## 2.1 What can you check if nothing works?

### Transmitter and receiver crystals

Same channel in transmitter and receiver?
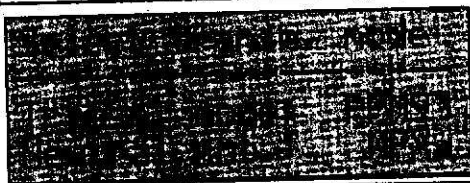
Correct type of crystal?

| | |
|---|---|
| blue sleeve | Transmitter crystal |
| yellow sleeve | Single conversion receiver crystal |
| clear sleeve | Double conversion receiver crystal |

### Modulation

- For the *RX 12* you must set **PPM 9**!
  The modulation type is displayed at top right on the screen (2nd line). This is how you change it:

| Button | Effect |
|---|---|
| ◣ | Enter the menu cycle |
| ⊞ ⊞ ⊞ | On to "menu 4" |
| ◣ | On to "Select transmission mode" |
| ◣ | Open field (flashes) |

| | |
|---|---|
| ⊞/⊟ | Select PPM 9 |
| ▦ ▦ | Back to the operating screen |

### Sockets and jumpers on the RX 12 receiver

- Socket **12 must** be fitted with a jumper!
- Socket **B (1-6)** is the battery connector!
- Sockets **B (7-12)** and **B (HF)** must be fitted with jumpers.
- For *other receivers* you must select the appropriate modulation (as described in the above table) using ⊞/⊟.
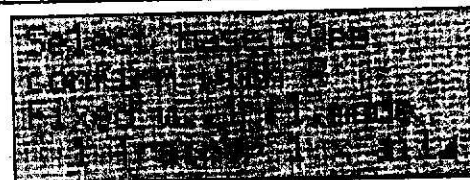
### Check the power supplies

- Are the transmitter and receiver batteries fully charged?

### Re-load base type

- If you think that the data for the stored model has been changed as a result of your programming experiments, you can re-load the base type.

| Button | Effect |
|---|---|
| ◪ | Enter the menu cycle |
| ⊞ ⊞ | On to "menu 3" |
| ◪ | On to "select base type" |
| ◪ | Open field (flashes) |

| | |
|---|---|
| ⊞/⊟ | Select base type required |
| ▦ ▦ | Back to the operating screen |

# 3. The first fixed-wing model
(Helicopter ⇨ p. 12)

The basic preparations are abbreviated slightly here as they have already been described under the same section letters in Section *1.) The first test* (⇨ page 6 on).

## 3.1 Basic preparations

### Charge transmitter and receiver batteries

### Prepare the receiver

If you want to use an Rx 12 DS receiver in the PPM 9 mode with only one receiver battery, jumpers must be fitted in sockets B HF and B 7-12. The battery itself should be connected to socket B 1-6.

### Fit the crystals

For the Rx 12 DS you need a double-superhet crystal with a clear plastic sleeve.

The transmitter and receiver crystals must be on the same channel.

### Schematic diagram of an F3B model
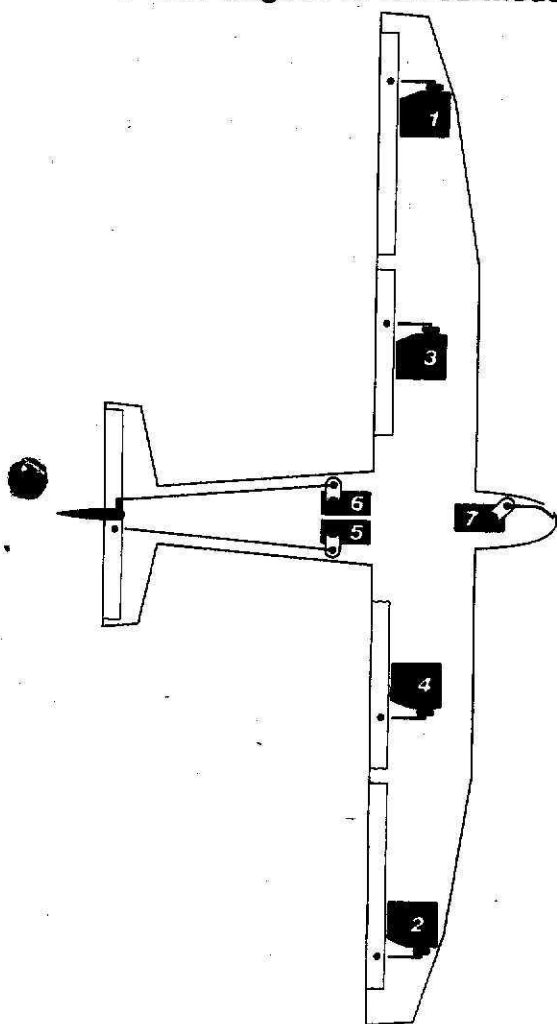
View from above

The output arms of the side-mounted servos all point down.
All control surface linkages are on the bottom of the model.
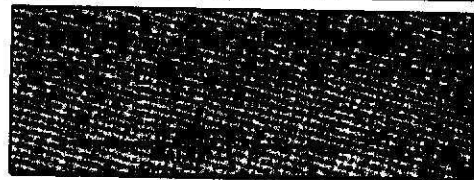
## 3.2 Select base type

For our "quick start" we have selected the "Glider Butterfl" base type, which is an F3B model. The assignment of transmitter controls, switches and servos is described in detail on page 77.

The diagram at bottom left of this page shows how the model must be configured, to ensure that the control surfaces move correctly.
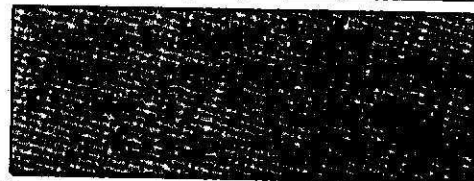
Before you can select the base type you must first switch to an "empty" memory.

This is the procedure:

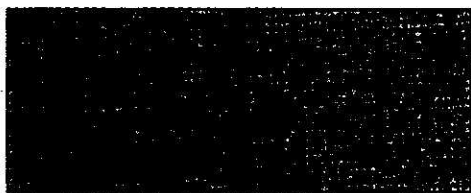| Button | Effect |
|---|---|
| ▨ ▨ ▨ | "Hot-Key" takes you to the "switch memory" menu |
| ▨ | Open "memory" field. Leaf through with ⊞/⊟ or the Digi-adjustor until "------EMPTY ------" appears |
| ⊞ | Confirm with ⊞. If you press any other button, the memory switch will not take place. |
| | The base type select field is opened automatically (flashes). Leaf through with ⊞/⊟ or the Digi-adjustor until "Glider butterfl" appears. |
| ⊞ | Confirm with ⊞ |
| ▨ ▨ | Back to the operating screen |

This procedure places a new model in the memory.

If a model already exists with the same name, the **PROFI mc 4000** automatically appends a sequential number. "Glider butterfl" then becomes "Glider butter01". This prevents the potential problem of duplicate names and the inevitable confusion which would result.

The figure 5 in the last line is the running number of the base type "Glider Butterfl".

At this point you should set the transmitter's **modulation** to match the receiver you will be using.

If your receiver is an Rx 12 DS you don't need to make any changes. You can move straight on to point 3.3.

| Button | Effect |
|---|---|
| ◣ | Enter the menu cycle |
| ⊞ ⊞ ⊞ | On to "menu 4" |
| ◣ | On to "select transmission mode" |



| | |
|---|---|
| ◣ | Open modulation field (flashes) |
| ⊞/⊟ or Da | Select PPM 7, PPM 9, PPM 12 or PCM/A |
| ◪ | Open neutral point field (flashes) |
| ⊞/⊟ | Select MPX (=MULTIPLEX) = 1,6 ms or OTHER = 1,5 ms |
| ▦ ▦ | Back to the operating screen |

## 3.3 Checking the control assignments

In the "Glider Butterfl" base type the transmitter controls are arranged as follows:

| Control.. | operates... | Note |
|---|---|---|
| A | RUDDER | |
| B | ELEVATOR | |
| C | AILERON | |
| D | SPOILER | |
| E | FLAP | L.H. slider |
| G | TOW RELEASE | Switch |

If this arrangement suits your normal mode of flying, you can move straight on to point "3.5 Connecting servos".

## 3.4 Changing the control assignments

**Note: the controls will be interchanged!**

For example, if you assign RUDDER to transmitter control A, AILERON will automatically be switched to control C. This prevents the danger of assigning two different transmitter controls to one function.

| Button | Effect |
|---|---|
| ◣ | Enter the menu cycle |
| ⊞ | On to "Menu 2 assign" |
| ◣ | On to "Assign controls" menu |



Repeat the next two steps until the control arrangement meets your requirements.

| | |
|---|---|
| ◣ | Open "CONTROL" field<br>Select the transmitter control using ⊞/⊟ or the Digi-adjustor. |
| ◪ | Open the "OPERATES" field<br>Select the function with ⊞/⊟ or the Digi-adjustor. |

And when you have finished:

| | |
|---|---|
| ▦ ▦ | Back to the operating screen |

## 3.5 Connecting servos

> **Recommendation: leave the servo <u>assignment</u> <u>unchanged</u> if you want a quick start!**

Connect the servos to the receiver in the sequence stated in the base type diagram (⇨ page 77). When you re-assign servos, all the mixer inputs are set to 100% and all servos to "normal" direction.

For the "Glider Butterfl" base type you should connect the servos in your model as follows:

| Servo No. | Is ... | Note |
|---|---|---|
| 1 | BUTTERFLY | L.H. outboard |
| 2 | BUTTERFLY | R.H. outboard |
| 3 | BUTTERFLY | L.H. inboard |
| 4 | BUTTERFLY | R.H. inboard |
| 5 | ELEU.+ | |
| 6 | RUDDER | |
| 7 | SPOILER | |
| 8 | SPOILER | |
| 9 | TOW RELEASE | |

Of course, you don't need to connect functions which don't exist in your model.

Servos 10, 11 and 12 can only be connected if you are using an Rx 12 DS receiver in PPM 12 mode.

## 3.6 Checking (matching) mixer inputs

In the "Adjust servos, travels and switches" menu you can do the following:

- set mixer input values,
- reverse mixer inputs, and
- assign switches to the mixer inputs.

This is the procedure:

| Button | Effect |
|---|---|
| ▨ ▨ ▨ | "Hot Key" to "Travel + switches" menu |

You have to repeat the following steps for all servos.

| | |
|---|---|
| ▨ | Open "SERVO" field |
| | Select the servo with ⊞/⊟ or the Digi-adjustor. |
| ◣ | Open the "INPUT" field |
| | Select the input with ⊞/⊟ or the Digi-adjustor. |
| (◣) | Open the adjust field |
| | Move the associated control |
| | **Reverse** the input with the ⓡ button |
| | **Adjust** the mixer input with ⊞/⊟ or the Digi-adjustor. |
| (▨) | Open the Switch field |
| | Select ON/OFF or a switch |

The brackets round the buttons indicate that you only have to make changes here if it is necessary.

Once everything is as you want it:

| | |
|---|---|
| ▨ ▨ ▨ | Back to the operating screen |

## 4. The first helicopter

The basic preparations are abbreviated slightly here as they have already been described under the same section letters in Section *1.) The first test* (⇨ page 6 on).

### 4.1 Basic preparations

#### Charge transmitter and receiver batteries

#### Prepare the receiver

If you want to use an Rx 12 DS receiver in the PPM9 mode with only one receiver battery, jumpers must be fitted in sockets B HF and B 7-12. The battery should be connected to socket B 1-6.

#### Fit the crystals

For the Rx 12 DS receiver you need a double superhet crystal with a clear plastic sleeve.

The transmitter and receiver crystals must be on the same channel.

#### Schematic diagram of the rotor head for the "Trainer 120 degree" base type
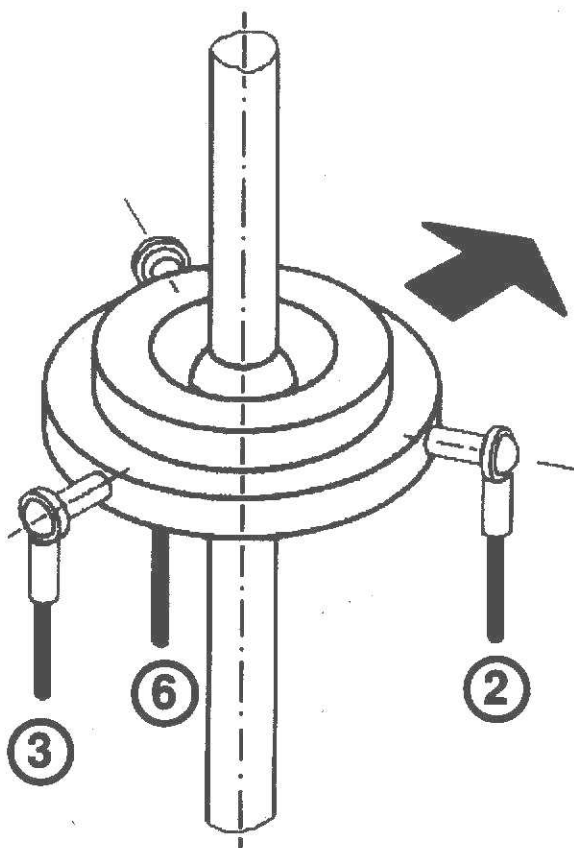


### 4.2 Select base type

For our "quick start" we have selected the "Trainer 120 deg" base type. The assignment of transmitter controls, switches and servos is described in detail on page 39

Before you can select the base type you have to switch to an "empty" memory.

This is the procedure:

| Button | Effect |
|--------|--------|
| ▨ ▨ ▨ | "Hot key" takes you to the "Switch memory" menu |
| ▨ | Open the "Memory" field<br>Leaf through with ⊞/⊟ or the Digi-adjustor until "------EMPTY------" appears |



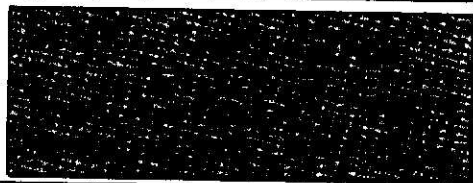| | |
|--------|--------|
| ▣ | Confirm with the ▣ button<br>If you press any other button, the memory switch will not take place. |
| | The base type select field is automatically opened (flashes)<br>Leaf through with ⊞/⊟ or the Digi-adjustor until "9 Trainer 120 deg" appears. |
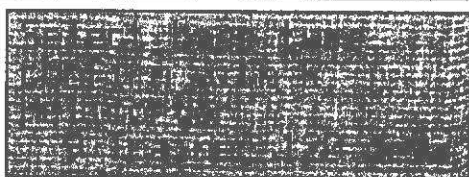


The figure 9 in the last line is the running number of the "Trainer 120 deg" base type.

| | |
|--------|--------|
| ▣ | Confirm with the ▣ button |
| ▨ ▨ | Back to the operating screen |

At this point you should set the transmitter's modulation to the receiver which you will be using.

If your receiver is an Rx 12 DS you don't need to make any changes. You can move straight on to point 4.3.

| Button | Effect |
|---|---|
| ◩ | Enter the menu cycle |
| ⊞ ⊞ ⊞ | On to "menu 4" |
| ◩ | On to "Select transmission mode" |

| Button | Effect |
|---|---|
| ◩ | Open modulation field (flashes) |
| | Select PPM 7, PPM 9, PPM 12 or PCM/A with ⊞/⊟ or the Digi-adjustor |
| ◪ | Open the neutral point field (flashes) |
| ⊞/⊟ | Select MPX (=MULTIPLEX) = 1,6 ms or OTHER = 1,5 ms |
| ⊞ ⊞ | Back to the operating screen |

## 4.3 Checking the control assignments

In the "Trainer 120 deg" base type the transmitter controls are assigned as follows:

| Control ... | operates ... | Note |
|---|---|---|
| A | YAW | |
| B | PITCH-AXIS | |
| C | ROLL | |
| D | COLLECTIVE PITCH | No trim! Collective pitch max. FORWARD |
| E | MIXTURE | L.H. slider |
| F | IDLE UP | R.H. slider |
| G | REGULATOR | Switch |

If this arrangement suits your preferred flying mode, you can move on directly to point 4.6 "Connecting servos".

## 4.4 Changing the control assignments

> **Note: the controls will be interchanged!**

For example, if you assign ROLL to transmitter control A, YAW will automatically be switched to control C. This prevents the danger of assigning two different transmitter controls to one function.

| Button | Effect |
|---|---|
| ◩ | Enter the menu cycle |
| ⊞ | On to "Menu 2 assign" |
| ◩ | On to the "Assign controls" menu |
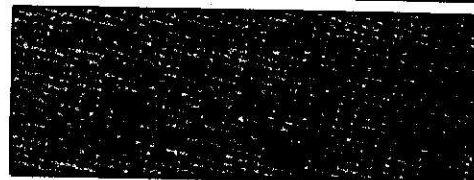
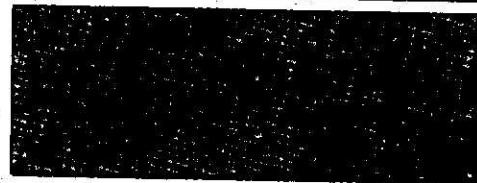Repeat the next two steps until the control arrangement meets your requirements.

| Button | Effect |
|---|---|
| ◩ | Open the CONTROL field |
| | Select the control with ⊞/⊟ or the Digi-adjustor |
| ◪ | Open the OPERATES field |
| | Select the function with ⊞/⊟ or the Digi-adjustor |

And when you are finished:

| | |
|---|---|
| ⊞ ⊞ | Back to the operating screen |

## 4.5 Changing the COLLECTIVE direction

| Button | Effect |
|---|---|
| ◩ ◩ ◩ | "Hot key" to the "Adjust controls" menu |
| | Select the COLLECTIVE PITCH control with ⊞/⊟ or the Digi-adjustor |
| ◪ | Open the "Options" field |
| | Lead through with ⊞/⊟ or the Digi-adjustor until "PITCH-MAX" appears |

| Button | Effect |
|---|---|
| ◩ | Open select field |
| | Select FRONT or REAR with ⊞/⊟ |
| ⊞ ⊞ | Back to the operating screen |

## 4.6 Connecting servos

> **The servos must be connected as stated in the table below. This arrangement cannot be altered!**

For the "Trainer 120 deg" base type you must connect the servos in your model as follows:

| Servo No. | Is ... | Note |
|---|---|---|
| 1 | DYN. THR. | |
| 2 | HEAD MIX | *front right* |
| 3 | HEAD MIX | *rear* |
| 4 | TAIL MIX | |
| 5 | SPEED REG | *Nominal value for speed regulator* |
| 6 | HEAD MIX | *front left* |
| 7 | GYRO | *Channel for gyro sensitivity* |
| 8 | RETRACT | *\* Reserve, no control* |
| 9 | MIXTURE | *L.H. slider* |
| 10 | AUX-1 | *\** |
| 11 | AUX-2 | *\** |
| 12 | AUX-3 | *\** |

For helicopters all 12 possible servos are always assigned. The reason for this is that you cannot alter the servo assignment for the helicopter base types.

## 4.7 Checking (matching) mixer inputs

In the "Travel and switches" menu you can do the following:

- set mixer input values,
- reverse mixer inputs, and
- assign switches to the mixer inputs.

This is the procedure:

| Button | Effect |
|---|---|
| ◪ ◪ ◪ | "Hot key" to "Travel + switches" menu ("TRAV+SW") |



You have to repeat the following steps for all servos:

| | |
|---|---|
| ◪ | Open servo select field<br><br>Select servo with ⊞/⊟ or the Digi-adjustor |
| ◪ | Open INPUT field<br><br>Select input with ⊞/⊟ or the Digi-adjustor |
| (◪) | Open adjust field<br><br>Move associated transmitter control<br><br>**Reverse** mixer input with Ⓝ<br><br>**Adjust** mixer input with ⊞/⊟ or the Digi-adjustor |
| (◪) | Open Switch field<br><br>Select OFF/ON or a switch |

The brackets round the buttons indicate that you only have to make changes here if it is necessary.

Once everything is as you want it:

| | |
|---|---|
| ▣ ▣ ▣ | Back to the operating screen |