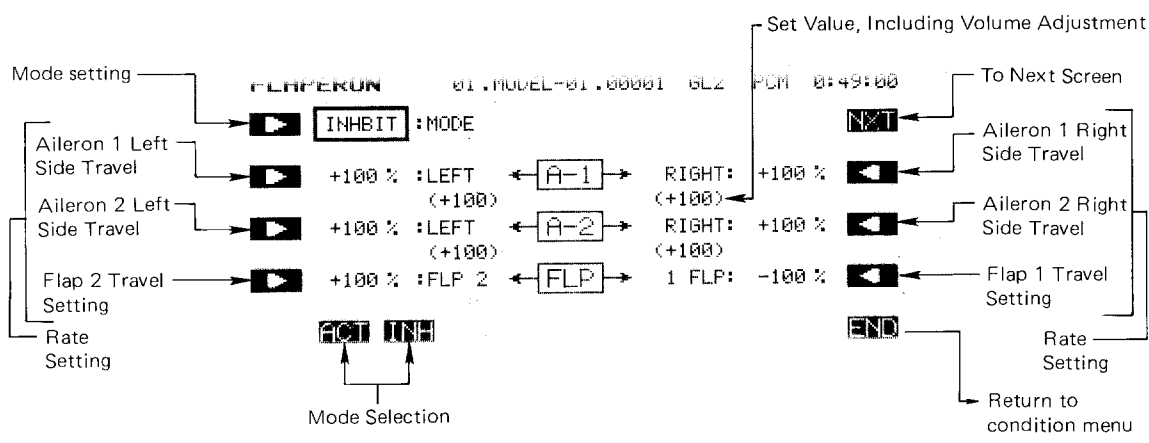
Setting Up Flaperons

Activation of command

In the Condition Menu, press the **FLP** key to get the FLAPERON menu as shown below. Use the **A** (**▶**) key to activate mode setting, then press the **ACT** **F** key to

activate. Next, press the **E** (**YES**) key. This automatically deactivates (**INH**) the aileron differential (**ADF**) function.

Deactivate mixing by pressing the **INH** key **G** to inhibit the function.



Setting the Aileron 1 Travel

You now set the left-side travel for Aileron 1. Press the **B** key to activate left travel setting for Aileron 1 and set the travel with the numeric keys **E** to **M**. The number keys **0** through **100** input the value directly. The **+** and **-** keys increase or decrease the value by 1. The **+/-** key may be used to reverse the throw direction.

If you are not sure what you are changing, hold the stick to one side and press different keys — if there is no effect, move the aileron stick to the other side and continue. Your setting may vary from -120 to +120%, with an initial value of +100%.

Now set the right-side travel for Aileron 1. Press the **O** key to activate Aileron 1 right travel setting and set the travel with the numeric keys as before.

Setting the Aileron 2 Travels

This procedure is repeated for Aileron 2. Press the **C** key to activate left travel setting for Aileron 2 and set the travel with the numeric keys **E** to **M** as before.

Now set the right-side travel for Aileron 2. Press the **P** key to activate Aileron 2 right travel setting and set the travel as before.

Setting the Flap Travels — 1 and 2

You now set the travel for Flap 2. Press the **D** key to activate travel setting for Flap 2 and set the travel with the numeric keys **E** to **M**. Your setting may vary from -100 to +100%, with an initial value of +100%.

Now set the travel for Flap 1. Press the **O** key to activate Flap 1 travel setting and set its travel with the numeric keys. Its initial value is -100%.

Flap Trim Offset Setting

Flap trim offset sets the flap position from which motion occurs. To input the flap trim offset amount setting, move to the next screen by pressing the **NXT** **R** key. Next, press the **B** key, then set the flap trim (left-side lever, LS) to the position to be set and press the **F** (**SET**) key.

Flap Trim Authority Setting

In the Flaperon mode, Flap Trim moves both ailerons upwards or downwards together. To input the Flap Trim Authority. Press the **C** key and set the rate with the numeric keys **F** to **M**. You may choose any value from 0% to 100% for the Flap Trim Authority. The initial setting is 30%, but a smaller number is recommended.

FUTABA PCM1024ZA/ZH MENU GLOSSARY

Home Screen [HOM]

S/SStart/Stop Timer
RSTReset timer
TRMShow trim menu
CHDCondition Hold
TIMTo timer menu
VLTTo voltmeter menu
TACTo tach menu
T/RTimer reset
SYSTo system menu
MDLTo model menu
CNDTo condition menu

Other Commands

ACTActivate
AUTAuto
ENDReturn to prev. menu
INHInhibit
LINLinear
LSTLast part of list
MANManual
NXTNext menu
PREPrevious menu
PT→Next point to right
←PTNext point to left
RSTReset menu
SELSelect
SETYes, command is ok
SRVServo
SWTTo switch set menu
VOLTo volume set menu
[+/-]Change sign
[+]Add 1
[-]Subtract 1
[nnn]Inputs number 'nnn'

Transmitter Abbreviations

J1Right stick horizontal
J2Right stick vertical
J3Left stick vertical
J4Left stick horizontal
RSRight slider
LSLeft slider
RDRight dial VR(A)
LDLeft dial VR(B)
SW(n)Switch No. (n)

System Menu [SYS]

MSLModel Selection
VLTVoltmeter
 OFFNo load
 250250 mA load

500500 mA load
TACTachometer
 DSPDisplay on/off
SRVServo Test & Bar Graph Display
 ONActivate function
 OFFswitch off
TRNTrainer System/Cmd.
 MIXMix trainer commands
DTNData Transfer
 TRNTransmit model data
 RCVReceive model data
CPMCopy Model
CPCCopy Condition
PARParameters
UNAUser Name Def.
 ENTEnter letter at cursor
FRQTransmitter Frequency Setting
 (Syn. only)
 ABTAbort setting

Model Menu [MDL]

CSLCondition Select
TIMTimer Function
 UPSet timer count up
 DWNSet timer countdown
 S/SStart/Stop timer
 RSTReset timer
F/SFailsafe Function
 BFSBattery Failsafe
 NORHold last command
PMDPulse Mode
 PCMPulse code modulation
 PPMPulse position modulation (FM)
REVServo Reversing
 Rev. selected servo
FNCFunction Change
 TRMTrim tab
 CTRControl stick/knob
RSTData Reset
CUTEngine Cut
CHDCondition Hold
TYPModel Type Selection
CH9Channel 9 Switch
MNAModel Name Def.
ALTAlternate Switch
THRThrottle Curve
SWHSwashplate Type
 S-1Normal swash
 S-2,4Mixed swash type 2, 4
 SN3Swash type SN3
 SR3Swash type SR3

RDRRotor Direction
 CWClockwise
 CCWCounterclockwise
 INVInverted Pitch
 PITPitch Curve

Common Conditions [CND]

CSLCondition Select
 ATVAdjustable travel volume/Chanel delay
 NORNormal
 LIMLimited
 AFRAdjustable function rate
 D/RDual rate
 PMXProgrammable mixing
 STMSub trim
 TOFTrim offset
 CNACondition naming
 TRMDigital trim
 T1-4Trims 1-4
 C-MCurrent to memory
 M-CMemory into current
 ATLTrim at low end only
 CMBCombined all conds.
 SEPTrim this cond. only

Model Type Labels

AIRAirplane type
 HELHelicopter type
 GL2Sailplane 2 wing servos
 GL4Sailplane, 4 wing servos
 GL5Sailplane, 5 wing servo

Airplane Menu

ADFAileron Differential
 A→RAileron→Rudder Mixing
 VTLV-Tail
 R→ARudder→Aileron Mixing
 EVNElevon
 E→FElevator→Flap Mixing
 F→EFlap→Elevator Mixing
 CPTCollective Pitch
 ALVAilevator
 FPNFlaperon
 ABKAir brake
 SPOSpoiler control
 AUTAutomatic mode
 MANManual mode
 SNPSnap Roll
 TCVThrottle curve

Sailplane Menu

ADFAil. Differential
 A→RRudder Coupling

ASFAil.-Speed Flap Mixing
 VTLV-tail Mixing
 ABEAirbrake
 EBFElevator→Brake Flap Mixing
 ESFElevator→Speed Flap Mixing
 BKFBrake flap
 SPFSpeed Flap
 SFTFlap Trim Setting
 BFYButterfly
 BYEButterfly Trim Mix
 ETMElevator Trim Sets
 TM1Trim set 1
 TM2Trim Set 2
 F→EFlap-Elevator mixing
 E→FElevator-Flap Mixing
 FPNFlaperon Mixing

Helicopter Menu

PCVPitch Mixing
 PHVHovering Pitch
 PTMPitch Trim
 TCVThrottle Curve
 THVHovering Throttle
 HOFHovering Offset
 HLDThrottle Hold
 SWPSwashplate Type
 P→RPitch→Rudder
 R→TRudder→Throttle
 GYRGyro Sensitivity
 ACCAcceleration
 INVInverted Pitch

Model Control Abbrevs.

AILAileron
 AU1Aux Channel 1
 AU2Aux Channel 2
 BKFBrake flap
 CH9Channel 9
 ELEElevator
 FLPFlap
 GEAGear
 GYRGyro
 PITPitch
 RUDRudder
 SF1Speed flap 1
 SF2Speed flap 2
 SPOSpoiler
 THRThrottle

Misc. Abbreviations

Syn.Synthesized
 Indented listings are subcommands

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CPCCopy Condition
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