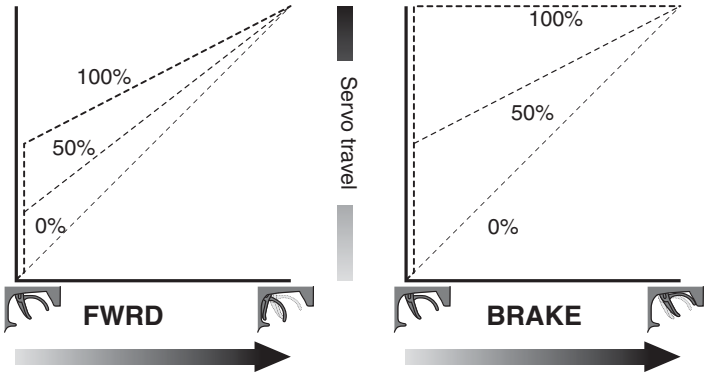
Acceleration (Throttle Acceleration) (Throttle system)

The servo will jump to the input position at its maximum possible speed. Unlike exponential, which adjusts the whole throttle movement into a curve, throttle acceleration simply "jumps" away from neutral and then leaves the remaining response linear.

Operation

- Operation near the throttle trigger neutral position becomes a sharp rise.
- The forward and brake sides can be set separately.
- When the brake mixing function (p.80) is set, the CH3/CH4 brake can also be set.

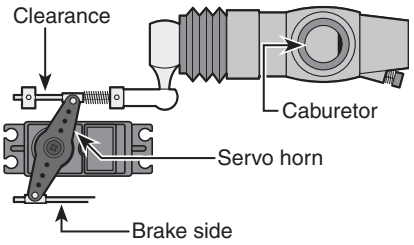


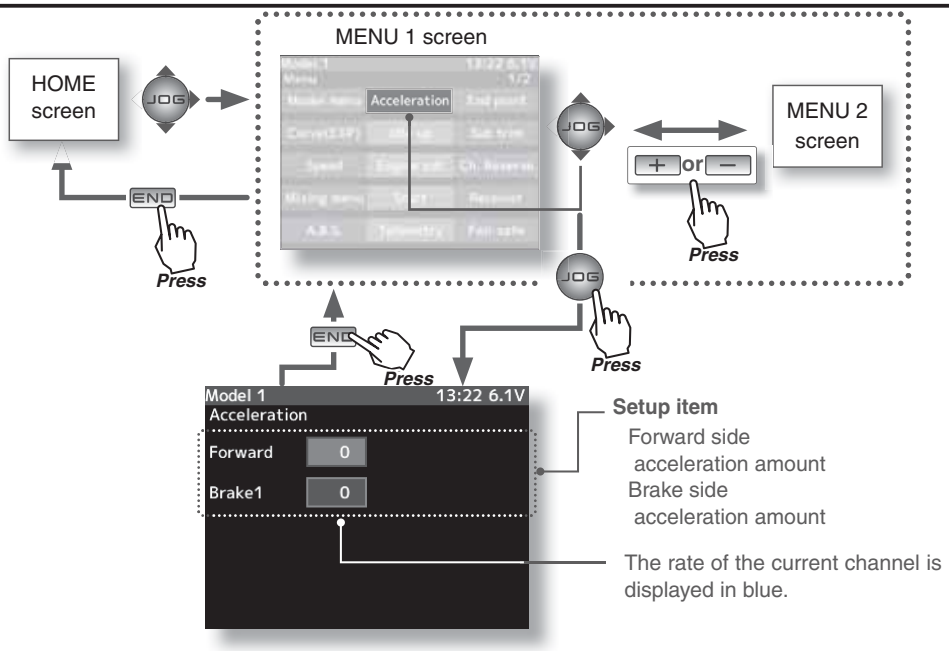
Set value

The standard value (100% point) of this setup affects the operation amount set by throttle end point function.

Convenient usage method

For gasoline engine cars, the linkage must have a clearance because one servo controls the engine carburetor and brake. Thus, there is a noticeable time delay at both the forward and brake sides. Sharp response comparable to that of electric motor cars is obtained by reducing this clearance at the transmitter side.





Throttle acceleration adjustment

(Preparation)

- Select the setting item "Forward" by (JOG) button up or down operation and make the following adjustments:

1 (Forward acceleration amount adjustment)

Use the (+) and (-) buttons to adjust the acceleration amount.

"0" :No acceleration
"100" :Maximum acceleration (Approximately 1/2 of the forward side throttle angle)

2 (Brake side acceleration amount adjustment)

Select the setting item "Brake1" by (JOG) button up or down operation and use the (+) and (-) buttons to adjust the acceleration amount.

"0" :No acceleration
"100" :Maximum acceleration (Brake side maximum throttle angle)

3 (3rd & 4th channel brake side acceleration amount adjustment)

If the "Brake Mixing Function" (p.80) is being set, the 3rd or 4th channel brake side acceleration will become adjustable.

Select the setting item "Brake 2" or "Brake3" by (JOG) button up or down operation and adjust acceleration amount by (+) or (-) button.

"0" :No acceleration
"100" :Maximum acceleration (Brake side maximum throttle angle)

Adjustment buttons

Adjust with the (+) and (-) buttons.

- Return to the initial value "0" by pressing the (+) and (-) buttons simultaneously for about 1 second.

Forward acceleration amount (Forward)

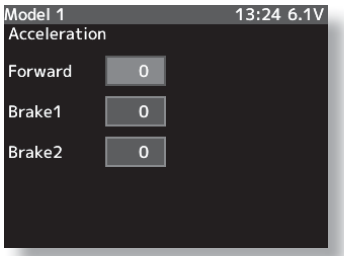
0~100
Initial value: 0

Brake side acceleration amount (Brake1)

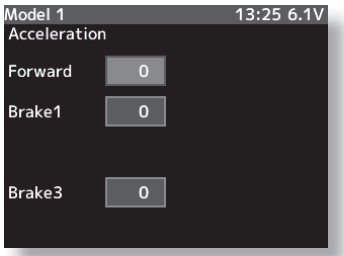
0~100
Initial value: 0

3rd/4th channel brake side acceleration amount (Brake2),(Brake3)

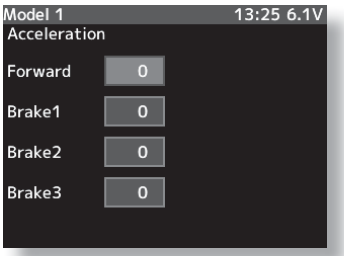
0~100
Initial value: 0



Brake2



Brake3



Brake2 & 3

4 When ending setting, return to the menu screen by pressing the (END) button.

Caution

When Trigger Ratio (p.66) was set to 100:0, brake operation is stopped and the throttle (brake side) cannot be adjusted.

Dial / Trim Setting

The throttle acceleration adjustment amount (Forward), (Brake1), 3rd channel and 4th channel (Brake2, Brake3) can be controlled with digital trim DT1-DT6 or digital dial DL1 etc. with the function select dial function. (p.101)

Fail Safe/Battery Fail Safe Function (All channel)

This function sets the servo operation position when transmitter signals cannot be received by the receiver for some reason or the battery voltage has dropped.

-Fail safe mode

This function moves each servo to a preset position when the receiver cannot receive the signals from the transmitter for some reason.

*The fail safe data is transferred from the transmitter to the receiver 10 seconds after the transmitter power was turned on.

The data is transferred every 10 seconds after that. Be careful because normally the transmitter power is turned on first and the receiver power is turned on next and there is no data transfer for about 10 seconds after the receiver power is turned on.

*For gasoline engine cars, for safety we recommend that this fail safe function be used to set the throttle channel in the direction in which the brakes are applied.

-Hold mode

This function holds the receiver in its position immediately before reception was lost.

-Off mode (OFF)

This function stops output of signals to the servos and places the servos into the free state when the receiver cannot receive.

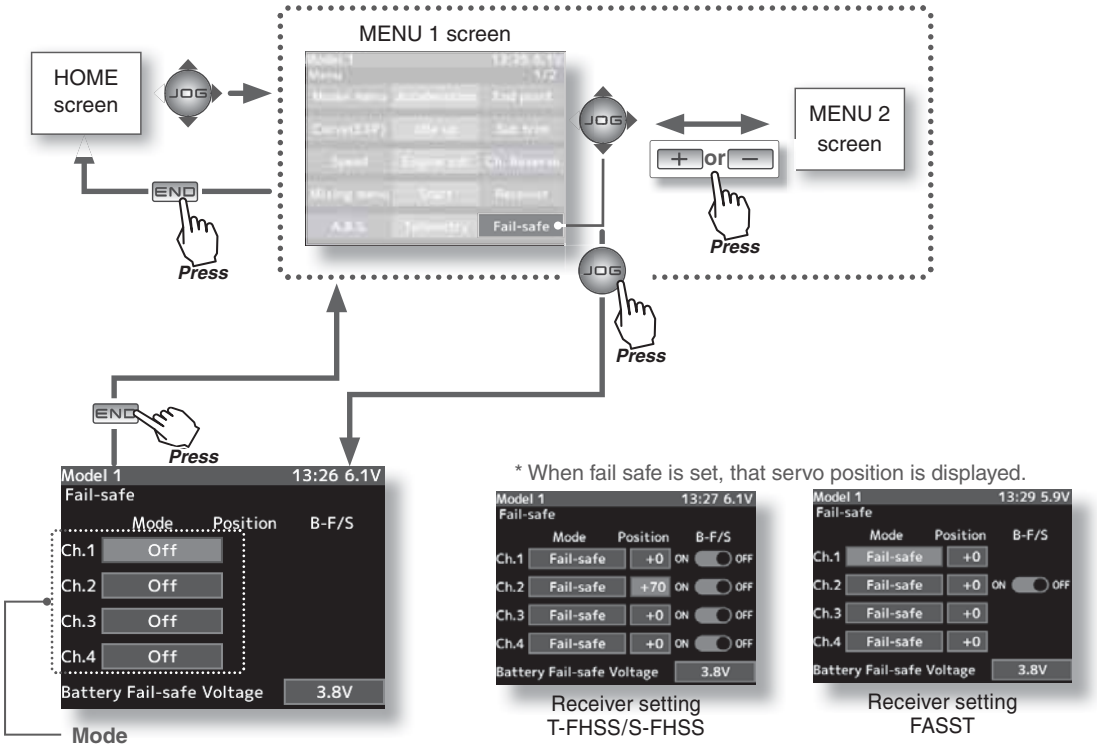
The F/S, HOLD, and OFF modes are automatically reset when signals from the transmitter can be received again

-Battery fail safe function (B-F/S)

If the receiver battery voltage drops below a certain value when this function is enabled, the throttle servo moves to the position set by fail safe function. When the battery voltage ecovers, the battery fail safe function is automatically reset.

*This function cannot be used when the channel is not set to fail safe.

*When the receiver setting (P36) is "FASST", only CH2 (throttle) can use this function.



4PX-Eng-08-Function-46-65.indd 54 2014/07/18 17:14:52

Fail safe mode selection

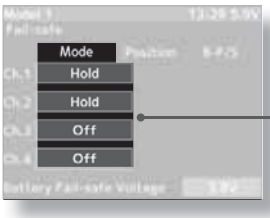
(Preparation)

- Select the channel to be set by (JOG) button operation.

1 (Mode selection)

Select the mode by (+) or (-) button.

(Each channel can be individually set.)



Setup item selection
- Select by (JOG) button up or down operation.

Fail safe mode selection
- Select with the (+) or (-) buttons.

Fail safe mode
Off, Hold, Fail-safe

2 When ending hold or off mode setting, return to the HOME screen by pressing the (END) button. When setting fail safe, set the servo position by the following method.

Fail safe function setup

1 (Servo position setup)

When the fail safe function operates, select the channel's "Position" to be set by (JOG) button operation.

The steering wheel, the throttle trigger or 3rd, 4th channels dial remains in the desired operation position. When the (JOG) button are pressed simultaneously for about 1 second, the servo position is displayed and you can confirm that the function was set.

(Each channel can be set similarly.)

2 When ending setting, return to the HOME screen by pressing the (END) button.

Fail safe position setup button
- The (JOG) button are pressed simultaneously for about 1 second.

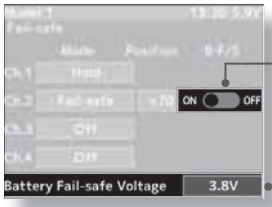
Battery fail safe function ON/OFF & BATT-F/S voltage setting

1 (Battery fail safe function ON/OFF)

Select "OFF" or "ON" of "B-F/S" by (JOG) button operation. Set B-F/S function ON/OFF by (+) or (-) button.

2 (Battery fail safe voltage setting)

Select battery fail safe **V at the bottom of the screen by (JOG) button operation. Set the voltage that turns on the B-F/S function by (+) or (-) button.



(Since R604 Series receivers are not for high voltage use, the use of LiFe and Li-Po batteries is prohibited. Therefore, the 4.8v and 5.6v settings are prohibited.)

3 When ending setting, return to the menu screen by pressing the (END) button.

Battery fail safe function
OFF, ON
Initial value: OFF

BATT-F/S Voltage
T-FHSS
3.5,3.8,4.0,4.2,4.4,4.6,4.8,5.0,
5.3,5.6,5.9,6.2,6.5,6.8,7.1,7.4V
FASST
3.5,3.8,4.4,4.75
5.5V(Only R614)
S-FHSS
Only 3.8V

Example:
Ni-MH /Ni-Cd 4cell---3.8V
Ni-MH /Ni-Cd 6cell---4.4V
LiFe 2cell---4.8V
Li-Po 2cell---5.6V

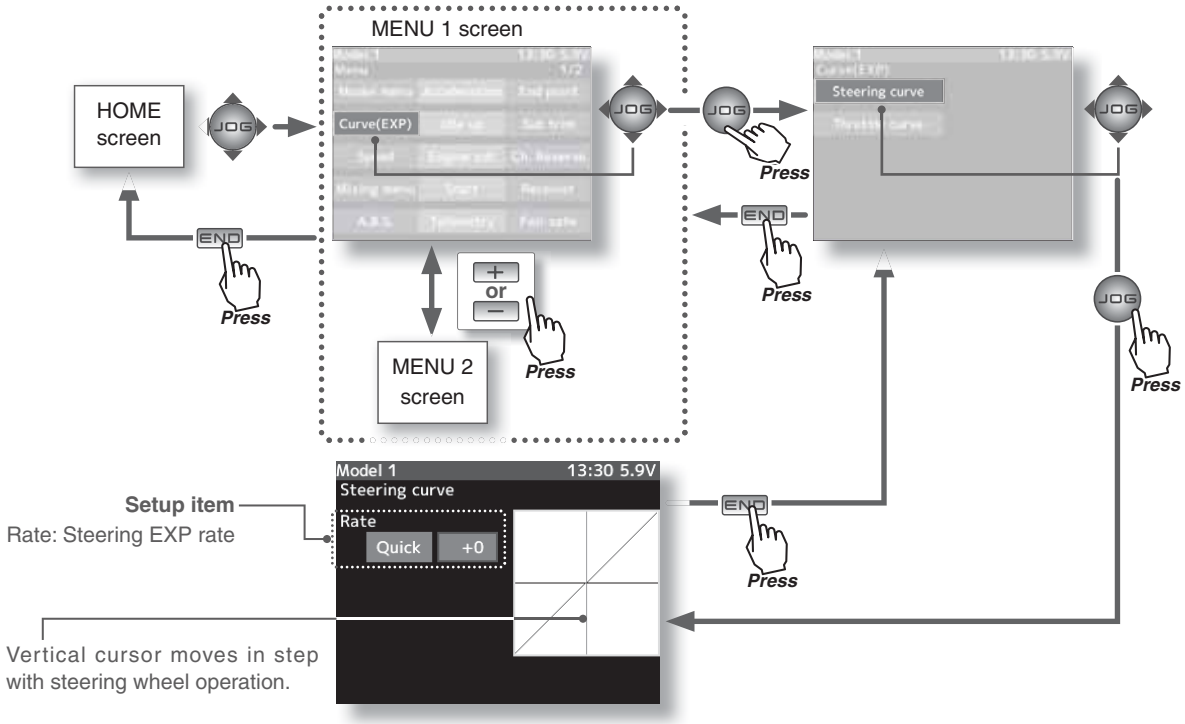
When the receiver power supply of an electric car uses a common power supply from an ESC, we recommend that this function be set to OFF because the voltage supplied to the receiver may drop momentarily and the battery fail safe function may be activated.

Steering curve (EXP) (Steering system)

This function is used to change the sensitivity of the steering servo around the neutral position. It has no effect on the maximum servo travel.

Racers Tip

> When the setting is not determined, or the characteristics of the model are unknown, start with 0%. (When EXP is set to 0%, servo movement is linear.)



Dial / Trim Setting

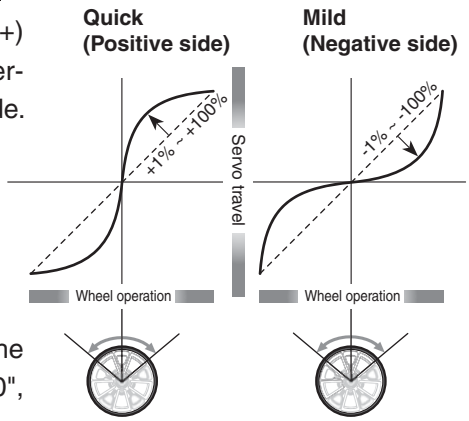
> The steering EXP adjustment can be controlled with digital trim DT1~DT6 or digital dial DL1 etc. with the function select dial function. (p.101)

Steering EXP adjustment

1 When you want to quicken steering operation, use the (+) button to adjust the + side. When you want to make steering operation milder, use the (-) button to adjust the - side.

Adjustment buttons
Adjust with the (+) and (-) buttons.
- Return to the initial value "0" by pressing the (+) and (-) buttons simultaneously for about 1 second.

Adjustment range
-100~0~+100%



When the setting item "Quick or mild" is selected and the (JOG) button is pressed when the rate is other than "0", quick/mild are reversed.

2 When ending setting, return to the curve screen by pressing the (END) button.

4PX-Eng-08-Function-46-65.indd 56 2014/07/18 17:14:53

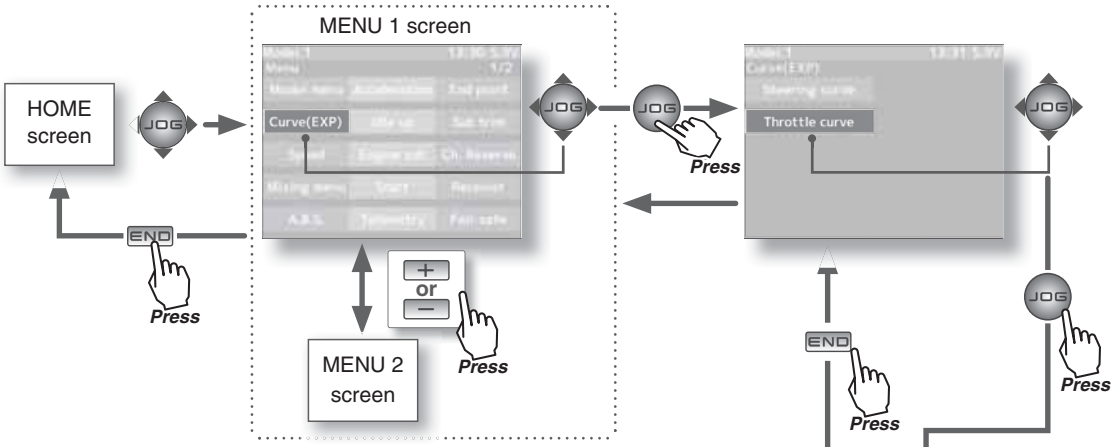
Throttle curve (Throttle system)

This function makes the throttle high side and brake side direction servo operation quicker or milder. It has no effect on the servo maximum operation amount.

For the high side, selection from among three kinds of curves (EXP/VTR/Curve) is also possible.

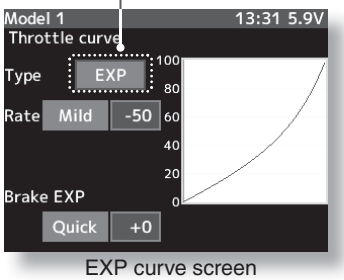
Advice

When the course conditions are good and the surface has good grip, set each curve to the + side (quick side). When the road surface is slippery and the drive wheels do not grip it, set each curve to the - minus (mild) side.



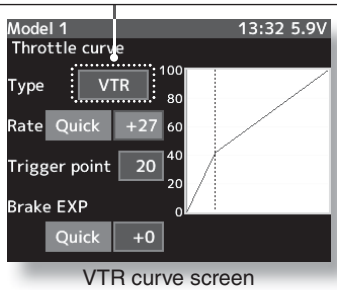
Curve selection

First, select the type of forward side curve at the "Type" item. The setup item (screen) varies with the type of curve. The figure at the above is the EXP curve setup screen.



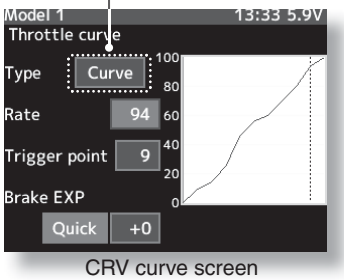
EXP curve screen

Curve type which operates the throttle from the neutral point to the high point on a curved curve.



VTR curve screen

Curve type which sets the switching point between the throttle neutral point and high point and operates the throttle on a linear curve.



CRV curve screen

Curve type which sets 9 points between the throttle neutral point and high point and operates the throttle.

Caution

When Trigger Ratio (p.66) was set to 100:0, brake operation is stopped and the throttle (brake side) cannot be adjusted.

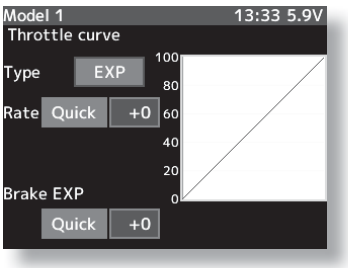
Dial / Trim Setting

The throttle EXP curve and VTR curve adjustment (Foward side RATE) and(Brake side RATE) can be controlled with digital trim DT1~DT6 or digital dial DL1 etc. with the function select dial function. (p.101)

Adjustment method for EXP curve

(Preparation)

- Select the "Type" to be set by (JOG) button operation.
  With the plus (+) or minus (-) buttons, select "EXP".

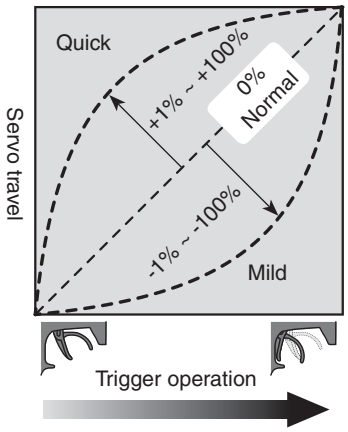


Setup items
Type :Forward side curve selection
Rate :Forward side rate
Brake-EXP :Brake side rate
Setup item selection
- Select by (JOG) button up or down operation.
Curve type Select button
- Select with the (+) or (-) buttons.

1 Forward Exponential Adjustment

Select the "Rate" to be set by (JOG) button operation.

Use the plus (+) button to adjust for a faster throttle response or use the minus (-) button for a slower or milder throttle response.



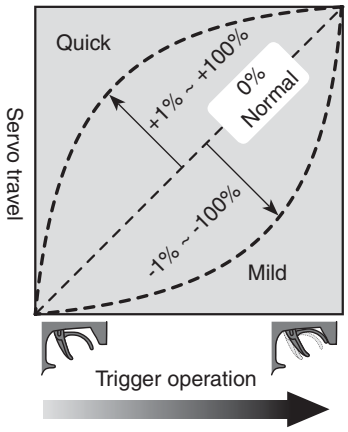
Adjustment range
Rate: -100 ~ 0 ~ +100%

Adjustment buttons
Adjust with the (+) and (-) buttons.
- Return to the initial value "0" by pressing the (+) and (-) buttons simultaneously for about 1 second.

2 Brake Exponential Adjustment

Select the "Brake EXP" to be set by (JOG) button operation.

Use the plus (+) button to adjust for a faster brake response or use the minus (-) button for a slower or milder brake response.



Adjustment range
Brake-EXP: -100 ~ 0 ~ +100%

Adjustment buttons
Adjust with the (+) and (-) buttons.
- Return to the initial value "0" by pressing the (+) and (-) buttons simultaneously for about 1 second.

Quick/mild is reversed by (JOG) button, the same as the forward side.

3 When ending setting, return to the curve screen by pressing the (END) button.

4PX-Eng-08-Function-46-65.indd 58 2014/07/18 17:14:54

Adjustment method for VTR curve

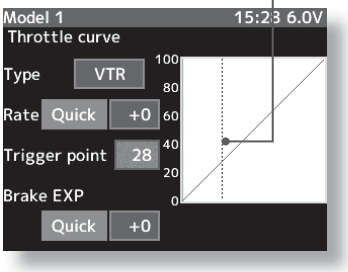
(Preparation)

- Select the "Type" to be set by (JOG) button operation.

With the plus (+) or minus (-) buttons, select "VTR"

Setup items
Typ :Forward side curve selection
Rate :Forward side rate
Trigger point :Curve switching point
Brake-EXP :Brake side rate
Setup item selection
- Select by (JOG) button up or down operation.
Curve type Select button
- Select with the (+) or (-) buttons.

Switching point
A vertical cursor line that shows the curve switching point is displayed on the setup screen graph.



1 Forward side adjustment

Select the "Rate" to be set by (JOG) button operation. Use the plus (+) button to adjust for a faster response. Use the minus (-) button for a slower or mild response. -Plus (+) button- the higher the number goes on the positive side, the faster the response will be at center of throttle response. -Minus (-) button- the higher the number goes on the negative side, the milder or softer it is in the center of the throttle response.

2 Curve switching point adjustment

Select the "Trigger point" to be set by (JOG) button operation. Use the plus (+) or minus (-) buttons to move the point you prefer. This gives you the opportunity of switching the curve point in relation to the throttle trigger position.

3 Brake side adjustment

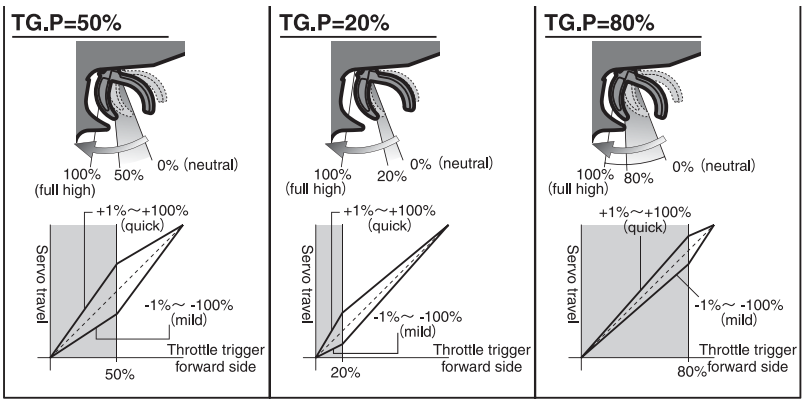
Select the "Brake EXP" to be set by (JOG) button operation. Use the plus (+) button to adjust for a faster brake response or use the minus (-) button for a slower or milder brake response. When the setting item "Quick or mild" is selected and the (JOG) button is pressed when the rate is other than "0", quick/mild are reversed.

Adjustment range
Rate :-100 ~ 0 ~ +100%
Trigger point :20 ~ 80%
Brake-EXP:-100 ~ 0 ~ +100%

Adjustment buttons
Adjust with the (+) and (-) buttons.
- Return to the initial value by pressing the (+) and (-) buttons simultaneously (approx. 1 sec).

Initial value:
Rate and Brake-EXP "0"
Trigger point "50"

4 When ending setting, return to the curve screen by pressing the (END) button.



For the VTR curve, only the high side can be set. The brake becomes the EXP curve.

Throttle curve

Function

4PX-Eng-08-Function-46-65.indd 59 2014/07/18 17:14:55

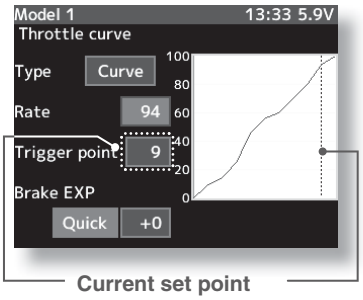
Adjustment method for VTR curve

(Preparation)

- Select the "Type" to be set by (JOG) button operation.

With the plus (+) or minus (-) buttons, select "Curve".

Setup items
Type :Forward side curve selection
Rate :Forward side rate
Trigger point :Curve points 1~9
Brake-EXP :Brake side rate
Setup item selection
- Select by (JOG) button up or down operation.
Curve type Select button
- Select with the (+) or (-) buttons.



Current set point
The current set point and the trigger point are displayed by a vertical cursor on the graph.

1 Curve setup

- Select the setting item "1:" (1st point), by (JOG) button up, down, left, or right operation, and use the (+) and (-) buttons to set the 1st point. Set the throttle curve by sequentially setting "2:" (2nd point) ~ "5:" (5th point).

Adjustment range
1: ~ 9 : 0 ~ 100%
Trigger point :1~9
Breke-EXP -100 ~ 0 ~ +100%

2 Brake side adjustment

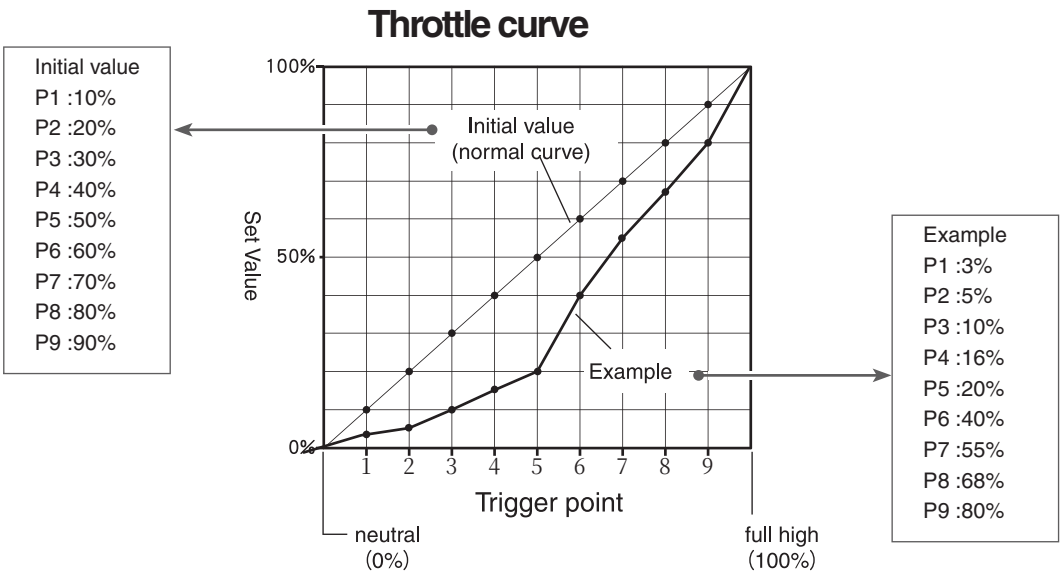
Select the setting item "Brake EXP" by (JOG) button up or down operation. When you want to quicken the rise, use the (+) button to adjust the + side and when you want to make the rise milder, use the (-) button to adjust the - side. When the setting item "Quick or mild" is selected and the (JOG) button is pressed when the rate is other than "0", quick/mild are reversed.

For the CRV curve, only the forward side can be set. The brake becomes the EXP curve.

Adjustment buttons
Adjust with the (+) and (-) buttons.
- Return to the initial value by pressing the (+) and (-) buttons simultaneously (approx. 1 sec).

Initial value:
Point.1:10, 2:20, 3:30, 4:40, 5:50, 6:60, 7:70, 8:80, 9:90
Brake-EXP "0"

3 When ending setting, return to the curve screen by pressing the (END) button.



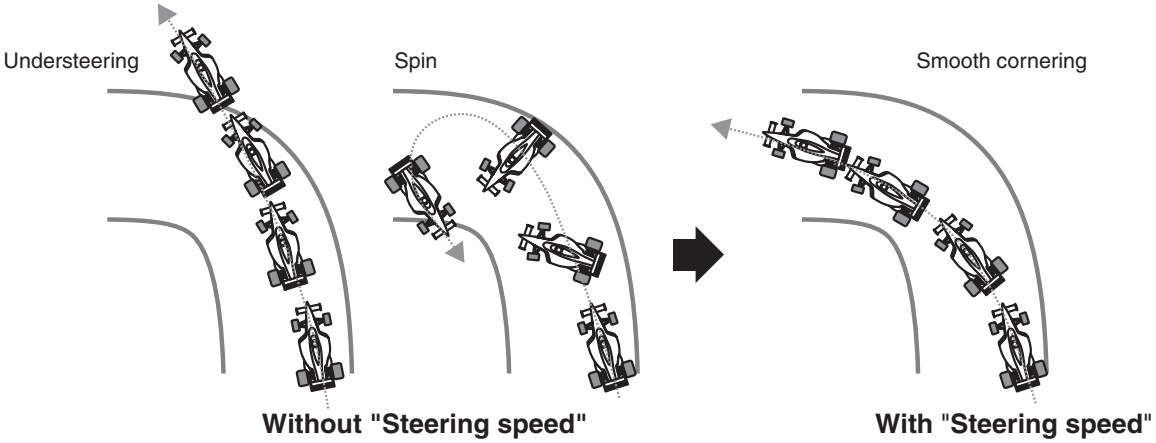
Throttle curve

Function

4PX-Eng-08-Function-46-65.indd 60 2014/07/18 17:14:56

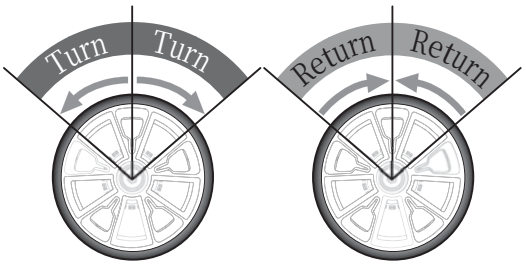
Steering Speed (Steering system)

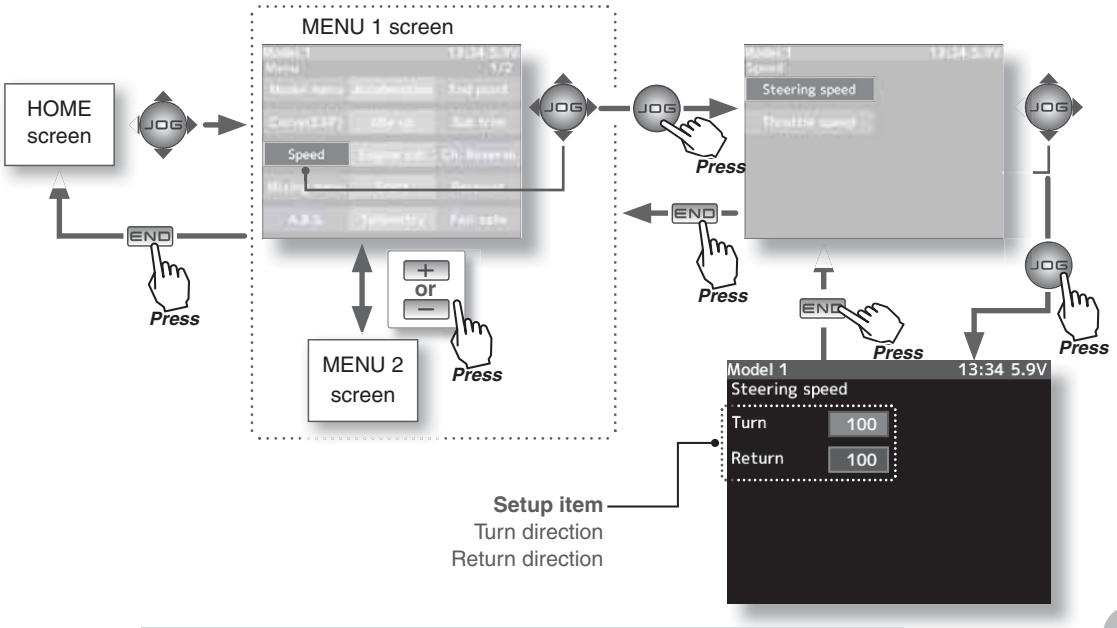
Quick steering operation will cause momentary understeering, loss of speed, or spinning. This function is effective in such cases.



Operation

- This function limits the maximum speed of the steering servo. (Delay function)
- The steering speed when the steering wheel is operated (Turn direction) and returned (Return direction) can be independently set.
- If the steering wheel is turned slower than the set speed, the steering servo is not affected.





Steering Speed

Function

4PX-Eng-08-Function-46-65.indd 61 2014/07/18 17:14:57

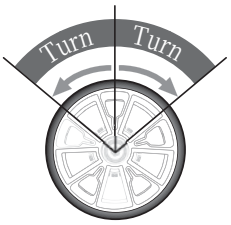
Steering Speed adjustment

(Preparation)

- Select the setting item "Turn" by (JOG) button up or down operation, and make the following adjustments:

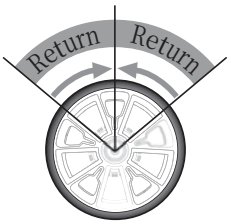
1 "Turn" direction adjustment

Use the (+) or (-) buttons to adjust the delay amount.



2 "Return" direction adjustment

Select the setting item "Return" by (JOG) button up or down operation, and use the (+) or (-) buttons to adjust the delay amount.



Setup item selection

- Select by (JOG) button up or down operation.

Adjustment range

1~100% (each direction)
At 100%, there is no delay.

1% 100%

Servo operation is delayed.

Adjustment buttons

- Adjust with the (+) and (-) buttons.
- Return to the initial value "0" by pressing the (+) and (-) buttons simultaneously for about 1 second.

3 When ending setting, return to the speed screen by pressing the (END) button.

Dial / Trim Setting

The steering speed adjustment "Turn" and "Return" can be controlled with digital trim DT1-DT6 or digital dial DL1 etc. with the function select dial function. (p.101)

4PX-Eng-08-Function-46-65.indd 62 2014/07/18 17:14:57

Throttle Speed (Throttle system)

Sudden throttle trigger operation on a slippery road only causes the wheels to spin and the vehicle cannot accelerate smoothly. Setting the throttle speed function reduces wasteful battery consumption while at the same time permitting smooth, enjoyable operation.

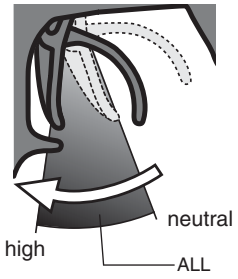
Without "Throttle speed":
Slow start due to skidding

With "Throttle speed":
Quick start without skidding

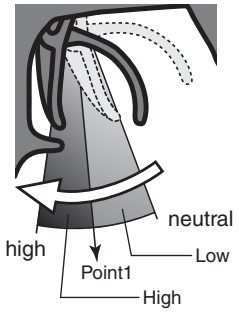
Operation

-Throttle servo (ESC) operation is delayed so that the drive wheels will not spin even if the trottle trigger is operated more than necessary. This delay function is not performed when the throttle trigger is returned and at brake operation.

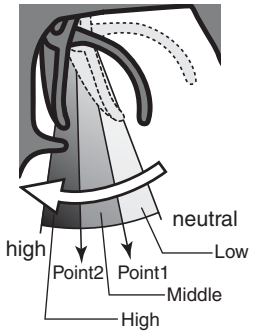
-1 speed, 2 speed, or 3 speed can be selected.



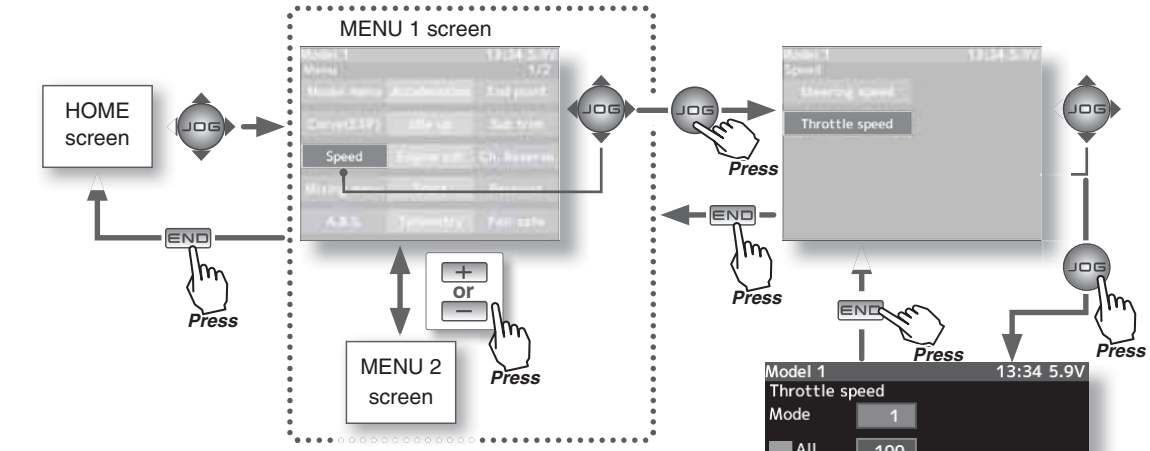
1 SPEED
A delay is set over the entire throttle range.

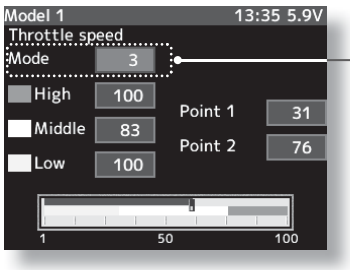


2 SPEED
A delay can be set in 2 ranges with Point1 as the boundary.



3 SPEED
A delay can be set in 3 ranges with Point1 and Point2 as the boundaries.





Mode selection

One speed, 2 speed, or 3 speed can be selected at the "Mode" item. The setting item (screen) depends on the mode. The figure at the above is the 3 speed setup screen.

4PX-Eng-08-Function-46-65.indd 63 2014/07/18 17:14:58

Adjustment method for 1 Speed

(Preparation)

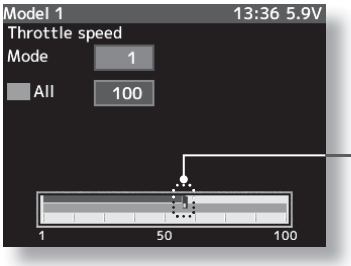
- Select the setting item "Mode" by (JOG) button up or down operation. Press the (+) or (-) button and select "1".

Setting item

Mode :Speed type selection
All :Speed adjustment

Setup item selection

- Select by (JOG) button up or down operation.



Throttle trigger position

Speed type Select button

- Select with the (+) or (-) buttons.

1 ("ALL" delay adjustment)

Select "All" by (JOG) button up or down operation.

Use the (+) or (-) button to adjust the delay of the entire throttle forward side range.

2 When ending setting, return to the speed screen by pressing the (END) button.

Adjustment range

1~100% (each direction)
At 100%, there is no delay.

Adjustment buttons

- Adjust with the (+) and (-) buttons.
- Return to the initial value "100" by pressing the (+) and (-) buttons simultaneously for about 1 second.

Adjustment method for 2 Speed

(Preparation)

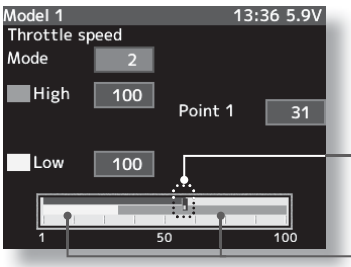
- Select the setting item "Mode" by (JOG) button up or down operation. Press the (+) or (-) button and select "2".

Setting item

Mode :Speed type selection
High :High side range speed adjustment
Low :Low side range speed adjustment
Point1 :Low and medium speed switching point

Setup item selection

- Select by (JOG) button up or down operation.



Throttle trigger position

The Low and High ranges are linked to the Point1 set point and displayed.

Speed type Select button

- Select with the (+) or (-) buttons.

1 ("Low" and "High" delay adjustment)

Select "Low" or High" by (JOG) button up or down operation.

Use the (+) or (-) button to adjust the delay of the entire throttle forward side range.

2 (Speed switching point adjustment)

When you want to change the "Low" and "High" switching point, select the setting "Point1" by (JOG) button up or down operation.

3 When ending setting, return to the speed screen by pressing the (END) button.

Adjustment range

High :1~100
Low :1~100
At 100%, there is no delay.
Point1 :1~100

Adjustment buttons

- Adjust with the (+) and (-) buttons.
- Return to the initial value by pressing the (+) and (-) buttons simultaneously (approx. 1 sec).
  Initial value
  Low, High :"100"
  Point1 :30

4PX-Eng-08-Function-46-65.indd 64 2014/07/18 17:14:58

Adjustment method for 3 Speed

(Preparation)

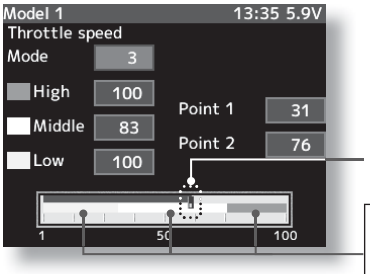
- Select the setting item "Mode" by (JOG) button up or down operation. Press the (+) or (-) button and select "3".

Setting item

Mode :Speed type selection
High :High side range speed adjustment
Middle :Medium speed range speed adjustment
Low :Low side range speed adjustment
Point1 :Low and medium speed switching point

Setup item selection

- Select by (JOG) button up or down operation.



Speed type Select button

- Select with the (+) or (-) buttons.

Throttle trigger position

The Low and High ranges are linked with the Point1,2 set points and displayed.

1 ("Low", "Middle", and "High" delay adjustment)
Select the setting item "Low", "Middle", or "High" by (JOG) button up or down operation.

2 (Speed switching point adjustment)
When you want to change the "Low", "Middle", and "High" switching point, select setting item "Point1" or "Point2" by (JOG) button up or down operation.

Adjustment range

High :1~100
Middle :1~100
Low :1~100
At 100%, there is no delay.
Point1 :1~100
Point2 :1~100

Adjustment buttons

- Adjust with the (+) and (-) buttons.
- Return to the initial value by pressing the (+) and (-) buttons simultaneously (approx. 1 sec).
  Initial value
  Low, Middle, High:"100"
  Point1 :30
  Point2 :60

3 When ending setting, return to the speed screen by pressing the (END) button.

4PX-Eng-08-Function-46-65.indd 65 2014/07/18 17:14:59

Trigger (Throttle system)

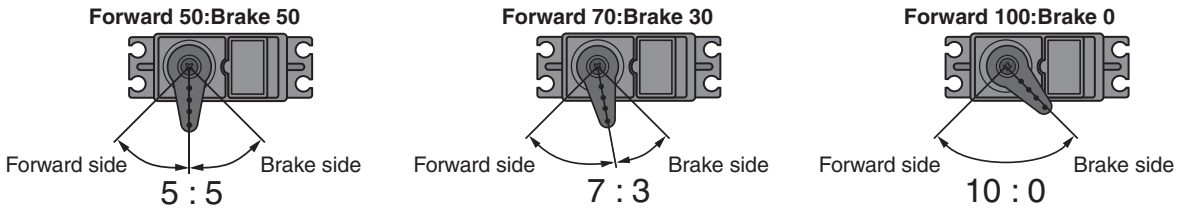
-The neutral brake function is a function switch function (p.99), and setting the neutral brake function ON/OFF switch is necessary.

Neutral brake, which applies the brakes at the throttle trigger neutral position, can be set. However, for Futaba speed controller (ESC) MC960CR, MC950CR, MC851C, MC602C, MC402CR, etc, considering safety, when the neutral position is not confirmed, the set will not enter the operation mode to prevent the motor from rotating instantly when the power is turned on. When using the MC960CR, MC950CR, MC851C, MC602C, MC402CR, etc., check that the ESC is in the neutral position and set the neutral brake function switch to ON after the set enters the operation mode.

Operation display

The N·B display appears on the home screen.

-This function allows selection of the forward side and brake (reverse) side operation ratio from 70:30, 50:50 or 100:0 by changing the neutral position of the throttle servo.

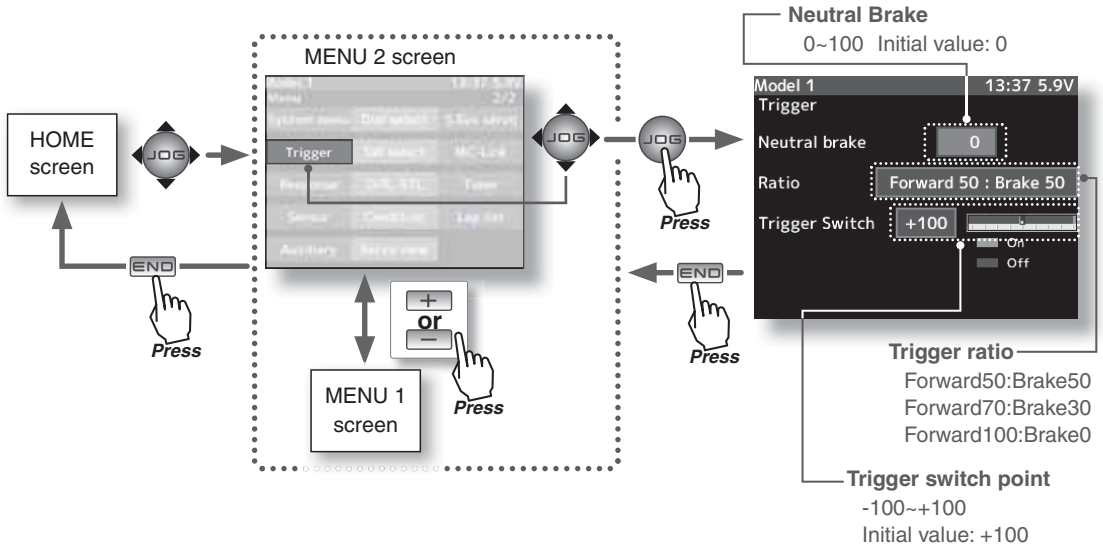


When trigger ratio was set to 100:0

When the trigger ratio was set to 100:0, brake operation stops and the neutral brake cannot be used.

-The trigger switch function operates the trigger as a switch.

The trigger point can be selected and mixing, engine cut, and other functions can be turned on and off.



4PX-Eng-08-Function-66-103.indd 66 2014/07/18 17:20:28

Neutral Brake function adjustment

(Preparation)

- Use the function select switch function to select the switch. (p.99)

1 (Neutral brake rate)

Select the setting item "Neutral brake" by (JOG) button up or down operation. Use the (+) and (-) buttons to set the neutral brake rate.

Adjust button

- Adjust with the (+) and (-) buttons.
- Return to the initial value "100" by pressing the (+) and (-) buttons simultaneously for about 1 second.

Neutral Brake

0~100

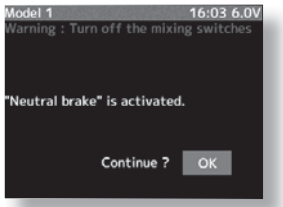
Initial value: 0

Neutral brake
On

Neutral brake
Off

Neutral brake ON/OFF is displayed by pop-up window in the home screen.

2 When ending setting, return to the menu screen by pressing the (END) button.



Warning display

If the power switch is turned on while the neutral brake switch is on, an audible alarm will be heard. Immediately set the neutral brake switch to OFF.

Reference

The ESC neutral brake function and T4PX neutral brake function can be used simultaneously. However, when setting is difficult to understand, we recommend that only one neutral brake function be used.

Dial / Trim Setting

When the neutral brake function is "ON", the neutral brake rate adjustment is automatically assigned to the throttle trim (DT1~DT6 or DL1).

Effect of set value of other functions on neutral brake

Throttle side EPA function, or ATL function setting also affects neutral brake side operation.

The Idle-up (p.69) or Engine Cut (p.71) function has priority.

4PX-Eng-08-Function-66-103.indd 67 2014/07/18 17:20:28

Selecting the trigger ratio

1 (Throttle mode selection)

Select the setting item "Ratio" by (JOG) button up or down operation.

Select "Forward 50:Brake 50", "Forward 70:Brake 30" or "Forward 100:Brake 0" by (+) or (-) button.

Setting buttons

- Use the (+) and (-) buttons to make adjustments.

Forward50:Brake50
Forward70:Brake30
Forward100:Brake0

2 When ending setting, return to the menu screen by pressing the (END) button.

Trigger switch setting method

(Preparation)

-This function is the switch select function (p.99) and sets the functions used at switch TS.

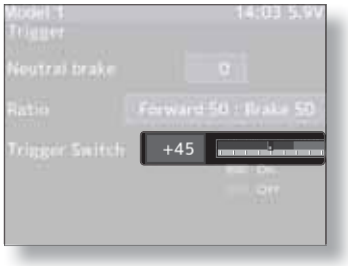
-The standard is trigger high direction ON. When set to ON by brake direction, the direction is set to reverse at the switch setup screen.

1 (Trigger switch ON/OFF point setting)

Select the setting item trigger switch by (JOG) button up or down operation.

Set the ON/OFF switching point by (+) and (-) button.

The ON/OFF switching point can also be set by holding the trigger in the position to be set as the ON/OFF switching point and pressing the (JOG) button. Fine adjustment is possible by (+) and (-) button.



Adjustment buttons

- Use the (+) and (-) buttons to make adjustments.

Trigger switch point

-100~+100
Initial value: +100

The red part of the bar graph is the ON direction.

2 When ending setting, return to the menu screen by pressing the (END) button.

Function

4PX-Eng-08-Function-66-103.indd 68 2014/07/18 17:20:28

Idle-Up "IDLUP" (Throttle system)

This is a function select switch function. The idle-up function switch must be set. (p.99)

It is used to improve engine starting performance by raising the idling speed when the engine of a gasoline car (boat) is started.

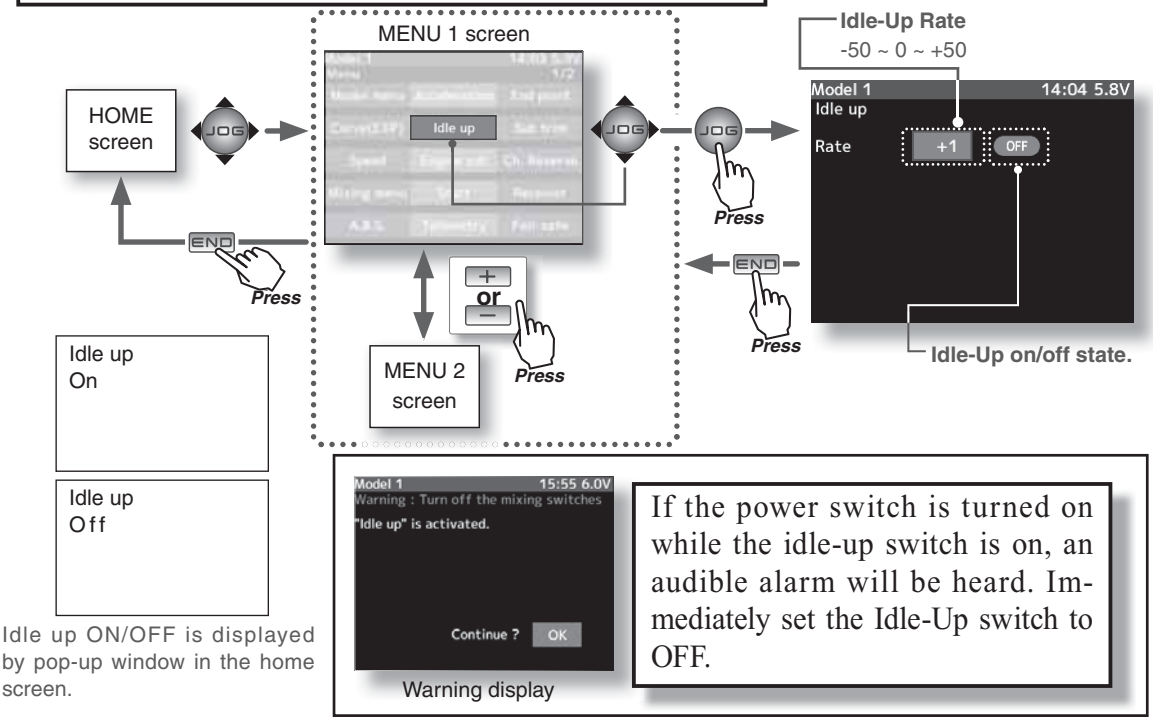
This function is also effective when you want to prevent braking when the power was turned off during running due to the effect of gear ratio setting and the motor used with a motor car. However, when using the MC960CR, MC950CR, MC851C, MC602C, MC-402CR, etc., check the ESC neutral position and set the idling function switch to ON after the set enters the operation mode, the same as the neutral brake function (p.66).

Operation

The throttle neutral position is offset to the forward side or brake side. There is no linkage locking, etc. because there is no change near the maximum operation angle even when the neutral position is offset by this function.

Operation Display

The IDL display appears on the home screen.



If the power switch is turned on while the idle-up switch is on, an audible alarm will be heard. Immediately set the Idle-Up switch to OFF.

Idle-Up function adjustment

(Preparation)

- Use the function select switch function to select the switch. (p.99)

1 (Idle-Up rate)
Use the (+) and (-) buttons to set the Idle-Up rate.

2 When ending setting, return to the menu screen by pressing the (END) button.

Adjust button
- Adjust with the (+) and (-) buttons.
- Return to the initial value "0" by pressing the (+) and (-) buttons simultaneously for about 1 second.

Idle-Up rate
-50 ~ 0 ~ +50
"-": Brake side
"+": Forward side
Initial value: 0%

Start Function (Throttle system)

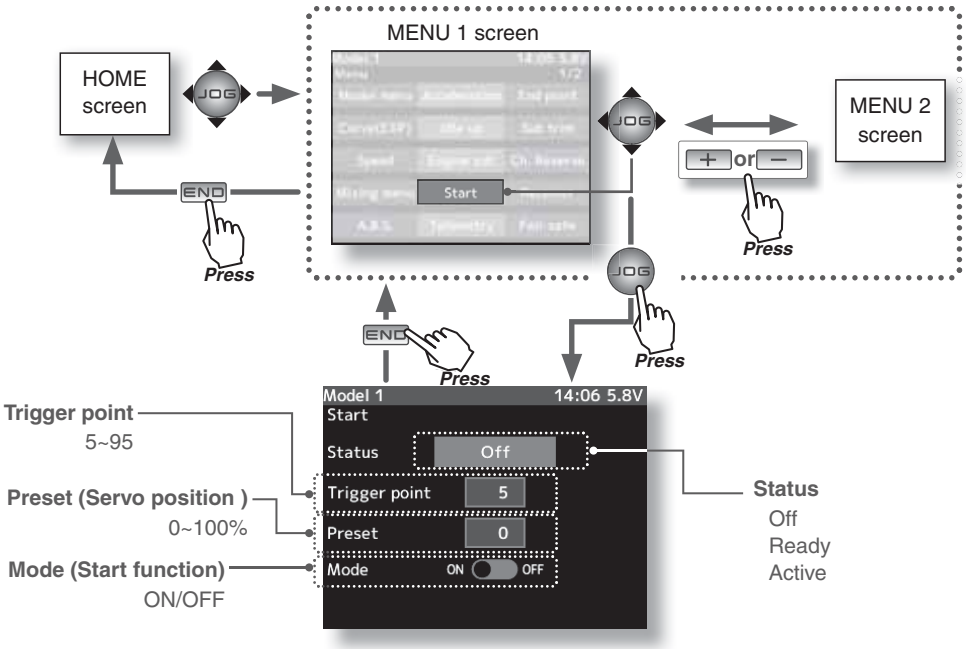
If the track is slippery and you begin to accelerate by pushing the trigger to full throttle, the car wheels will spin and the car will not accelerate smoothly. When the Start function is activated, merely operating the throttle trigger slowly causes the throttle servo to automatically switch from the set throttle position to a preset point so that the tires do not lose their grip and the car accelerates smoothly.

Without "Start function":
Slow start due to skidding

With "Start function":
Quick start without skidding

Start Function Operation

- When the throttle trigger is moved to the preset position (trigger point), the throttle servo moves to the preset position.
- When the throttle trigger is operated slowly so that the wheels will not spin, the car automatically accelerates to the set speed.
- This function is effective only for the first throttle trigger operation at starting. This function has to be activated before every start.
- When the throttle trigger is returned slightly, the Start function is automatically deactivated and the set returns to normal throttle trigger operation.



Start function adjustment

(Preparation)

- Select the setting item "Mode" by (JOG) button up or down operation. Press the (+) or (-) button and select "ON".
- Select setup item "Trigger point" and make the following adjustments.

4PX-Eng-08-Function-66-103.indd 70 2014/07/18 17:20:30

1 (Throttle position setup)

Set the throttle position by pressing the (+) or (-) button.

2 (Preset position setup)

Select the setting item "Preset" by (JOG) button up or down operation, and use the (+) and (-) buttons to set the preset position of the throttlle servo.

"0" :Neutral
"F0" ~ "F100":Forward side

Setting Example: (When ESC used with an electric car)
Set the preset position to F75% at EPA100%.

3 ("Ready" setting)

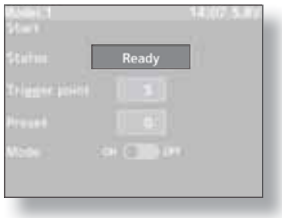
Select the setting item "Status" by (JOG) button up or down operation, and press the (JOG) buttons simultaneously for about 1 second. "Ready" on the screen and the system enters the "Ready" state. Throttle trigger operation starts the function.

Setup item selection
- Select by (JOG) button up or down operation.

Adjust button
- Adjust with the (+) and (-) buttons.
- Return to the initial value by pressing the (+) and (-) buttons simultaneously (approx. 1 sec).

Trigger point
5 ~ 95
Initial value: 5

Preset position
0, F1 ~ F100
Initial value: 0



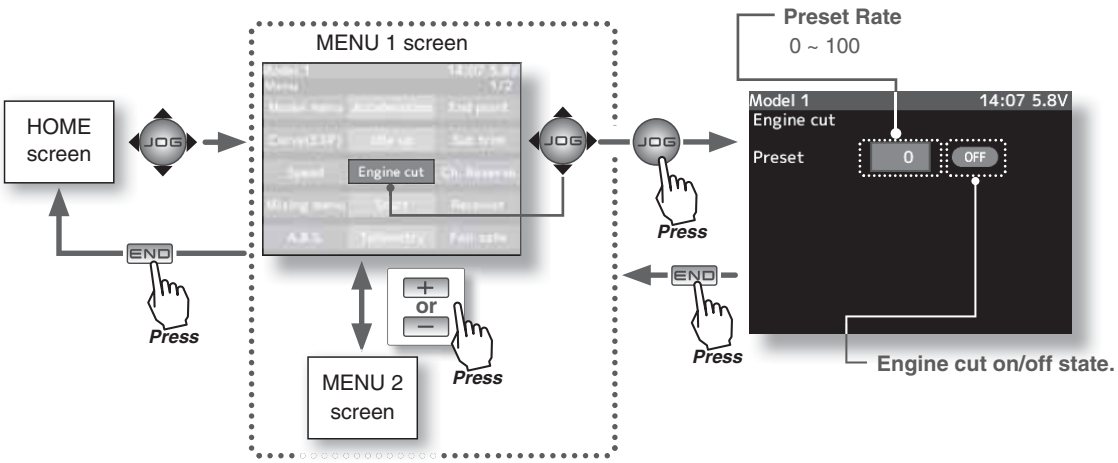
4 When ending setting, return to the menu screen by pressing the (END) button

-If the throttle trigger is moved to the set position while "Ready" on the screen, the throttle servo will move to the set position. The throttle operation wait state is reset when the throttle trigger is returned.

-When using the Start function, always set the function by performing step 3 above each time.

Engine Cut (Throttle system)

When the switch is pressed, the throttle servo will move to the preset position without regard to the throttle trigger position. This is convenient when used to cut the engine of boats, etc. (The function select switch function. See page 99)



Start Function/ Engine Cut

4PX-Eng-08-Function-66-103.indd 71 2014/07/18 17:20:30

Engine Cut function adjustment

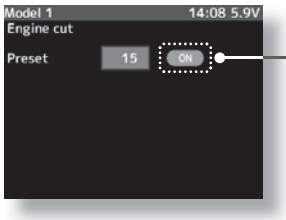
(Preparation)

- This is a function select switch function. The engine cut function switch must be set. (p.99)
- The engine cut is turned on with the set switch.

1 (Preset position setup)

Use the (+) and (-) buttons to set the preset position of the throttlle servo.

"B100" ~ "B1" :Brake side
"0" :Neutral
"F1" ~ "F100" :Forward side



When engine cut is active, ON is displayed.

Adjust button

- Adjust with the (+) and (-) buttons.
- Return to the initial value "0" by pressing the (+) and (-) buttons simultaneously for about 1 second.

Preset rate

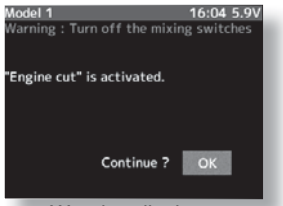
0 ~ 100
Initial value: 0%

Engine cut
On

Engine cut
Off

Engine cut up ON/OFF is displayed by pop-up window in the home screen.

2 When ending setting, return to the menu screen by pressing the (END) button.



Warning display

If the power switch is turned on while the preset (engine cut) switch is on, an audible alarm will be heard. Immediately set the preset switch to OFF.

When trigger ratio was set to 100:0

When the trigger ratio (p.66) was set to 100:0, the brake function does not operate. The preset position set here becomes the linkage standard. The linkage is set so that the carburetor is fully closed and the engine is stopped within the preset adjustment range. The full throttle position is set by "Forward" of the end point function. The idling position is adjusted by throttle trim.

The throttle servo operating position (preset position) set by this setting is unrelated to the setting of other functions. Maximum to minimum servo travel can be set. However, the reverse function setting is enabled.

⚠Caution

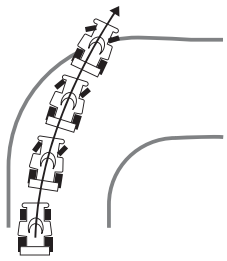
❗ Always operate carefully before using this function.

While push switch PS1~PS5, or trigger switch TS with preset function set is in the ON state, the servo (motor controller) is locked in the preset position and does not operate even if the throttle trigger is operated. If the servo was operated at the wrong setting, you may lose control of the car (boat).

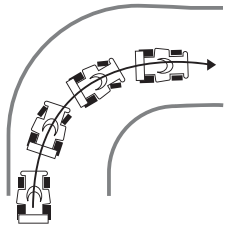
4PX-Eng-08-Function-66-103.indd 72 2014/07/18 17:20:30

A.B.S. Function (Throttle system)

When the brakes are applied while cornering with a 4 Wheel Drive or other type of vehicle, understeer may occur. The generation of understeer can be eliminated and corners can be smoothly cleared by using this function.



Without A.B.S.



With A.B.S.

Operation

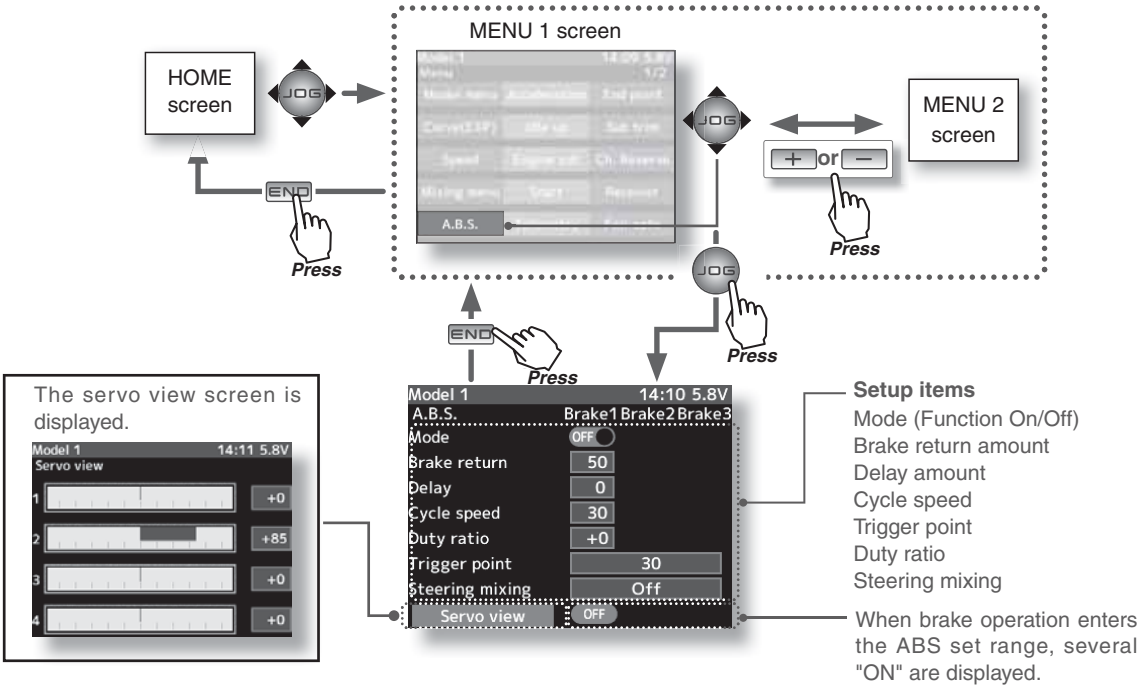
- When the brakes are applied, the throttle servo will pulse intermittently. This will have the same effect as pumping the brakes in a full size car.
- The brake return amount, pulse cycle, and brake duty can be adjusted.
- The region over which the ABS is effective can be set according to the steering operation. (Mixing function)

Operation display

The ABS display appears on the home screen.

When trigger ratio was set to 100:0

When trigger ratio (p.66) was set to 100:0, brake operation stops, and the servo does not operate even if the ABS function is set.



Function

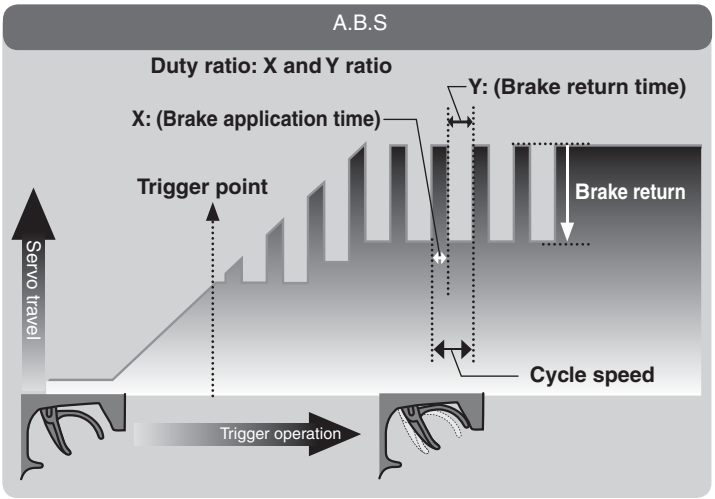
4PX-Eng-08-Function-66-103.indd 73 2014/07/18 17:20:31

- Mode : Function ON/OFF

ABS function ON/OFF setting. When using the ABS function, set to "ON".

- Brake return

Sets the rate at which the servo returns versus trigger operation for brake release. When set to 0%, the ABS function is not performed. When set to 50%, the servo returns 50% (1/2) of the trigger operation amount and when set to 100%, the servo returns to the neutral position.



- Delay

Sets the delay from brake operation to ABS operation. When set to 0%, the ABS function is activated without any delay. At 50%, the ABS function is activated after a delay of approximately 0.7 second and at 100%, the ABS function is activated after a delay of approximately 1.4 seconds.

- Cycle speed

Sets the pulse speed (cycle speed). The smaller the set value, the faster the pulse cycle.

- Duty ratio

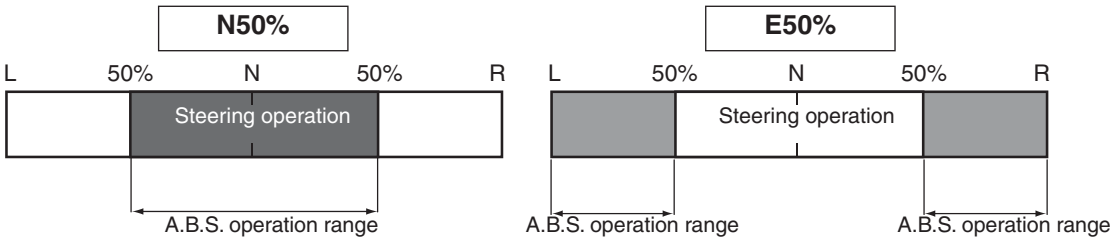
Sets the proportion of the time the brakes are applied and the time the brakes are released by pulse operation. The ratio can be set to +3 ~ 0 ~ -3 in 7 steps.

- Trigger point

Sets the trigger point at which the ABS function begins to operate at brake operation.

- Steering mixing

Sets ABS operation ON/OFF according to the steering operation range.



A.B.S Function

Function

4PX-Eng-08-Function-66-103.indd 74 2014/07/18 17:20:31

A.B.S. function adjustment

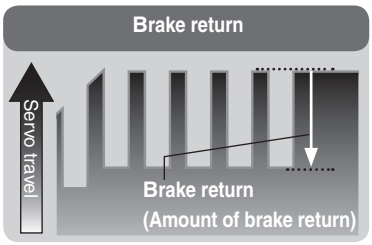
1 (Function ON/OFF)

Select the setting item "Mode" by (JOG) button up, down, left or right operation. Set the function to the active state by pressing the (+) or (-) button.

"OFF" :Function OFF
"ON" :Function ON

2 (Brake return amount adjustment)

Select the setting item "Brake return" by (JOG) button up, down, left or right operation. Use the (+) or (-) button to adjust the return amount.



"0" :No return
"50" :Return to the 50% position of the brake operation amount
"100" :Return to the neutral position.

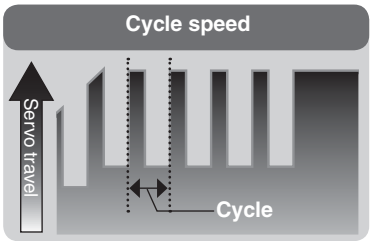
3 (Delay amount setup)

Select the setting item "Delay" by (JOG) button up, down, left or right operation. Use the (+) or (-) button to adjust the delay amount.

"0" :A.B.S. function performed without any delay
"50" :A.B.S function performed after an approximate 0.7 sec delay.
"100" :A.B.S. function performed after an approximate 1.7 secs delay.

4 (Cycle speed adjustment)

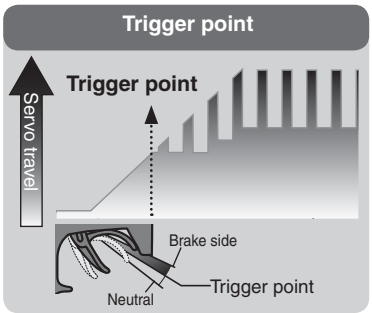
Select setting item "Cycle speed" by (JOG) button up, down, left or right operation. Use the (+) or (-) button to adjust the pulse speed (cycle).



- The smaller the set value, the faster the pulse speed.

5 (Trigger point setup)

Select setting item "Trigger point" by (JOG) button up, down, left or right operation. Use the (+) or (-) button to adjust the operation point.



- Sets the throttle trigger position at which the A.B.S. function is performed. The number is the % display with the full brake position made 100.

Setup item selection
- Select by (JOG) button up, down, left or right operation.

Adjustment buttons
- Use the (+) and (-) buttons to make adjustments.
- Return to the initial value by pressing the (+) and (-) buttons simultaneously (approx. 1 sec).

Function ON/OFF (Mode)
ON,OFF

Return amount
0 ~ 50 ~ 100
Initial value: 50

- Brake return amount is influenced by the "EXP" rate on the brake side.

Delay amount
0 ~ 100
Initial value: 0

Cycle speed
1 ~ 100
Initial value: 10

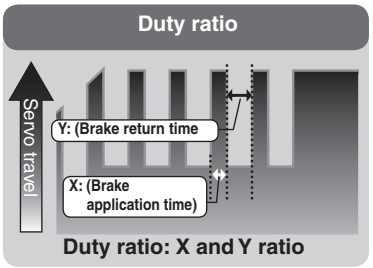
Trigger point
5 ~ 95
Initial value: 30

Function

4PX-Eng-08-Function-66-103.indd 75 2014/07/18 17:20:32

6 (Cycle duty ratio setup)

Select setting item "Duty ratio" by (JOG) button up, down, left or right operation. Use the (+) or (-) button to adjust the duty ratio.



Duty ratio
-4 ~ 0 ~ +4
Initial value: 0

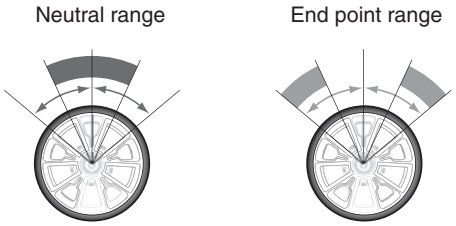
"-3" :Brake application time becomes shortest. (Brakes lock with difficulty)
"+3" :Brake application time becomes longest (Brakes lock easily)
(Remark) For low grip, set at the - side and for high grip, set at the + side.

7 (Steering mixing setup)

Select setting item "Steering mixing" by (JOG) button up, down, left or right operation. Use the (+) or (-) button to adjust the steering mixing range.

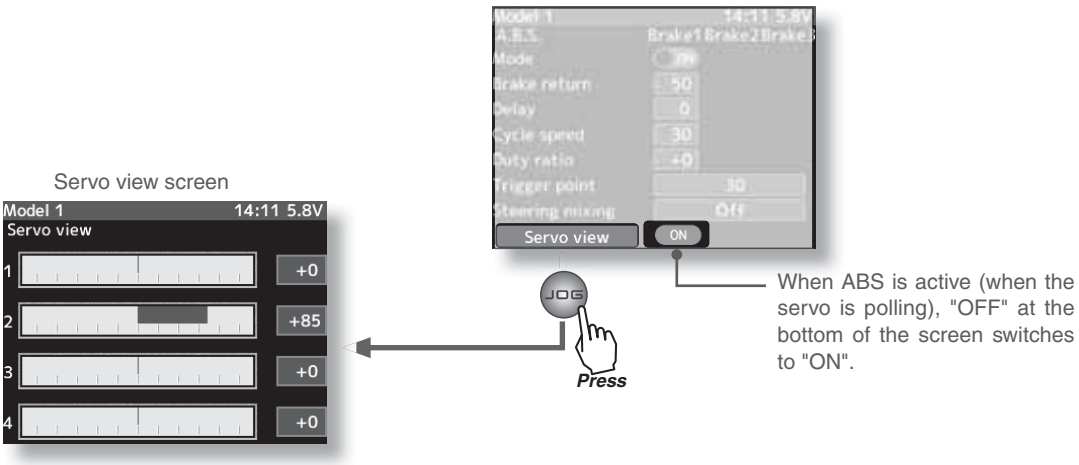
- Sets the range within which the A.B.S. function is performed relative to steering wheel operation.

Steering mixing
Off,
Neutral10 ~ 100,
End point10 ~ 100
Initial value: OFF



Steering operation

8 When ending setting, return to the initial screen by pressing the (END) button twice (for function menu screen, press the (END) button once).



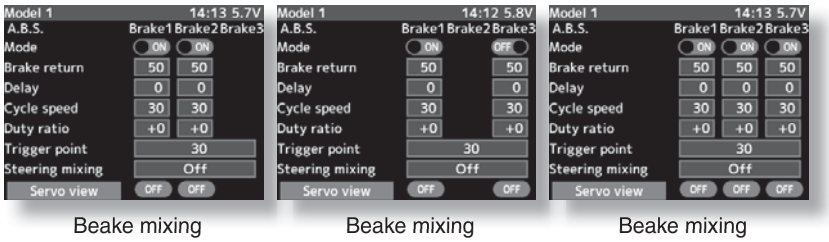
9 When ending setting, return to the menu screen by pressing the (END) button.

4PX-Eng-08-Function-66-103.indd 76 2014/07/18 17:20:32

1/5 scale car and other independent brakes and ABS

ABS can be independently set for the brakes which are controlled by the Brake2 and Brake3 (3rd CH and 4th CH) by using the brake mixing function described on page 80.

Setting items other than trigger point and steering mixing can be adjusted independently.



Beake mixing
Brake 2 "ON"

Beake mixing
Brake 3 "ON"

Beake mixing
Brake 2&3 "ON"

Setup items
Mode (Function On/Off)
Brake return amount
Delay amount
Cycle speed
Duty ratio

Switch setting

Use PS1~PS5 to switch the A.B.S. function ON/OFF.
See the function select switch function. (p.99)

Dial / Trim Setting

The brake return amount, delay amount and cycle speed can be controlled with digital trim DT1~DT5 or digital dial DL1 etc. with the function select dial function. (p.101)

Example of A.B.S. function setting when S9353HV used (There will be a slight difference depending on the state of the linkage.)

- Basic setting

Brake return: Approx. 30% (If this value is too high, the braking distance will increase.)
Cycle speed: 5~7
Duty ratio: 0 (When grip is low: - side, when grip is high: + side)
Delay : 10~15%
Trigger point: Approx. 70%
Steering mixing: Off

- When the wheels lock, or the car spins, when the brakes are applied fully

Brake return: Increase from 30%
Duty ratio: Shift from 0 to - side (-1, -2, -3) →
Delay : Reduce the delay

- When the braking effect is poor and the braking distance is long when the brakes are applied fully

Brake return: Decrease from 30%
Duty ratio: Shift from 0 to + side (+1, +2, +3) →
DLY: Increase the delay

4PX-Eng-08-Function-66-103.indd 77 2014/07/18 17:20:33

Mixing Menu (Steering,Throttle,3rd,4th channel system)

Big cars such as 1/5 scale GP car, etc. brake mixing, 4-wheel steering 4WS mixing used with Corolla, etc., dual ESC mixing that controls the front and rear motors independently, gyro mixing that allows adjustment of the sensitivity of Futaba car rate gyros, CPS mixing that controls Futaba channel power switch CPS-1, and other special mixing functions and program mixing that allows free setting among channels can be set at the mixing menu.

Program, mixing

These functions allow you to apply mixing between the steering, throttle, channel 3 and channel 4.

Steering mixing

This mixing function uses 2 servos to individually control the left and right steering. Left and right steering can be set independently so smooth cornering is possible.

Brake mixing

This function is used when the front and rear brakes must be adjusted independently such as a 1/5 scale GP car.

Gyro mixing

This function is a remote gain function that uses the 3rd or 4th CH of the transmitter to adjust the sensitivity of a Futaba car rate gyro. It can also be used by switching the two gains mode by switch. Normal mode and AVCS mode are explained at gyro mixing.

4WS mixing

This function can be used with Corolla and other 4WS type vehicles. It is mixing that uses the 1st CH to control the front side steering and the 3rd or 4th CH to control the rear side steering. OFF (front side only), reverse phase, same phase, rear side only and other 4WS types are switched by switch.

Dual ESC mixing

This function is mixing that uses the 2nd CH to control the front side motor controller and the 3rd or 4th CH to control the rear side motor controller of a Corolla or other 4WD type vehicle. Drive is switched among front side only, rear side only, and both front side and rear side (4WD) by switch.

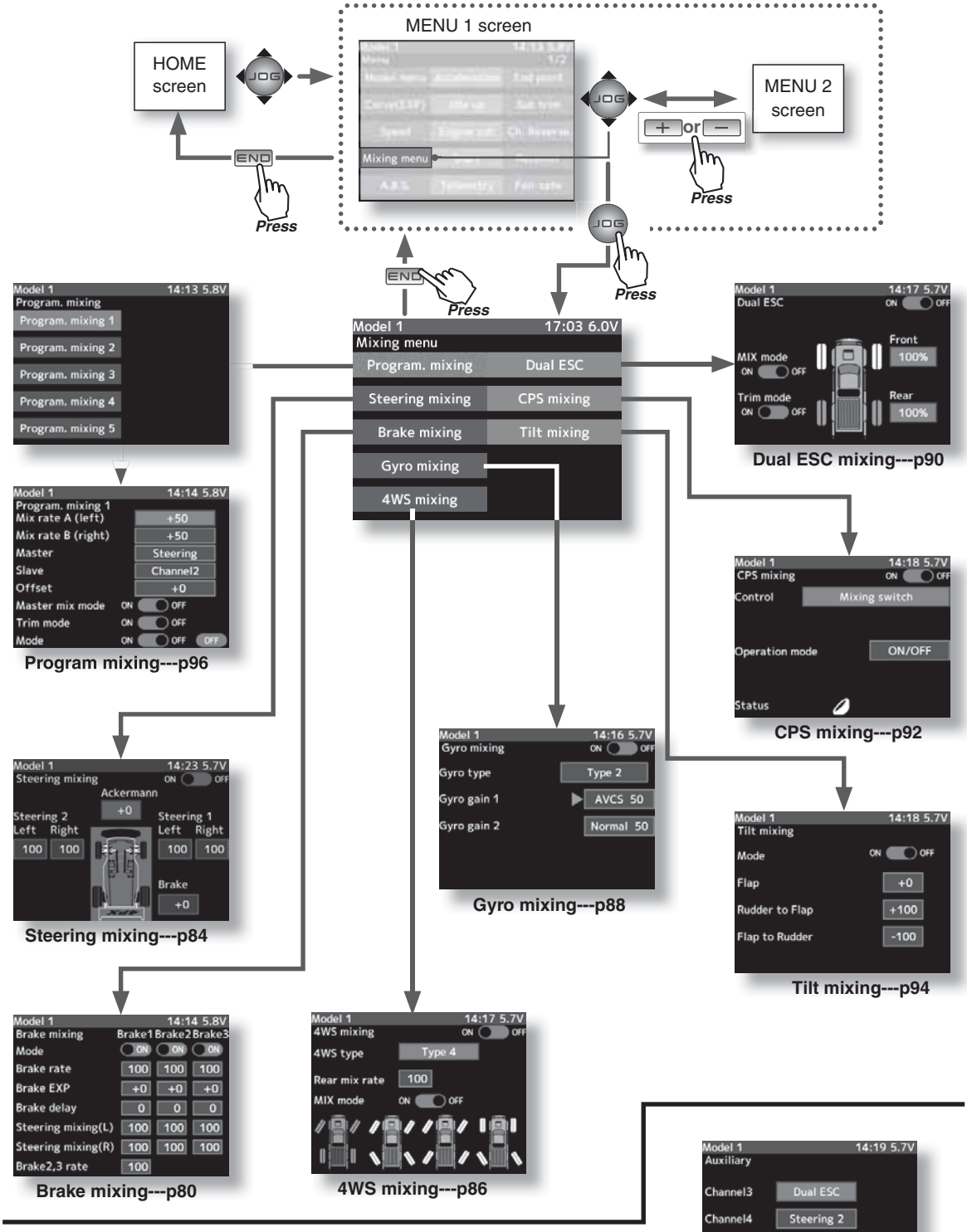
CPS mixing

This function controls the Futaba CPS-1 channel power switch.
Normally, when a CPS-1 unit is used to light the chassis dress-up and other illumination (LED) the LED is connected to a vacant switch channel of the connected CPS-1 unit and the LED is turned on and off by switch while the vehicle is running. However, when this CPS mixing function is used the LED can be turned on and off and also flashed in step with steering and throttle operation, as well as being turned on and off by switch.

Tilt mixing

Tilt mixing uses an outboard engine and applies bidirectional mixing from rudder (steering) to flap and from flap to rudder so that with a boat, rudder operation and tilt mixing operation can be performed by 2 servos.

4PX-Eng-08-Function-66-103.indd 78 2014/07/18 17:20:34



Since the mixing function can be assigned to CH3 and CH4, all mixings cannot be used simultaneously. Since program mixing is free, it can be used even when other mixings are active, but they interact.

The mixing used can be confirmed on the Auxility screen. (p.155)

Function

4PX-Eng-08-Function-66-103.indd 79 2014/07/18 17:20:34

Brake Mixing (Throttle, 3rd, 4th channel system)

This function is used when the front and rear brakes must be adjusted independently such as a 1/5 scale GP car. This mixing uses the 2nd CH for the rear brakes and the 3rd or 4th CH for the front brakes, or controls the front brakes with the 3rd CH and 4th CH servos, or controls the 2nd CH by independent throttle and controls the rear and front brakes with the 3rd CH and 4th CH. In addition, mixing which varies the 3rd CH and 4th CH brake rate in proportion to steering operation is also possible.

The mixing function is assigned to CH3 and CH4. Channels used by other mixing cannot be used. When the number of channels is insufficient, cancel the other mixing.

When trigger ratio was set to 100:0

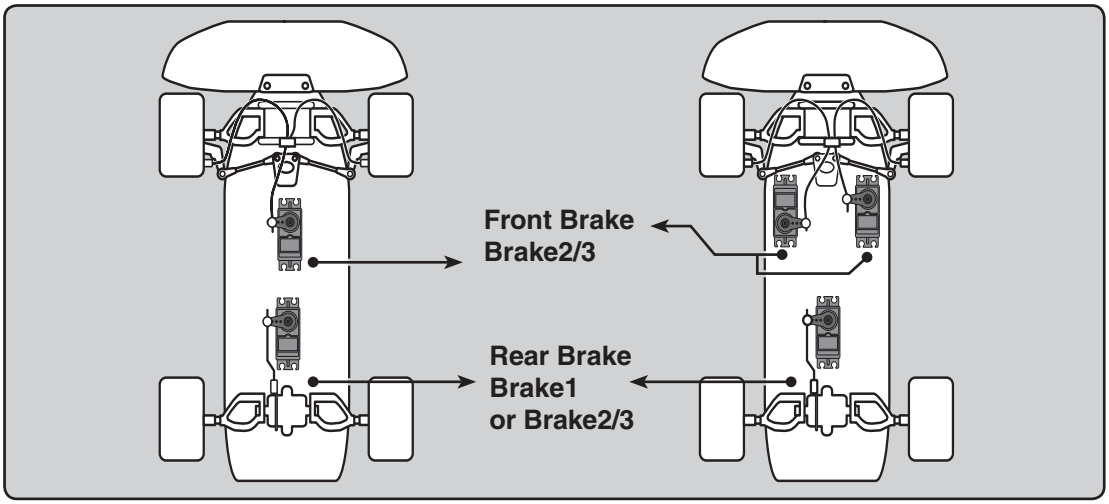
When the throttle mode (P66) was set to 100:0, brake operation stops. When using brake mixing, set the throttle mode to 70:30 or 50:50.

Operation

-When braking, mixing is applied to 2nd CH→3rd CH, 4th CH.

-3rd CH and 4th CH brake amount, 2nd CH, 3rd CH, and 4th CH brake delay, and 3rd CH and 4th CH brake EXP and ABS can be set.

-Steering mixing which varies front brakes 3rd CH and 4th CH matched to the steering operation can be set. Front brakes 3rd CH and 4th CH can be individually weakened according to the steering left or right operation amount.



3rd, 4th chnnels A.B.S.

Brakes 2 and 3 can also use the ABS function (p.73) by brake mixing. All setting items other than trigger point and steering mixing can be set for front brake 2 and 3 use only. Brake 2 and 3 can also use the ABS function independently even when the brake 1 (CH2) ABS function is OFF. The ABS (brake 2 and 3) function can be set ON/OFF by switch function. (p.99)

4PX-Eng-08-Function-66-103.indd 80 2014/07/18 17:20:34

Brake mixing screen from mixing menu screen (p.79)

Mixing menu screen

JOG

JOG

Press

END

Press

Model 1	14:20 5.7V		
Brake mixing	Brake1	Brake2	Brake3
Mode	ON	OFF	OFF
Brake rate	100		
Brake EXP	+0		
Brake delay	0		
Steering mixing(L)	100		
Steering mixing(R)	100		
Brake2,3 rate	100		

JOG

+ or −

Press

When channels 3 and 4 are used by other mixing, the message "No assignable channel" is displayed.

No assignable channel.

Channel3

Channel4

Close

When the brake 2 or 3 mixing mode is set to "ON", the brake 2 or 3 channel setup screen is displayed.

Choose channel for the mixing.

Channel3

Channel4

Close

JOG

Channel is selected by (JOG) button operation.

Model 1	14:19 5.7V
Auxiliary	
Channel3	Dual ESC
Channel4	Steering 2

The mixing used can be confirmed on the Auxility screen. (p.155)

JOG

Press

Brake mixing ON

Model 1	14:21 5.7V		
Brake mixing	Brake1	Brake2	Brake3
Mode	ON	ON	OFF
Brake rate	100	100	
Brake EXP	+0	+0	
Brake delay	0	0	
Steering mixing(L)	100	100	
Steering mixing(R)	100	100	
Brake2,3 rate	100		

Brake 2 ON

Model 1	14:21 5.7V		
Brake mixing	Brake1	Brake2	Brake3
Mode	ON	OFF	ON
Brake rate	100		100
Brake EXP	+0		+0
Brake delay	0		0
Steering mixing(L)	100		100
Steering mixing(R)	100		100
Brake2,3 rate	100		

Brake 3 ON

Model 1	14:14 5.8V		
Brake mixing	Brake1	Brake2	Brake3
Mode	ON	ON	ON
Brake rate	100	100	100
Brake EXP	+0	+0	+0
Brake delay	0	0	0
Steering mixing(L)	100	100	100
Steering mixing(R)	100	100	100
Brake2,3 rate	100		

Brake 2 & 3 ON

4PX-Eng-08-Function-66-103.indd 81 2014/07/18 17:20:35

Brake mixing adjustment

1 (Function ON/OFF)

Select the setting items "Mode Brake2" or "Mode Brake3" by (JOG) button up, down, left or right operation. Set the function to the active state by pressing the (+) or (-) button.

"OFF" :Function OFF
"ON" :Function ON

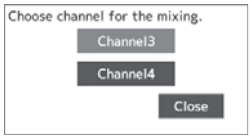
Setting buttons
- Use the (+) and (-) buttons to make adjustments.

Function ON/OFF (Mode)
ON, OFF

2 (Select channel)

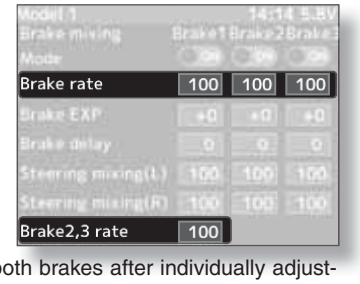
The screen that sets the channel used by brake 2 or brake 3 is displayed. Select channel 3 or channel 4 by (JOG) button up or down operation, and press the (JOG) button.

If channels 3 and 4 are used by other mixing, the message "No assignable channel" is displayed. Set the other mixing to "OFF". The mixing used can be checked at the auxiliary channel screen. (p.155)



3 (Brake 2 & 3 rate)

Select setup items "Brake2 rate" or "Brake3 rate" by (JOG) button up, down, left or right operation, and use the (+) and (-) buttons to adjust the Brake rate amount.



- When adjusting the brake amount of both brakes after individually adjusting the Brake2 and Brake3, select "Brake2,3 rate".

-The brake 1 rate is linked with throttle channel (ATL) setting.

Adjustment buttons
- Use the (+) and (-) buttons to make adjustments.
- Return to the initial value by pressing the (+) and (-) buttons simultaneously (approx. 1 sec).

Brake rate
0 ~ 100
Initial value:100

4 (Brake 2 & 3 -EXP)

With the jog dial, move the blinking cursor up/down, left or right to select "Brake2 -EXP or Brake3 -EXP". Use the plus (+) button to adjust for a faster brake response or use the minus (-) button for a slower or milder brake response.

-When using Brake2 and Brake3 servos as front brakes and using EXP, set the Brake2-EXP amount and Brake3- EXP amount separately.

-Brake 1 EXP is linked with throttle curve (brake EXP) setting.

Adjustment buttons
- Use the (+) and (-) buttons to make adjustments.
- Return to the initial value by pressing the (+) and (-) buttons simultaneously (approx. 1 sec).

Brake EXP rate
-100 ~ 0 ~ +100%
Initial value:0

Function

4PX-Eng-08-Function-66-103.indd 82 2014/07/18 17:20:35

5 (Delay amount setup)

Select setup items "Brake1" Delay or Brake2,3 -Delay" by (JOG) button up, down, left or right operation, and use the (+) and (-) buttons to adjust the delay amount.

Adjustment buttons
- Use the (+) and (-) buttons to make adjustments.
- Return to the initial value by pressing the (+) and (-) buttons simultaneously (approx. 1 sec).

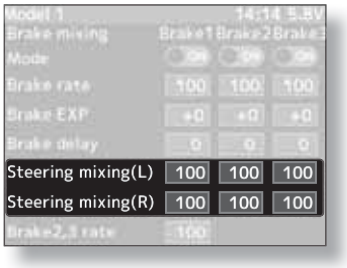
Delay amount
100 ~ 0
Initial value:0

-Since a delay at all the brakes is dangerous, a delay is not applied to the brake to be adjusted last.
For example, when brakes 1, 2, and 3 are all used, when a delay is applied to brakes 2 and 3, a delay cannot be applied to brake 1. When a delay must be applied to brake 1, the brake 2 or brake 2 delay must be set to "0".

6 (Steering mixing)

Use this function when you want to weaken the brakes when steering was operated.

Select the setting item "Steering mixing(L)" or "Steering mixing(R)" by (JOG) button up, down, left, or right operation. Use the (+) or (-) button to adjust the brake amount.



Adjustment buttons
- Use the (+) and (-) buttons to make adjustments.
- Return to the initial value by pressing the (+) and (-) buttons simultaneously (approx. 1 sec).

Brake rate
Steering mixing(L)
Steering mixing(R)
0 ~ 100
Initial value:100

Use "Steering mixing(R)" Brake1,2,3 to adjust the brake amount relative to the steering right operation amount. and "Steering mixing(L)" Brake1,2,3 to adjust the brake amount relative to the steering left operation amount. The smaller the value, the weaker the front brakes. Set value "100" is the state in which steering mixing is not performed.

- The mixing amount can be adjusted in a range from 0 to 100.

7 When ending setting, return to the Mixing menu screen by pressing the (END) button.

Dial / Trim Setting

The function select dial function can control the brake 1,2,3 rate , delay amount and EXP setting using digital dial or digital trim. (p.101)

4PX-Eng-08-Function-66-103.indd 83 2014/07/18 17:20:35

Steering Mixing (Steering, 3rd or 4th channel system)

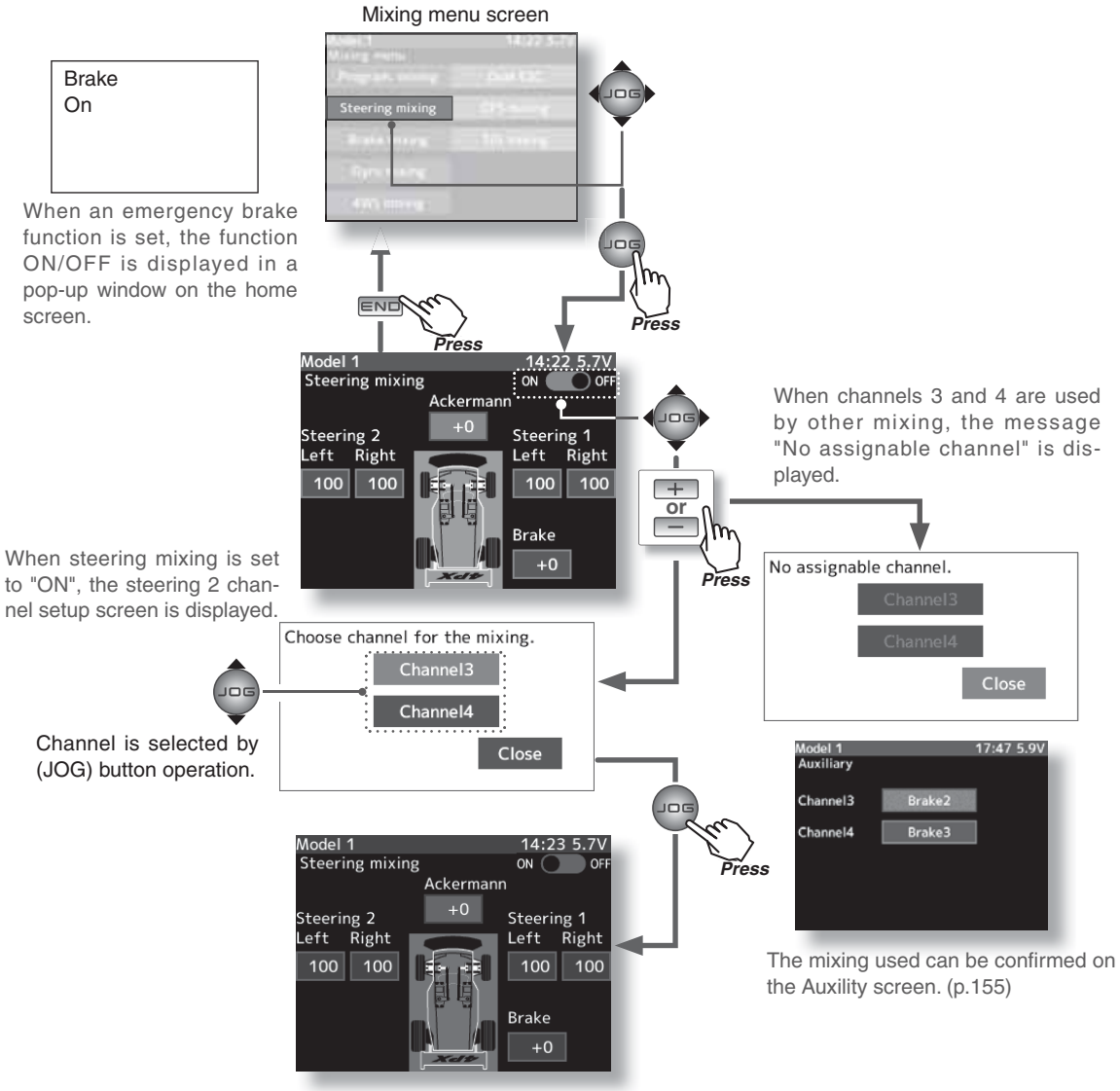
This mixing function uses 2 servos to individually control the left and right steering. Left and right steering can be set independently so smooth cornering is possible.

The right side steering servo or the left side steering servo connects to receiver CH1 and the other side connects to receiver CH3 or CH4. The channel to which the left and right servo connects is not specified. After the left and right servos are adjusted individually, Ackerman can also be adjusted by Ackerman rate.

In addition, the left and right steering are operated in the opposite direction by switch. An emergency brake function by steering can also be set.

> The mixing function is assigned to CH3 and CH4. Channels used by other mixing cannot be used. When the number of channels is insufficient, cancel the other mixing.

Steering mixing screen from mixing menu screen (p.79)



Function

4PX-Eng-08-Function-66-103.indd 84 2014/07/18 17:20:35

Steering mixing adjustment

1 (Function ON/OFF)

Select the setting items "ON-OFF" by (JOG) button up, down, left or right operation. Set the function to the active state by pressing the (+) or (-) button.

"OFF" :Function OFF
"ON" :Function ON

2 (Channel setup)

A screen at which the channel to be used by steering 2 is displayed. Select channel 3 or channel 4 connected to a servo during preparation by (JOG) button up or down operation, and press the (JOG) button.

- If channels 3 and 4 are used by an another mixing, the message "No assignable channel" is displayed. Set the other mixing to OFF. Mixing can be checked at the auxiliary channel screen. (P155)

3 (Steering 1 and receiver CH1 servo steering angle adjustment)

Select the steering 1 left or right "Rate" by (JOG) up, down, left, or right operation.

Turn the steering wheel fully to the left or right and adjust the left and right steering amounts by (+) or (-) button.

4 (Steering 2 and receiver CH3 or 4 servo steering angle adjustment)

Select steering 2 left or right "Rate" by (JOG) button up, down, left, or right operation.

Turn the steering wheel fully to the left and right and adjust the left and right steering amounts by (+) and (-) button.

5 (Ackerman adjustment)

Select the Ackerman "Rate" by (JOG) button up, down, left, or right operation.

Adjust the left and right differential amount and adjust the Ackerman by (+) and (-) button.

6 (Emergency brake)

(Preparations)

·When using this function, set the switch with the Switch Select function. (p.99)

Select the emergency brake "Rate" by (JOG) button up, down, left, or right operation. Adjust the steering 1/2 operation position by (+) and (-) button.

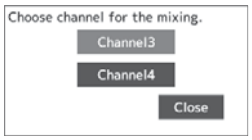
7 When ending setting, return to the Mixing menu screen by pressing the (END) button.

Setting buttons

- Use the (+) and (-) buttons to make adjustments.

Function ON/OFF

ON, OFF

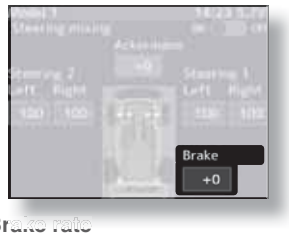


Left / Right rate

0~100 Initial value:100

Ackermann rate

-100~0~+100 Initial value:100



Brake rate

-100~0~+100 Initial value:100

Function

4PX-Eng-08-Function-66-103.indd 85 2014/07/18 17:20:36

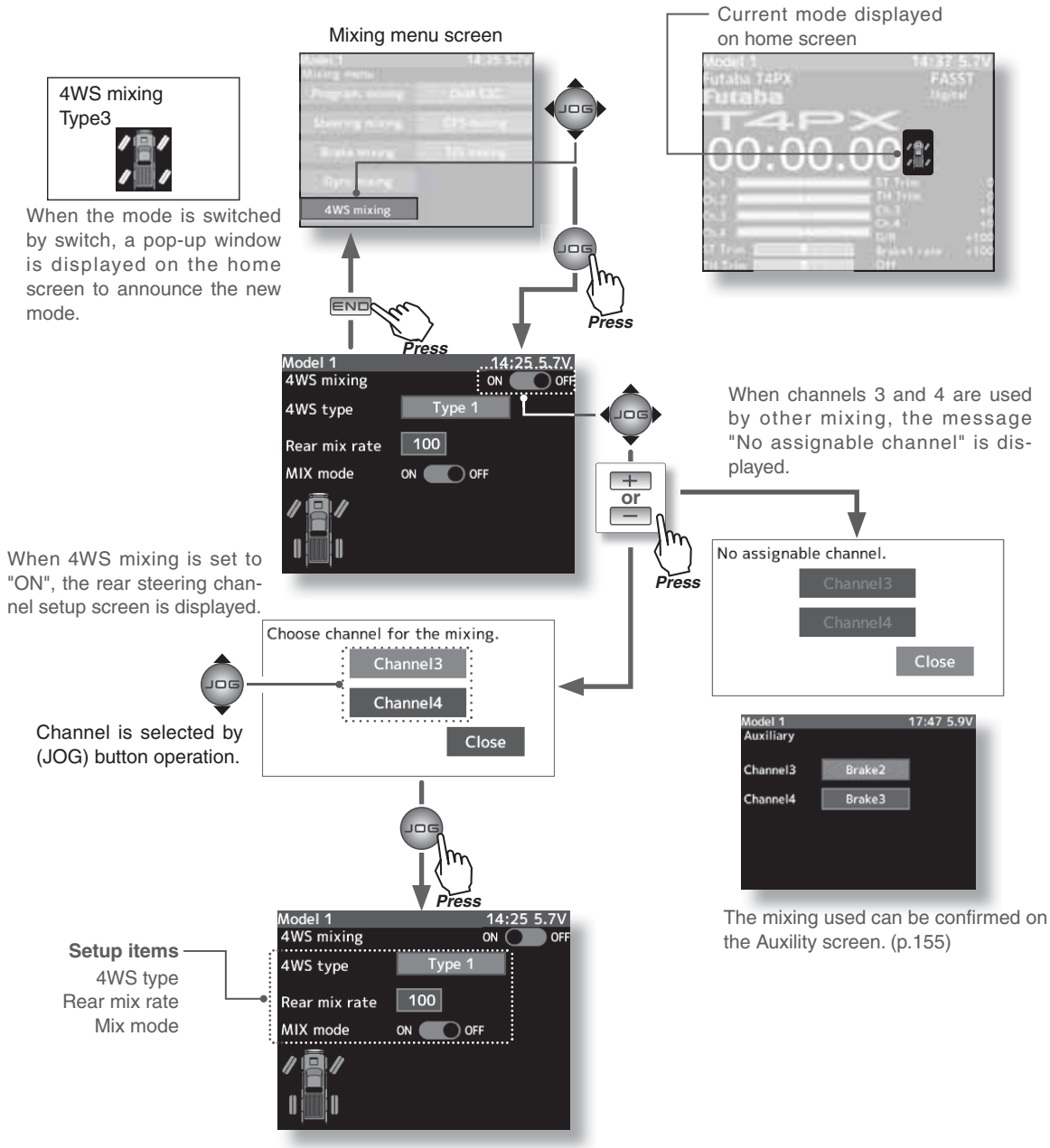
4WS Mixing (Steering, 3rd or 4th channel system)

This function can be used with crawlers and other 4WS type vehicles. It is mixing that uses the 1st CH to control front side steering and the 3rd CH to control rear side steering.

OFF (front side only), reverse phase, same phase, rear side only, and other 4WS type switching is used by selecting PS1, PS2, PS4 or PS5 with the function select function (p.99).

> The mixing function is assigned to CH3 and CH4. Channels used by other mixing cannot be used. When the number of channels is insufficient, cancel the other mixing.

4WS mixing screen from mixing menu screen (p.79)



Function

4PX-Eng-08-Function-66-103.indd 86 2014/07/18 17:20:36

4WS mixing adjustment

(Preparation)

- Since this function is used by switching the type of 4WS with a switch, the switch used by the function select switch function (p.99) is set.

1 (4WS mixing function ON/OFF and channel setup)

Refer to the left page and set the function to ON and set the mixing channel.

2 (4WS type selection)

Operate the (JOG) button up and down and select the setting item "4WS type". Select the type by pressing the (+) or (-) button.

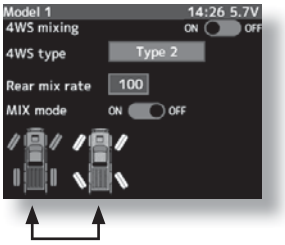
"Type1" :Function OFF (front only)
"Type2" :Front side only, reverse phase switching
"Type3" :Front side only, reverse phase and same phase switching
"Type4" :Front side only, reverse phase, same phase, and rear side only switching

Setting buttons
- Use the (+) and (-) buttons to make adjustments.

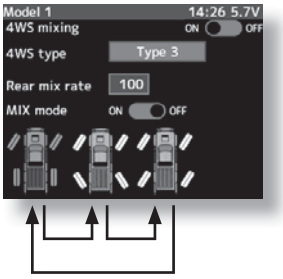
Function ON/OFF (4WS type)
Type1(OFF), Type2, Type3, Type4

Switched in the order shown in the figure below by set SW

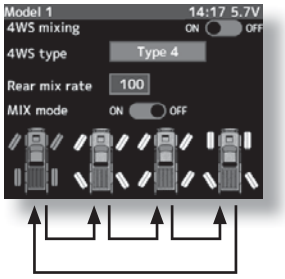
Type2
Front side only, Reverse phase switching



Type3
Front side only, Reverse phase and same phase switching



Type4
Front side only, reverse phase, same phase, and rear side only switching



3 (Rear side travel adjustment)

Operate the (JOG) button up and down and select setting item "Rear mix rate". Adjust the rear side travel with the (+) or (-) button.

Adjustment buttons
- Use the (+) and (-) buttons to make adjustments.
- Return to the initial value by pressing the (+) and (-) buttons simultaneously (approx. 1 sec).

Rear rate (Rear mix rate)
0 ~ 100
Initial value:100

4 (Mix mode setting)

Operate the (JOG) button up and down and select the setting item "MX mode". Set the mix mode with the (+) or (-) button.

"OFF" :The EXP function of the 1st CH and other settings are not mixed.
"ON" :The EXP function of the 1st CH and other settings are mixed.

Setting buttons
- Use the (+) and (-) buttons to make adjustments.

Mixing mode (MX Mode)
OFF, ON
Initial value: OFF

5 When ending setting, return to the Mixing menu screen by pressing the (END) button.

Dial / Trim Setting

The mixing amount can be adjusted by using the function dial function. (p.101)

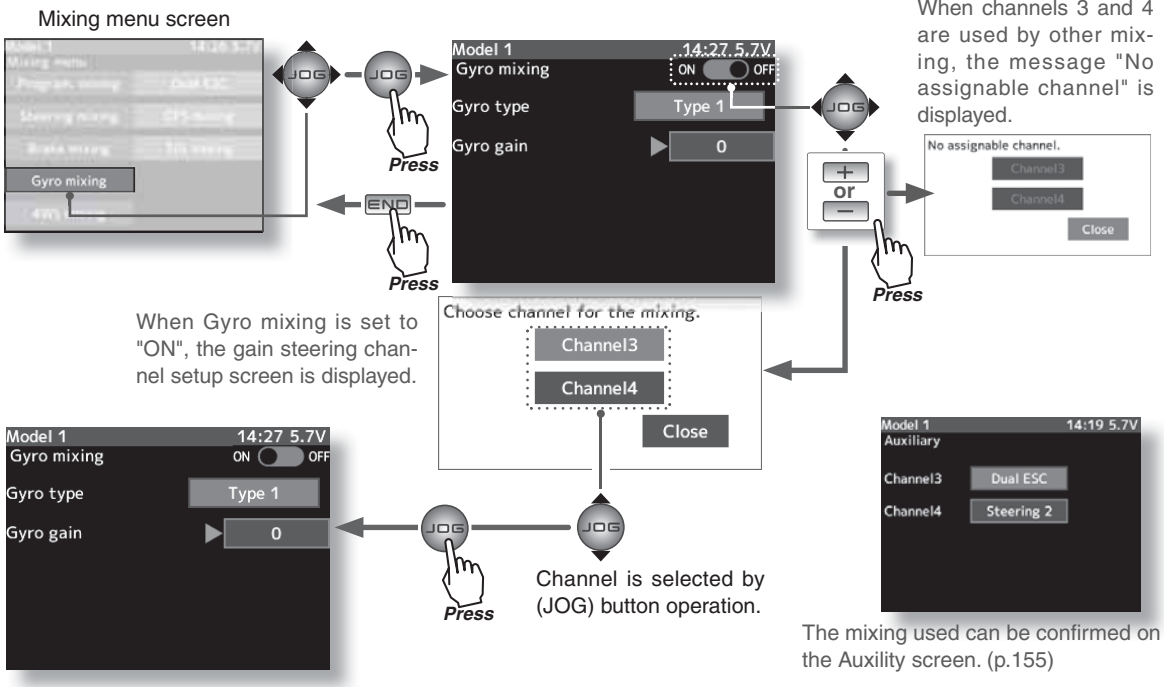
Gyro Mixing (Steering system)

This function is a remote gain function which adjusts the sensitivity of the Futaba car rate gyro at the T4PX side, and is mixing that uses the 3rd or 4th CH to adjust the gyro sensitivity. When using the T4PX by switching the AVCS and normal modes use PS1- PS5 with the function select switch function (p.99).

For a description of the car rate gyro mounting method and handling, refer to the rate gyro instruction manual.

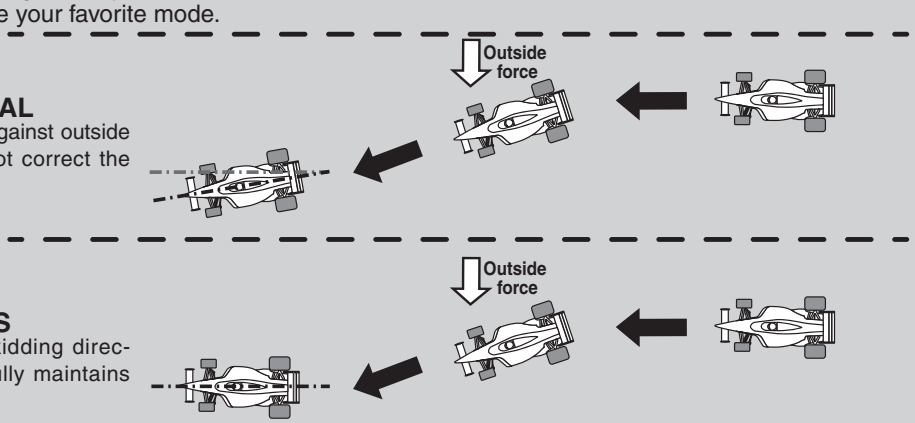
> The mixing function is assigned to CH3 and CH4. Channels used by other mixing cannot be used. When the number of channels is insufficient, cancel the other mixing.

Gyro mixing screen from mixing menu screen (p.79)



AVCS / NORMAL Modes

The gyro has 2 operating modes: NORMAL mode and AVCS mode. In the AVCS mode, the angle is controlled simultaneously with NORMAL mode rate control (swing speed). The AVCS mode increases straight running stability more than that of the NORMAL mode. Because the feel of operation is different, choose your favorite mode.



NORMAL
Countersteers against outside force, but cannot correct the skid direction.

AVCS
Corrects the skidding direction and forcefully maintains the heading.

4PX-Eng-08-Function-66-103.indd 88 2014/07/18 17:20:37

Gyro mixing adjustment

(Preparation)

- Refer to the gyro instruction manual and connect the gyro to the receiver. When using remote gain, connect gyro sensitivity adjustment to the 3rd or 4th CH of the receiver.
- When using gyro mixing by switching between the NORM (normal) and AVCS modes, use the function select switch function (p.99) to set the switch to be used.

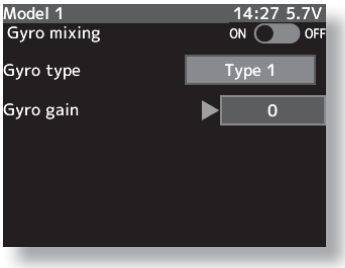
1 (Gyro mixing function ON/OFF and channel setup)

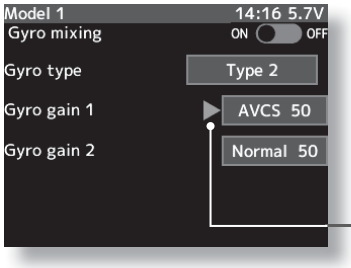
Refer to the left page and set the function to ON and set the mixing channel.

2 (Gyro mixing type selection)

Operate the (JOG) button up and down and select the setting item "Gyro type". Select the type by pressing the (+) or (-) button.

"Type1" :One mode only
"Type2" :Switching Gyero gain 1 and Gyero gain 2





Setting buttons
- Use the (+) and (-) buttons to make adjustments.

Gyro tyoe
Type1, Type2
Initial value: Type1

Gyro mixing
AVCS:50

When the gain is switched by a switch, a pop-up window appears on the home screen to announce the gain.

Shows the gyro mode select switch mode.

3 (Gyro gain1 side gain adjustment)

Operate the (JOG) button up and down and select setting item "Gyro gain1". Adjust the Gyro gain1 side gain with the (+) or (-) button.

(Gyro gain2 side gain adjustment)

Operate the (JOG) button up and down and select setting item "Gyro gain2". Adjust the Gyro gain2 side gain with the (+) or (-) button.

Adjustment buttons
- Use the (+) and (-) buttons to make adjustments.
- Return to the initial value by pressing the (+) and (-) buttons simultaneously (approx. 1 sec).

Gain
AVCS120 ~ 0 ~ Normal120
Initial value:0

4 When ending setting, return to the Mixing menu screen by pressing the (END) button.

Dial / Trim Setting

The gain amount can be adjusted by using the function dial function. (p.101)

4PX-Eng-08-Function-66-103.indd 89 2014/07/18 17:20:37

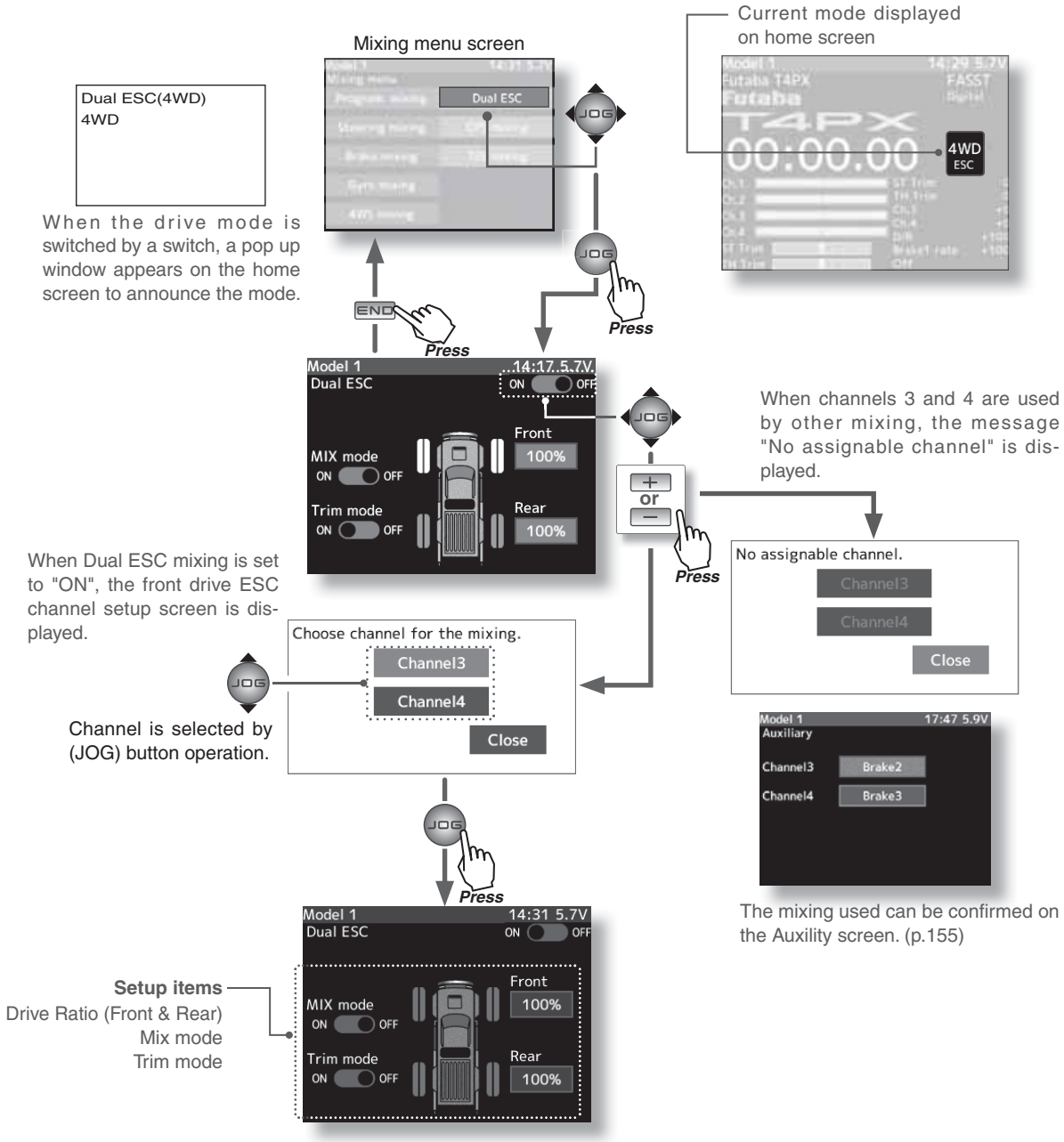
Dual ESC Mixing (Throttle system)

This function is mixing used with crawlers and other 4WD type vehicles and uses the 2nd CH to control the rear motor controller and the 3rd or 4th CH to control the front motor controller.

Front drive only, rear drive only, and both front and rear drive (4WD) switching can be performed by trim dial or by setting a switch for each mode.

> The mixing function is assigned to CH3 and CH4. Channels used by other mixing cannot be used. When the number of channels is insufficient, cancel the other mixing.

Dual ESC mixing screen from mixing menu screen (p.79)



4PX-Eng-08-Function-66-103.indd 90 2014/07/18 17:20:38

Dual ESC mixing adjustment

(Preparation)

- This function has 2 methods. One method is used by switching the drive type (4WD/front/rear) by one digital trim/dial. The other method performs switching by assigning a switch to each mode (4WD/front/rear). Both methods are set from among DL1 and DT~1DT6 by dial select function. (P101)

1 (Dual ESC setting)

Refer to the left page and set the function to ON and set the mixing channel.

When switching by one digital trim is set, the set switch performs switching as shown below.

Front drive ⇔ 4WD ⇔ Rear drive

2 (Drive ratio adjustment)

Adjust the front and rear motor controller operation amount by (+) or (-) button.

The (+) button increases and the (-) button decreases the rear ratio.

Both the front and rear ratios become 100%

3 (Mix mode setting)

Operate the (JOG) button up and down and select the setting item "MIX mode". Set the mix mode with the (+) or (-) button.

"OFF" :The EXP function of the 2nd CH and other settings are not mixed.
"ON" :The EXP function of the 2nd CH and other settings are mixed.

4 (Trim mode setup)

Select setup item "Trim mode" by (JOG) button up, down, left, or right operation, and use the (+) or (-) button to select the mixing mode.

"OFF" :Trim of the 2nd CH is added.
"ON" :Trim of the 2nd CH is removed.

Adjustment buttons

- Use the (+) and (-) buttons to make adjustments.
- Return to the initial value by pressing the (+) and (-) buttons simultaneously (approx. 1 sec).

Drive ratio

Front 0%:Rear 100%
~ Front 100%:Rear 0%
Initial value:
Front 100%:Rear10 0%

Setting buttons

- Use the (+) and (-) buttons to make adjustments.

MIX mode

OFF, ON
Initial value: OFF

Trim mode

OFF, ON
Initial value: OFF

5 When ending setting, return to the Mixing menu screen by pressing the (END) button.

Trigger ratio Setting

Use a 50:50 trigger ratio setting. (P66)

Dial / Trim Setting

The function select dial function can control the drive ratio with digital dial or digital trim, using the function select dial function. (p.101)

Note:

As this function drives 2 separate motor controllers simultaneously, a mutual load is applied. Use this function carefully so that the motor controllers are not damaged.

Futaba will not be responsible for motor controller, motor, and other vehicle trouble due to use of this function.

4PX-Eng-08-Function-66-103.indd 91 2014/07/18 17:20:38

CPS Mixing

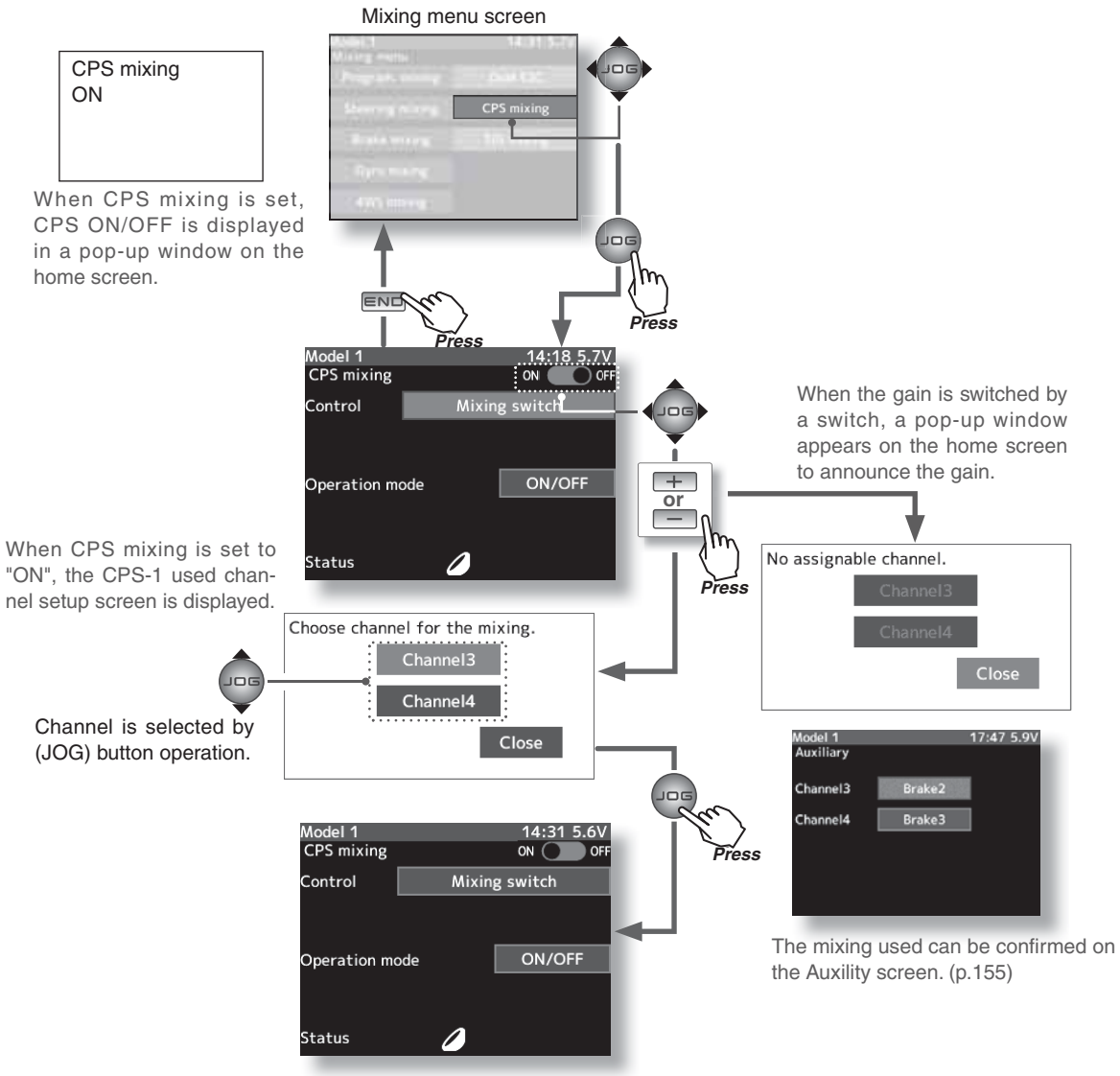
This function controls the Futaba CPS-1 channel power switch.

Normally, when using the CPS-1 unit to light the vehicle dress-up and other illumination (LED) the CPS-1 unit with LED connected is connected to a vacant switch channel and the LEDs are turned on and off by switch while the vehicle is running. However, when the CPS mixing function is used, the LED can be turned on and off and flashed in step with steering and throttle operation, as well as being turned on and off by switch. The flashing speed (cycle) can also be set.

For instance, the LED can be flashed as a brake light by throttle brake side operation.

> The mixing function is assigned to CH3 and CH4. Channels used by other mixing cannot be used. When the number of channels is insufficient, cancel the other mixing.

CPS mixing screen from mixing menu screen (p.79)



Function

4PX-Eng-08-Function-66-103.indd 92 2014/07/18 17:20:38

CPS-1 mixing adjustment

(Preparation)

- Refer to the left page and set the function to ON and set the mixing channel.
- CPS-1 connects to the receiver channel assigned to CPS mixing.
- When the LEDs are turned on and off by switch, use the function select switch function (P.99) to set the switch to be used.

1 (Control system setup)

Operate the (JOG) button up and down and select the setting item "Control".

Press the (+) or (-) button and select the function.

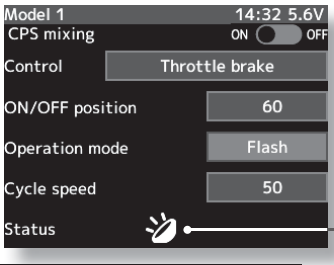
"Mixing Switch"	: ON/OFF by switch set at the 3rd or 4th CH
"Steering neutral"	: ON at steering neutral
"Steering endpoint"	: ON at both sides of steering
"Throttle neutral"	: ON at throttle neutral
"Throttle forward"	: ON at throttle forward side
"Throttle brake"	: ON at throttle back (brake) side
"Throttle neutral & brake"	: ON at throttle neutral and back (brake) sides

2 (ON/OFF switching position selection)

Operate the (JOG) button up and down and select the setting item "ON/OFF position".

Press the (+) or (-) button and select the ON/OFF position.

Since the ON/OFF state is displayed at the right side of the setting item "Status", setting can be confirmed while operating the function to be controlled (for example, throttle).



*Shows the ON/OFF state

Adjustment buttons
- Use the (+) and (-) buttons to make adjustments.
- Return to the initial value by pressing the (+) and (-) buttons simultaneously (approx. 1 sec).

On/OFF position
5 ~ 95
Initial value:50

3 (Operation mode setup)

Operate the (JOG) button up and down and select the setting item "Operation mode ".

Press the (+) or (-) button and select the type of LED lighting. Normal ON/Off type or flashing can be selected.

"ON/OFF"	: Normal ON/OFF type
"Flash"	: Flashing display

Setting buttons
- Use the (+) and (-) buttons to make adjustments.

Operation mode
ON/OFF, Flash

4 (Flashing cycle setting)

When flashing type "Flash" was selected at the setting item "Operation mode" the flashing speed (cycle) can be set.

Operate the (JOG) button up and down and select the setting item "Cycle speed".

Press the (+) or (-) button and select the flashing speed (cycle speed).

Adjustment buttons
- Use the (+) and (-) buttons to make adjustments.
- Return to the initial value by pressing the (+) and (-) buttons simultaneously (approx. 1 sec).

Cycle speed
1 ~ 100
Initial value:50

5 When ending setting, return to the Mixing menu screen by pressing the (END) button.

4PX-Eng-08-Function-66-103.indd 93 2014/07/18 17:20:39

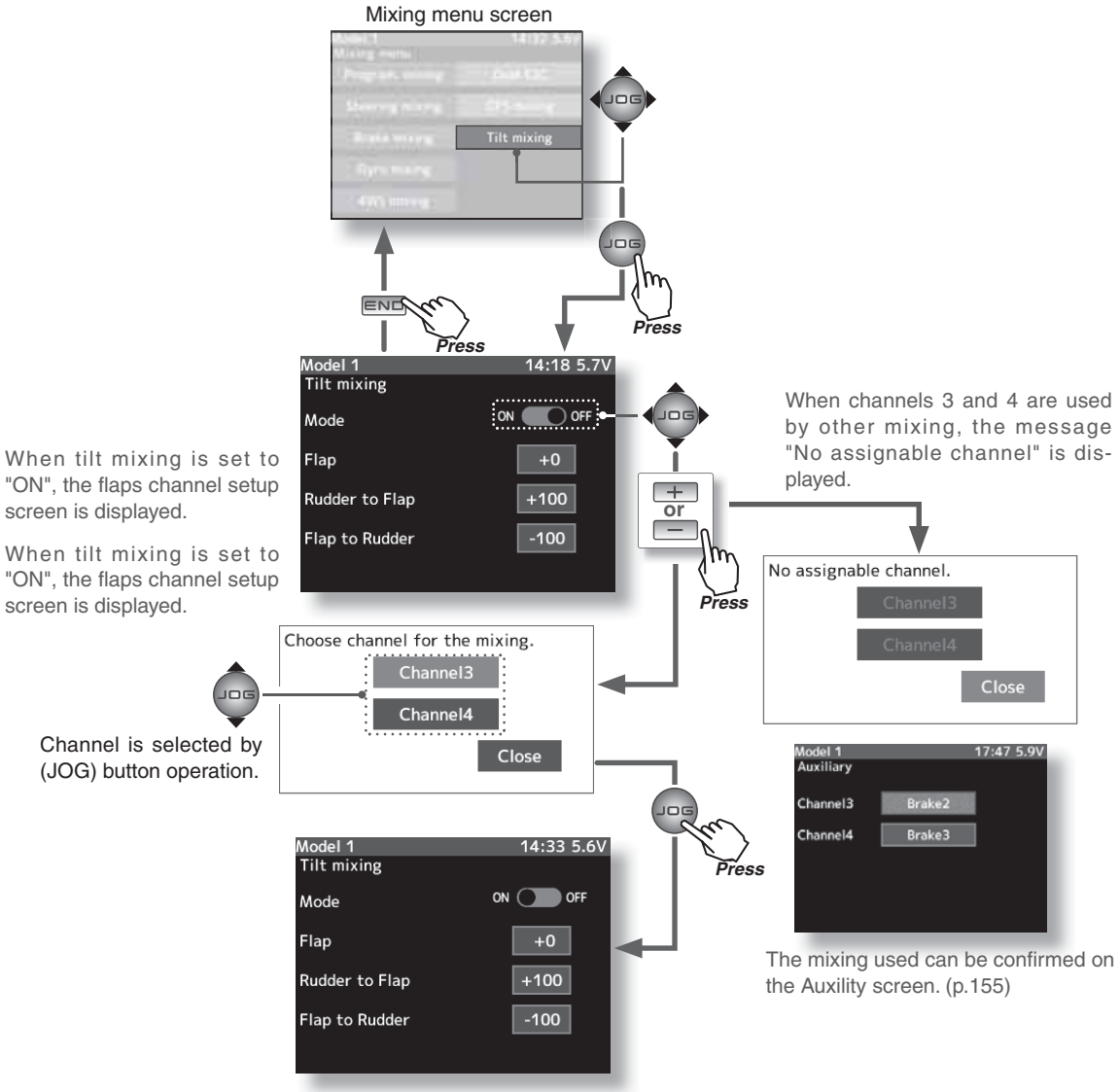
Tilt Mixing (Steering Throttle system)

Tilt mixing uses an outboard engine and applies bidirectional mixing from rudder (steering) to flap and from flap to rudder so that with a boat, rudder operation and tilt mixing operation can be performed by 2 servos.

Tilt mixing can be performed by rudder operation, by steering wheel and flap channel.

> The mixing function is assigned to CH3 and CH4. Channels used by other mixing cannot be used. When the number of channels is insufficient, cancel the other mixing.

Tilt mixing screen from mixing menu screen (p.79)



Function

4PX-Eng-08-Function-66-103.indd 94 2014/07/18 17:20:39

Tilt mixing adjustment

(Preparation)

- Use the function select dial function to select the flap channel operation dial. (p.101)

1 (Function ON/OFF)

Refer to the left page and turn on the function and set the mixing channel (flap).

2 (Flap rate check and adjustment)

Select the setting item "Flap" by (JOG) button up or down operation, and adjust the flaps by (+) or (-) operation.

3 (Rudder to Flap mixing amount adjustment)

Select setup item "Rudder to Flap" by (JOG) button up or down operation, and use the (+) and (-) buttons to adjust the mixing amount.

"+" :Operate in same direction as steering
"-" :Operate in opposite direction of steering

4 (Flap to Rudder mixing amount adjustment)

Select setup item "Flap to Rudder" by (JOG) button up or down operation, and use the (+) and (-) buttons to adjust the mixing amount.

"+" :Operate in same direction as channel 3
"-" :Operate in opposite direction of channel 3

Setting buttons
- Use the (+) and (-) buttons to make adjustments.

Function ON/OFF (Mode)
ON, OFF

Adjustment buttons
- Use the (+) and (-) buttons to make adjustments.
- Return to the initial value by pressing the (+) and (-) buttons simultaneously (approx. 1 sec).

Flap rate
-100~+100
Initial value: 0

Mixing amount (Rudder to Flap)
-100~+100
Initial value: +100

Mixing amount (Rudder to Flap)
-100~+100
Initial value: +100

5 When ending setting, return to the Mixing menu screen by pressing the (END) button.

Slave channel output (Initial value)

Rudder to Flap channel side	: +100%
Flap channel to Rudder side	: -100%

Dial / Trim Setting

The mixing rate amount can be controlled with digital dial or digital trim, using the function select dial function. (p.101)

Effect of the set value of other functions on tilt mixing

Steering end point function, curve function, speed function, or D/R function setup also effects flap channel operation. However, even if set, steering reverse function setup does not reverse the flap channel.

4PX-Eng-08-Function-66-103.indd 95 2014/07/18 17:20:39

Program, Mixing (1, 2, 3, 4, 5) (All channels)

These functions allow you to apply mixing between the steering, throttle, channel 3 and channel 4.

Additional Functions

-When the steering or throttle channel is the master channel (channel that applies mixing), trim data can be added. (Trim mode)

- The mixing mode selection. (Master mixing mode)

- The master channel mixing center point (point at which the direction changes) can be offset. (Offset function)

Movement of the slave channel side

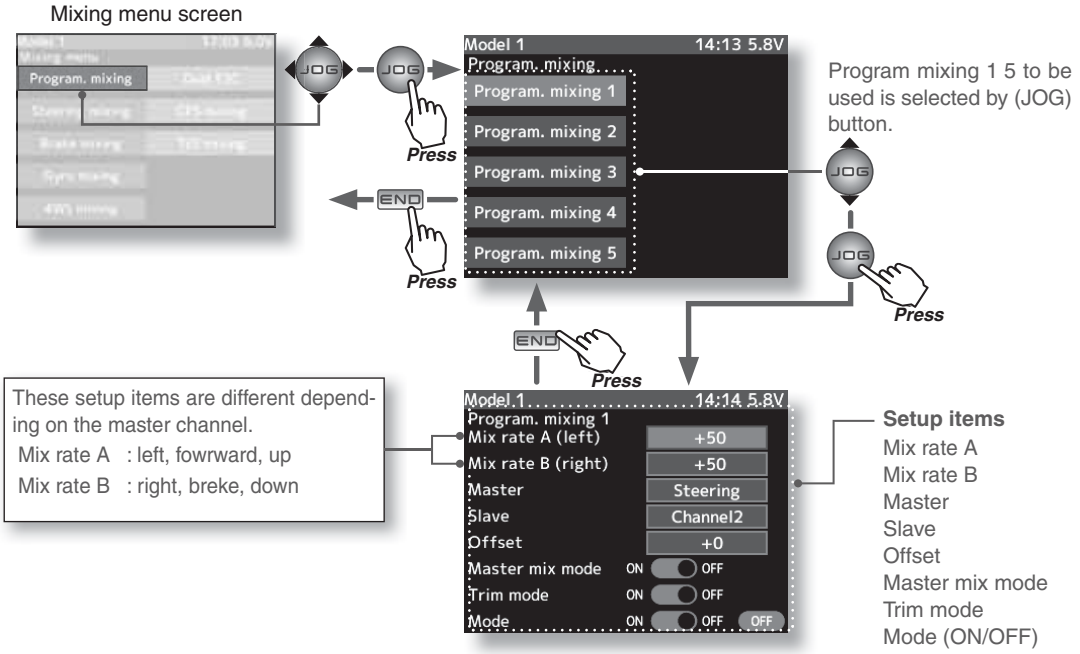
The movement of the master channel side will be added to the movement of the slave channel side.

When trigger ratio was set to 100:0

When trigger ratio (p.66) was set to 100:0, brake operation stops. When the master channel (MST) was set to throttle, mixing operates only at the "Rate A (forward)" side. It does not operate at the "Rate B (brake)" side.

Other mixing functions are assigned to CH3 or CH4. Program mixing can use CH3 or CH4 regardless of the other mixing functions. However, be careful because they interact.

Program. mixing screen from mixing menu screen (p.79)



Function

4PX-Eng-08-Function-66-103.indd 96 2014/07/18 17:20:40

Program mixing adjustment

(Preparation)

- Use the function select switch function (page 99) to select the switch. (as desired)
- Select the "Program mixing" by (JOG) button up or down operation, and select the 1 to 5 by pressing the (JOG) button.

Switch
Program mixing 1-5

Setup item selection
- Select by (JOG) button up or down operation.

1 (Mixing function ON/OFF)

Select the setting item "Mode" by (JOG) button up or down operation. Press the (+) or (-) button and set the function to the "ON" state.

"OFF" :Function OFF
"ON" :Function ON

When mixing is active, ON is displayed.

Setting buttons
- Use the (+) and (-) buttons to make adjustments.

Function ON/OFF (Mode)
ON, OFF

2 (Master channel)

Select setup item "Master" by (JOG) button up or down operation, and select the master channel by pressing the (+) or (-) button.

Setting buttons
- Use the (+) and (-) buttons to make adjustments.

Channel selection (Master)
Steering, Throttle
Channel3, Channel4

3 (Slave channel)

Select setup item "Slave" by (JOG) button up or down operation, and select the slave channel by pressing the (+) or (-) button.

Channel selection (Slave)
Channel1, Channel2
Channel3, Channel4

4 (Left, forward or up side mixing amount adjustment)

Select the setting item "left", "forward ", or "up" by (JOG) button up or down operation. Use the (+) or (-) button and adjust the right, brake, or down side mixing amount.

Adjustment buttons
- Use the (+) and (-) buttons to make adjustments.
- Return to the initial value by pressing the (+) and (-) buttons simultaneously (approx. 1 sec).

Mixing amount
-100~0~+100
Initial value: +50

5 (Right, brake or down side mixing amount adjustment)

Select the setting item "right", "brake", or "down" bby (JOG) button up or down operation. Use the (+) or (-) button and adjust the right, brake, or down side mixing amount.

6 (Offset amount setup)

Select setup item "Offset" bby (JOG) button up or down operation, and use the (+) and (-) button to adjust the offset amount.

Adjustment buttons
- Use the (+) and (-) buttons to make adjustments.
- Return to the initial value by pressing the (+) and (-) buttons simultaneously (approx. 1 sec).

Offset amount
-100~0~+100
Initial value: 0

7 (Mixing mode setup)

Select setup item "Master mix mode" bby (JOG) button up or down operation, and use the (+) and (-) button to adjust the offset amount.right operation, and use the (+) or (-) button to select the mixing mode.

"OFF" :Mixing proportional to master channel operation.
"ON" :Mixing by master channel another function considered.

Setting buttons
- Use the (+) and (-) buttons to make adjustments.

Master mix mode
ON, OFF

4PX-Eng-08-Function-66-103.indd 97 2014/07/18 17:20:40

8 (Trim mode setup)

Select setup item "Trim mode" by (JOG) button up, down, left, or right operation, and use the (+) or (-) button to select the mixing mode.

"OFF" :Trim is added.
"ON" :Trim is removed.

Setting buttons
- Use the (+) and (-) buttons to make adjustments.

Trim mode
ON, OFF

9 When ending setting, return to the Mixing menu screen by pressing the (END) button.

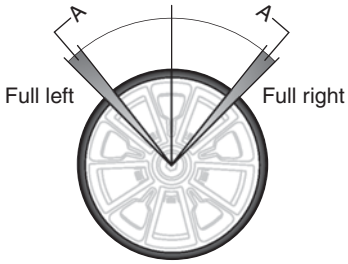
When Steering and Throttle Travel is Insufficient

When the steering servo travel is insufficient even when D/R is 100% and Endpoint is 140%, programmable mixing can be used to increase the travel somewhat.

(Reference data)

- Program nixing(1 - 5)->ON
- Master channel -> Steering Mixing is applied from steering
- Slave channel ->Steering Mixing is applied to steering and the travel is increased.
- Mix rate A (left) -> 10% [When subtrim is centered (0%)]
- Mix rate B (right) -> 10% [When subtrim is centered (0%)]
- Offset -> 0% / - Master mix mode -> ON / - Trim mode -> OFF

However, the operating range of the servo is exceeded even if a large value is input at "Mix rate A (left)" and "Mix rate B (right)" and a zone over which the servo does not operate even when the wheel is moved to the left or right is created. A zone over which the servo does not operate is also generated at the moving side when the subtrim is moved to the left and right. Therefore, set the "Mix rate A (left)" and "Mix rate B (right)" value by checking servo operation.



A :Zone over which servo does not operate

Function

Switch Setting

Select the program mixing function ON/OFF switch with the function select switch function. (p.99)

Dial / Trim Setting

The mixing amount can be adjusted by using the function dial function. (p.101)

4PX-Eng-08-Function-66-103.indd 98 2014/07/18 17:20:40

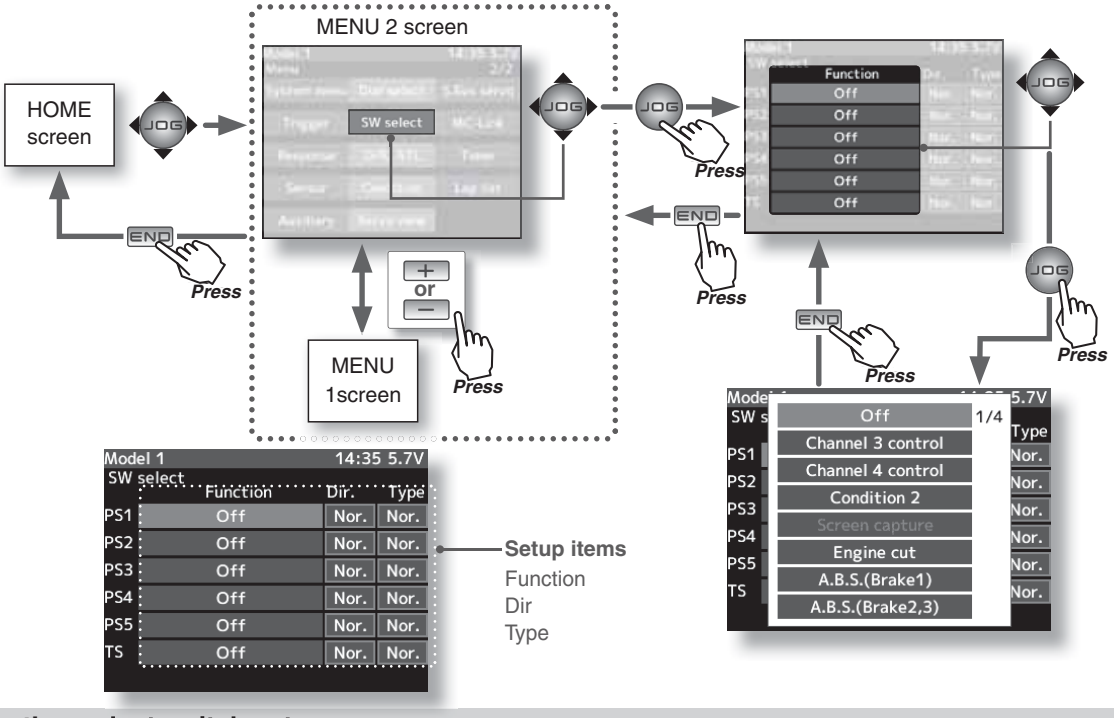
SW Select

This function allows selection of the function to be performed by the switches (PS1, PS2, PS3, PS4, PS5, throttle trigger) and setting of the direction, etc. of operation.

-The table in the next page lists the functions that can be assigned to each push switch.

-All switches can be made alternating operations (ON/OFF switched each time SW pressed). (NOR/ALT)

-The ON/OFF direction can be reversed. The reverse select function always starts from the ON state. However, the trigger switch is different, depending on the position. (NOR/REV)



Function select switch setup

1 (Select switch selection)

Select "Function" of the switch you want to set by (JOG) button up, down, left, or right operation, and press the (JOG) switch.

2 (Function setup)

A function list is displayed. Select the desired function by (JOG) button up or down operation, and press the (JOG) button.

(Changing the operation direction)

Select "Dir" of the switch you want to set by (JOG) button up, down, left, or right operation, and switch the direction by (+) or (-) button.

(Changing the type of operation)

Select "Type" of the switch you want to set by (JOG) button up, down, left, or right operation and switch the type by (+) or (-) button.

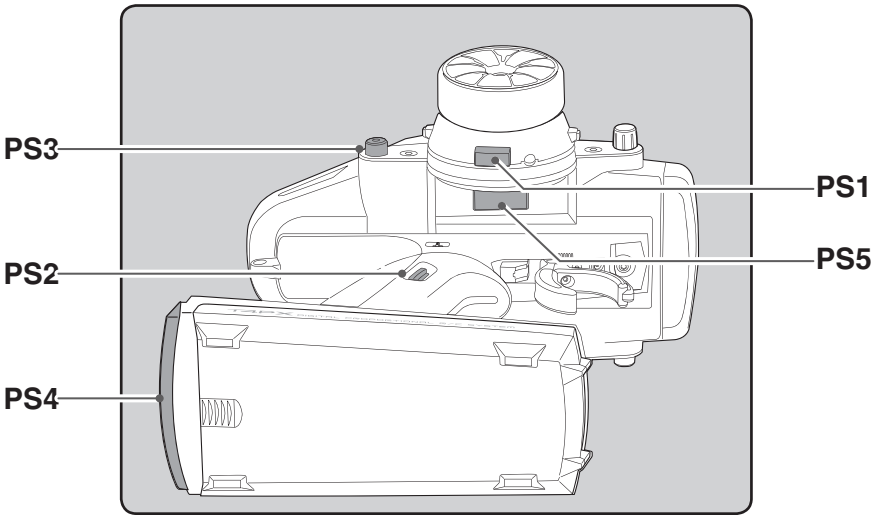
Setup switch selection
- Select by (JOG) button up, down operation.

Setup buttons
- Use the (+) and (-) buttons to make adjustments.
- Press the (+) and (-) buttons simultaneously (approx. 1 sec) to return to the initial screen.

Initial value:
"OFF", "Nor", "Nor"

3 When ending setting, return to the menu screen by pressing the (END) button.

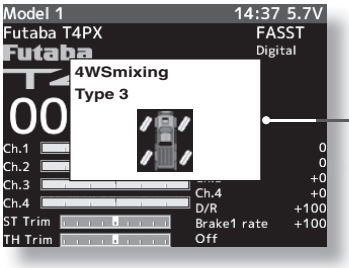
4PX-Eng-08-Function-66-103.indd 99 2014/07/18 17:20:41



Set table functions (PS1/PS2/PS3/PS4/PS5) & Trigger switch (TS)	
Abbreviation used on setup screen	**Function name, etc**
Channel 3 control	Operation of channel 3
Channel 4 control	Operation of channel 4
Condition 2	2nd condition function ON/OFF
Screen capture	The screen capture is preserved on the microSD card.
Engine cut	Engine cut
A.B.S.(Brake1)	A.B.S function brake1(2CH)ON/OFF
A.B.S.(Brake2,3)	A.B.S function brake2,3(3CH/4CH)ON/OFF
Neutral brake	Neutral brake function ON/OFF
Idle up	Idle up function ON/OFF
Program mixing(1-5)	Program mixing(1-5) function ON/OFF
4WS mixing	4WS mixing function ON/OFF & type select
Dual ESC (Rear)	Dual ESC mixing (Rear Drive mode)
Dual ESC (4WD)	Dual ESC mixing (4WD mode)
Dual ESC (Front)	Dual ESC mixing (Front Drive mode)
Gyro mixing	Switching GYRO mode (Switch of Gain1 and 2)
CPS mixing	CPS up function ON/OFF
Brake	Steering mixing (Brake function ON/OFF)
Timer start	Timer function start /stop
Timer reset	Timer function reset
Timer reset	Telemetry voice guide ON/OFF
Timer reset	Telemetry data logging ON/OFF
OFF	Not used

The HOME screen display

When push switch is operated in the HOME screen state, the state of the function is displayed in the center for about one or two seconds.



Example :4WS Mixing

When the set SW is operated in the HOME screen state, the 4WS mode is displayed here for about 2 seconds.

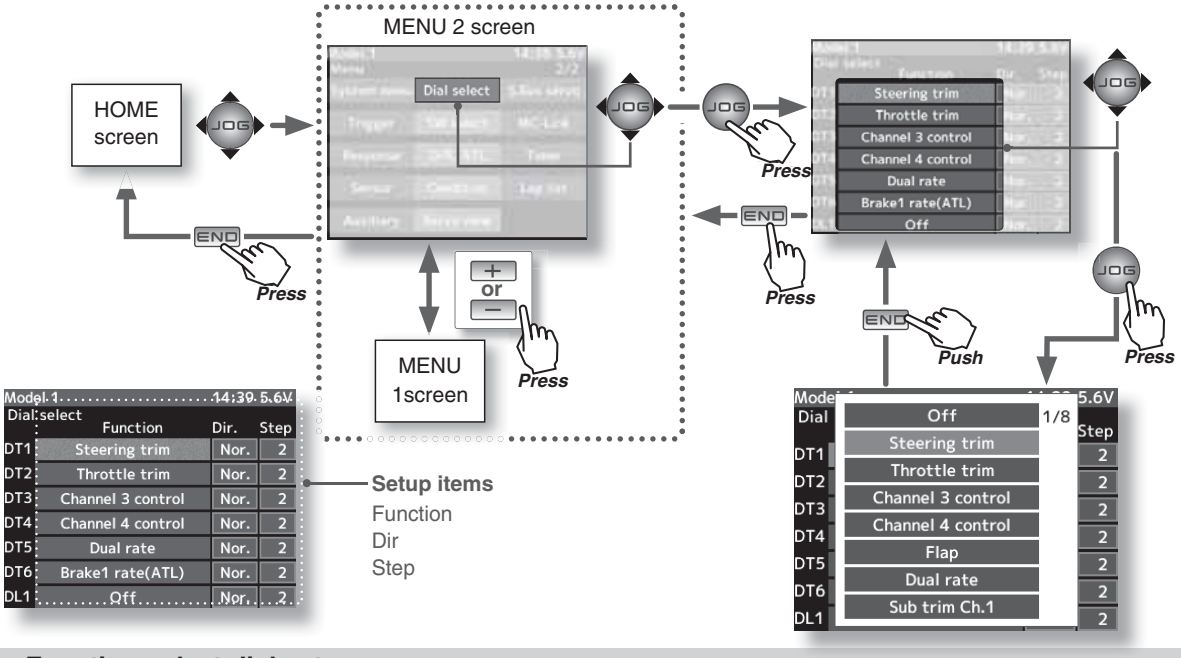
SW Select

4PX-Eng-08-Function-66-103.indd 100 2014/07/18 17:20:41

Dial Select

This function allows selection of the function performed by the digital dial DL1 and digital trimmers (DT1 ~ DT6), step amount adjustment, and operating direction reversal.

- The table in the next page lists the functions that can be assigned to each dial and digital trimmer. The assigned function is also displayed on the opening screen together with the current adjustment value. They are displayed in DL1and DT1 ~ DT6 order, from top to bottom.
- The step amount can be adjusted. The table in the following page shows the relationship between set value and step amount.
- The operation direction can be reversed. (NOR/REV)



Function select dial setup

1 (Select dial selection)

Select "Function" of the trim or dial you want to set by (JOG) button up, down, left, or right operation, and press the (JOG) button.

2 (Function setup)

A function list is displayed. Select the desired function by (JOG) button up or down operation, and press the (JOG) button.

(Changing the operation direction)

Select "Direction" of the switch you want to set by (JOG) button up, down, left, or right operation and switch the direction by (+) or (-) button.

(Changing the operation step amount)

Select "Step" of the switch you want to set by (JOG) button up, down, left or right operation, and switch the type by (+) or (-) button.

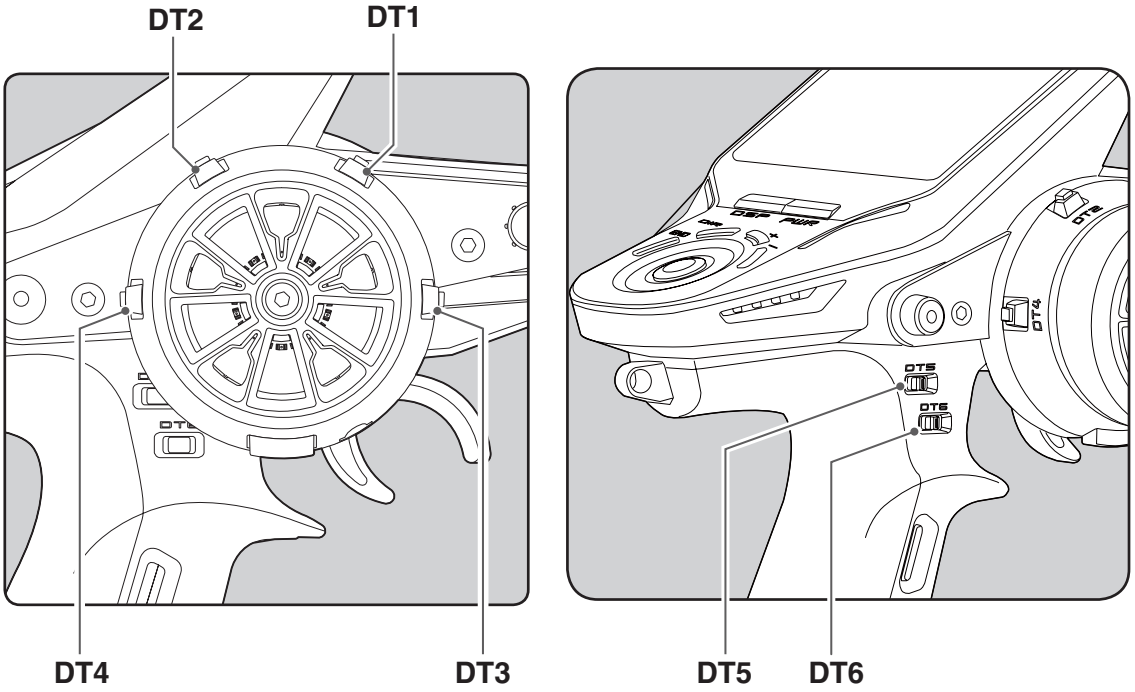
- For the relationship between set value and step amount, see the preceding page

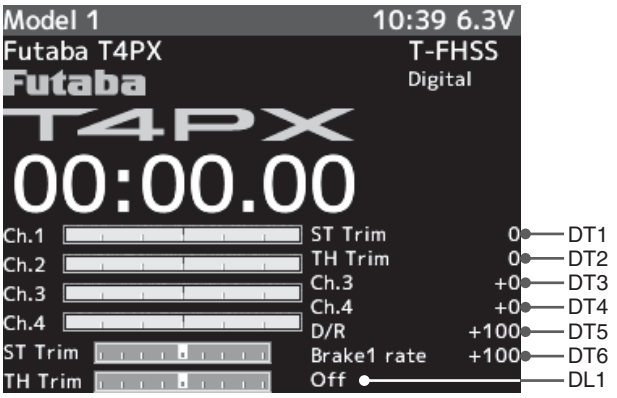
Setup item selection
- Select by (JOG) button up, down, left or right operation

Adjustment buttons
- Use the (+) and (-) buttons to make adjustments.
- Press the (+) and (-) buttons simultaneously (approx. 1 sec) to return to the initial screen.

3 When ending setting, return to the menu screen by pressing the (END) button.

4PX-Eng-08-Function-66-103.indd 101 2014/07/18 17:20:42





Initial value:

DT1 :Steering trim
DT2 :Throttle trim
DT3 :Channel3 control
DT4 :Channel4 control
DT5 :Dual rate
DT6 :Brake1 rate(ATL)
DL1 :OFF
Dir:Nor/ Step:2

Relationship between set value and step amount

(Setting range: 1, 2, 5, 10, 20, 30, 40, 50, 100, 200)

-Steering trim/throttle trim

When set to the minimum "1", the total trim operating width is 200 clicks. For "100", the total operating width is 2 clicks and for 2PS, the total operating width is 1 click.

-Rate, etc. setting

This is the % value which is operated by 1 click relative to the set value of each rate. Since the total operating width of functions having a rate of -100~0~+100 is 200%, when set to "100", the total operating width is 2 clicks. Since the total operating width of functions with a 0~100 rate is 100%, "100" and "200" are operated by 1 click.

-Channel 3/4

When set to the minimum "1", the total operating width of channel 3 is 200 clicks. For "100", the total operating with is 2 clicks and "200" is operated by 1 click.

4PX-Eng-08-Function-66-103.indd 102 2014/07/18 17:20:42

Set table functions (DL1/ DT1, DT2, DT3, DT4, DT5, DT6)		
Abbreviation used on setup screen	Abbreviation displayed on opening screen	Function name, etc
Steering trim	ST Trim	Steering trim
Throttle trim	TH Trim	Throttle trim
Channel 3 control	Ch.3	Channel 3 control
Channel 4 control	Ch.4	Channel 4 control
Dual rate	D/R	Dual rate function
Sub trim Ch1~4	Sub trim Ch1~4	Sub trim Ch1~4
Acceleration(forward)	Accel, forward	Throttle acceleration (Forward side)
Acceleration(brake1)	Accel, brake1	Throttle acceleration (Brake1 side)
Acceleration(brake2)	Accel, brake2	Throttle acceleration (Brake2 side)
Acceleration(brake3)	Accel, brake	Throttle acceleration (Brake3 side)
Steering curve	ST curve	Steering curve (EXP) rate
Throttle curve	TH curve	Throttle curve (EXP) (Forward side)
Steering speed(turn)	ST speed(turn)	Steering speed (Turn side)
Steering speed(return)	ST speed(return)	Steering speed (Return side)
ABS(return brake1)	ABS1 ret.	Brake1 A.B.S. function (Return amount)
ABS(delay brake1)	ABS1 delay	Brake1 A.B.S. function (Delay amount)
ABS(cycle brake1)	ABS1 cycle	Brake1 A.B.S. function (cycle speed)
ABS(return brake2)	ABS2 ret.	Brake2 A.B.S. function (Return amount)
ABS(delay brake2)	ABS2 delay	Brake2 A.B.S. function (Delay amount)
ABS(cycle brake2)	ABS2 cycle	Brake2 A.B.S. function (cycle speed)
ABS(return brake3)	ABS3 ret.	Brake3 A.B.S. function (Return amount)
ABS(delay brake3)	ABS3 delay	Brake3 A.B.S. function (Delay amount)
ABS(cycle brake3)	ABS3 cycle	Brake3 A.B.S. function (cycle speed)
Brake1 rate(ATL)	Brake1 rate	Brake1 rate (ATL)
Brake EXP(brake1)	Brake1 EXP	Throttle EXP (Brake1 side)
Brake delay(brake1)	Brake1 deray	Brake mixing: Brake1 delay
Brake2 rate	Brake2 rate	Brake mixing: Brake2 rate function
Brake EXP(brake2)	Brake2 EXP	Brake mixing: Throttle EXP (Brake2 side)
Brake delay(brake2)	Brake2 deray	Brake mixing: Brake2 delay
Brake3 rate	Brake3 rate	Brake mixing: Brake3 rate function
Brake EXP(brake3)	Brake3 EXP	Brake mixing: Throttle EXP (Brake3 side)
Brake delay(brake3)	Brake3 deray	Brake mixing: Brake3 delay
Brake2,3 rate	Brake2,3 rate	Brake mixing: Brake2,3 rate function
Tilt mixing (RUD → FLP)	Tilt R to F	Tilt mixing: rudder to flap rate
Tilt mixing (FLP → RUD)	Tilt F to R	Tilt mixing: flap to rudder rate
Idle up	Idle up	Idle up function rate
Prog. mixing 1~5 A	P.mix 1~5 A	Program mixing: rate A side (Left/Forward/Up sides)
Prog. mixing 1~5 B	P.mix 1~5 B	Program mixing: rate B side (Right/Brake/Down sides)
4WS rear rate	4WS rate	4WS mixing: (rear steering rate)
Dual ESC	Dual ESC	Dual ESC mixing (Drive mode select)
Dual ESC ratio	ESC ratio	Dual ESC mixing: drive ratio (front & rear)
Gyro Gain	Gyro	Gyro mixing: (Gain rate)
Ackermann rate	Ackermann	Ackermann mixing: (ackermann rate)
Steering response	ST response	Steering response adjustment
Throttle response	TH response	Throttle response adjustment
Flap	Flap	Tilt mixing: flap rate
OFF	Off	Not used

Timer Function

Use the timer by selecting one of the four timers Up timer, Fuel down timer, Lap timer and Lap navigate timer.

Up timer function

- The Up timer can be used to count the time between start and stop, etc.

- The timer repeatedly starts and stops each time the switch is operated and accumulates the time between each start and stop. (When the count reaches 99 minutes 59 seconds, it returns to 00 minutes 00 seconds and repeats the count.)
- The first start operation can be linked to the throttle trigger.
- An alarm sound can be set. The passage of time is announced by sounding of a buzzer (beeps) each minute after starting.

  - Alarm :Generates a beep at the set time (minutes).
  - Prealarm :Alarm advance announcement sound. Sounding begins 10 seconds before the set alarm time.

- After starting, the timer is enabled and can be stopped by switch even when the display switches to another screen.

Fuel down timer function

The fuel down timer is used primarily to check the refueling time of gasoline engine cars. (The remaining time is displayed.)

- Each time the switch is pressed, the timer is restarted and the set time is counted down. The start time becomes the alarm set time. (When counted down to 00 minutes 00 seconds, the timer becomes an Up timer.)
- The fuel down timer can be initially started by throttle trigger.
- An audible alarm can be set. In addition, the passing of time is indicated by sounding of a buzzer each minute after starting.

  - Alarm :Buzzer sounds at the set time (minute).
  - Prealarm :Alarm advance announcement sound. Sounding begins 10 seconds before the set alarm time.

- After starting, the timer continues to count even if the LCD switches to another screen.

4PX-Eng-08-Function-104-156.indd 104 2014/07/18 17:36:07

Lap timer function

Lap timer function

- The Lap timer can memorize each lap time of each switch operation. (60 laps)
- The race time can be set. Switch operation after the set time by alarm has elapsed automatically stops the timer. Prealarm can also be set. The passage of time is announced by sounding of a buzzer (beeps) each minute after starting.

-Alarm :Generates a beep at the set time.
Prealarm :Starts sounding the set time (second) before the alarm. (beeps)

- The first start operation can be linked with the throttle trigger.

(Lap timer operation)

- When lap timer is selected, the number of laps (LAP) and the lap memory No. (No.) and current lap time (TIME) are displayed on the setup screen.

*LAP: Counted up each time the switch is pressed after starting. After the switch was pressed, the numbers pause for 3 seconds. To prevent erroneous counting, switch operation is not accepted during this time
*Lap memory: The lamp memory saves the lap times of 60 laps.
*The lap time data stored in the lap memory can be checked at the lap list (P111) screen.

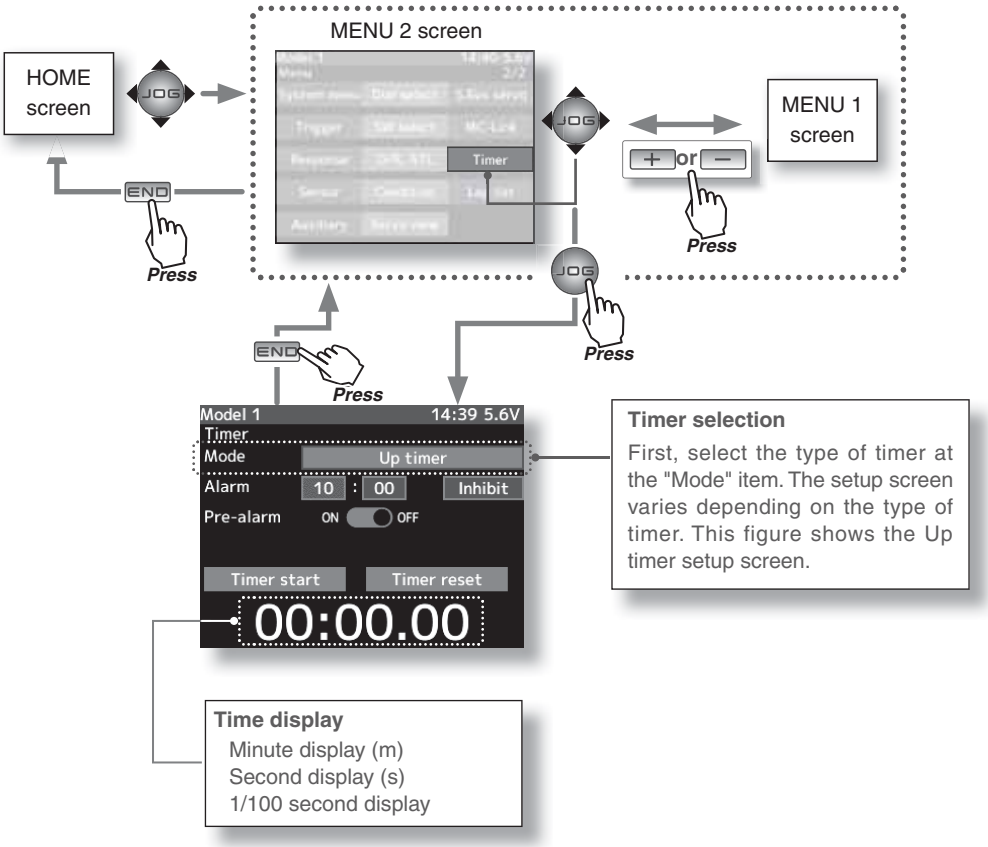
Lap navigate timer function

Lap navigate timer function

- This function sounds a buzzer at a fixed interval after the timer starts. Since only the buzzer can be restarted when the switch is pressed during timer operation, this function can be used as the training run, etc. target time. (Lap navigation alarm) The passage of time is announced by sounding of a buzzer (beeps) every minute after starting.

- The first start operation can be linked with the throttle trigger.
- The alarm sounds (alarm/prealarm) can be set separately from the fixed interval buzzer.

- Alarm :Generates a beep at the set time (minutes).
- Prealarm :Alarm advance announcement sound. Sounding begins 10 seconds before the set alarm time.
- After starting, the timer is enabled and can be stopped by switch even when the display switches to another screen.



Racing timer type selection

(Preparation)

Assign the "Timer start" switch using the function select switch (p.99). When resetting by switch, assign "Lap reset" also.

1 (Racing timer type selection)

Select the setting item "Mode" by (JOG) button up, down, left, or right operation. Press the (+) or (-) button and set the racing timer type.

Timer selection (TYPE)
- Up timer
- Fuel down timer
- Lap timer
- Lap navigate timer

Setup item selection
- Select by (JOG) button up, down, left or right operation.

Adjustment buttons
- Use the (+) and (-) buttons to make adjustments.

2 When ending setting, return to the menu screen by pressing the (END) button.

Function

4PX-Eng-08-Function-104-156.indd 106 2014/07/18 17:36:08

Using the Up timer

(Preparation)

Select the setting item "Mode" by (JOG) button up or down operation. Press the (+) or (-) button and select "Up timer".

Adjustment buttons
- Use the (+) and (-) buttons to make adjustments.
- Press the (+) and (-) buttons simultaneously (approx. 1 sec) to return to the initial screen.

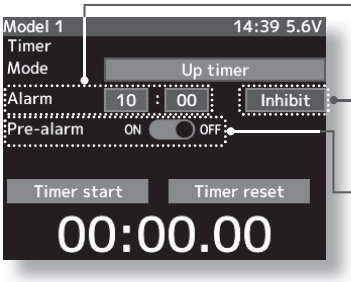
1 (Alarm time setting)

Select the setting item "Alarm" by (JOG) button up, down, left, or right operation and set the alarm time with the (+) and (-) buttons.

The setting item at the right side of the alarm time is the alarm vibration setting. Select one of the 3 patterns or inhibit (OFF) by (+) or (-) button.

(Pre alarm time setting)

Select the setting item "Pre-alarm" by (JOG) button up, down, left, or right operation, and set the pre alarm to the active state by pressing the (+) or (-) button.



Alarm time
OFF, 1 ~ 99 m
Initial value: 5 m

Grip vibrator type
Inhibit(Off), Type1,2,3
Initial value: Inhibit

Prealarm time
OFF, ON
Initial value: OFF

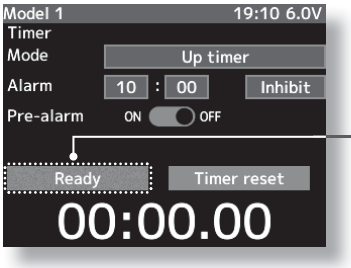
2 (Timer start/stop operation)

When the switch ("Timer start") assigned by function select switch function is pressed, the timer starts. Stop the timer with the same switch ("Timer start") as start, or with the switch assigned the "Lap reset" function.

Switches
Timer start :start / stop
Lap reset :stop / reset

- Linking only start to the throttle trigger

Select the setting item "Timer start" by (JOG) button up, down, left, or right operation and press the (+) and (-) buttons simultaneously for about 1 second. When the set beeps and the status display switches from "Timer start" to "Ready", the system enters the trigger operation ready state. When the trigger is operated at the forward side, the timer starts. (Status display "Timer start")

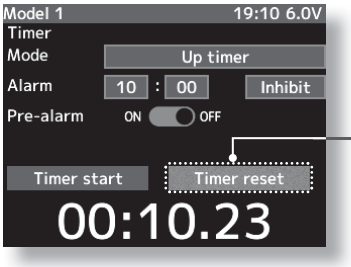


Status display
Ready:
Throttle trigger operation wait
Timer start:
Timer running/ Timer stopped

3 (Timer reset operation)

When the switch ("Timer reset") assigned by function select switch function is pressed, the timer is reset.

When a switch is not set, select "Timer reset" by (JOG) button up or down operation, and press the (JOG) button. A beeping sound is generated and the timer is reset.



Timer start/ reset

Function

4PX-Eng-08-Function-104-156.indd 107 2014/07/18 17:36:08

Using the fuel down timer

(Preparation)

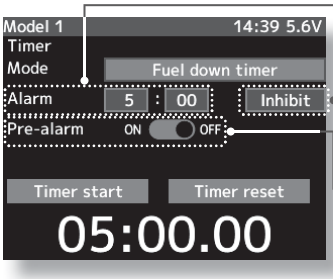
Select the setting item "Mode" by (JOG) button up or down operation. Press the (+) or (-) button and select "Fuel down timer".

Adjustment buttons
- Use the (+) and (-) buttons to make adjustments.
- Press the (+) and (-) buttons simultaneously (approx. 1 sec) to return to the initial screen.

1 (Alarm time setting)

Select the setting item "Alarm" by (JOG) button up, down, left, or right operation and set the alarm time with the (+) and (-) buttons.

The setting item at the right side of the alarm time is the alarm vibration setting. Select one of the 3 patterns or inhibit (OFF) by (+) or (-) button.



Alarm time
OFF, 1 ~ 99 m
Initial value: 5 m

Grip vibrator type
Inhibit(Off), Type1,2,3
Initial value: Inhibit

Prealarm time
OFF, ON
Initial value: OFF

(Pre alarm time setting)

Select the setting item "Pre-alarm" by (JOG) button up, down, left, or right operation, and set the pre alarm to the active state by pressing the (+) or (-) button.

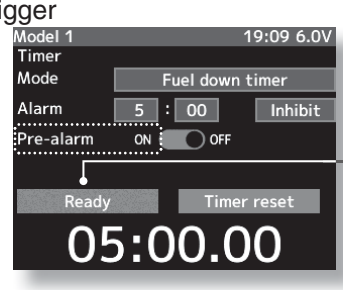
2 (Timer start/stop operation)

When the switch ("Timer start") assigned by function select switch function is pressed, the timer starts. Stop the timer with the same switch ("Timer start") as start, or with the switch assigned the "Lap reset" function.

Switches
Timer start :start / stop
Lap reset :stop / reset

- Linking only start to the throttle trigger

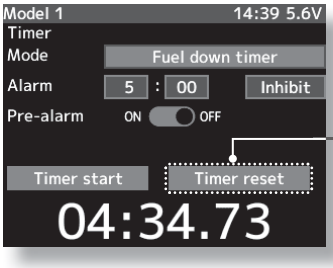
Select the setting item "Timer start" by (JOG) button up, down, left, or right operation and press the (+) and (-) buttons simultaneously for about 1 second. When the set beeps and the status display switches from "Timer start" to "Ready", the system enters the trigger operation ready state. When the trigger is operated at the forward side, the timer starts. (Status display "Timer start")



Status display
Ready:
Throttle trigger operation wait
Timer start:
Timer running/ Timer stopped

3 (Timer reset operation)

When the switch ("Timer reset") assigned by function select switch function is pressed, the timer is reset. When a switch is not set, select "Timer reset" by (JOG) button up or down operation, and press the (JOG) button. A beeping sound is generated and the timer is reset.



Timer start/ reset

4PX-Eng-08-Function-104-156.indd 108 2014/07/18 17:36:08

Using the Lap timer

(Preparation)

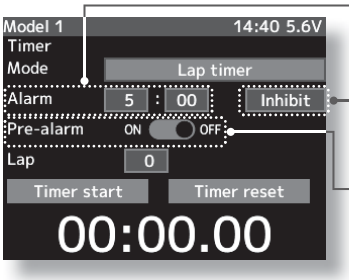
Select the setting item "Mode" by (JOG) button up or down operation. Press the (+) or (-) button and select "Lap timer".

Adjustment buttons
- Use the (+) and (-) buttons to make adjustments.
- Press the (+) and (-) buttons simultaneously (approx. 1 sec) to return to the initial screen.

1 (Alarm time setting)

Select the setting item "Alarm" by (JOG) button up, down, left, or right operation and set the alarm time with the (+) and (-) buttons.

The setting item at the right side of the alarm time is the alarm vibration setting. Select one of the 3 patterns or inhibit (OFF) by (+) or (-) button.



Alarm time
OFF, 1 ~ 99 m
Initial value: 5 m

Grip vibrator type
Inhibit(Off), Type1,2,3
Initial value: Inhibit

Prealarm time
OFF, ON
Initial value: OFF

(Pre alarm time setting)

Select the setting item "Pre-alarm" by (JOG) button up, down, left, or right operation, and set the pre alarm to the active state by pressing the (+) or (-) button.

Switches
Timer start :start / stop
Lap reset :stop / reset

2 (Timer start/lap count operation)

Perform the start and lap count operations with the switch ("Timer start") assigned by function select switch function.

- Linking only start to the throttle trigger.

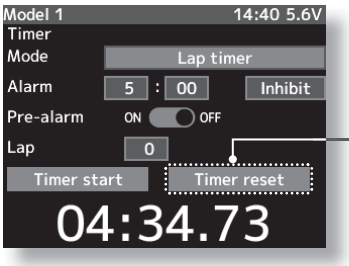
Select the setting item "Timer start" by (JOG) button up, down, left, or right operation and press the (+) and (-) buttons simultaneously for about 1 second. The set beeps and the timer display changes from "Timer start" to "Ready" and the set enters the trigger operation ready state. (Status display "Timer star")

Status display
Ready:
Throttle trigger operation wait
Timer start:
Timer running/ Timer stopped

Will not start if the last lap timer is not reset

3 (Timer stop/reset operation)

When the lap count switch or "Timer reset" switch is pressed after the time set by "Alarm" has elapsed and the lap time, total time, and average lap time are saved and checked. (Lap list p.111)



Timer start/ reset

If the switch ("Timer reset") set by switch setting function is pressed, the timer is reset. When a switch is not set, select "Timer reset" by (JOG) button up or down operation, and press the (JOG) button. A beeping sound is generated and the timer and lap list are reset.

Be careful because timer reset clears the lap list.

4PX-Eng-08-Function-104-156.indd 109 2014/07/18 17:36:09

Using the navigate timer

(Preparation)

Select the setting item "Mode" by (JOG) button up or down operation. Press the (+) or (-) button and select " Lap navigate timer".

Adjustment buttons

- Use the (+) and (-) buttons to make adjustments.
- Press the (+) and (-) buttons simultaneously (approx. 1 sec) to return to the initial screen.

1 (Alarm time setting)

Select the setting item "Alarm" by (JOG) button up, down, left, or right operation and set the alarm time with the (+) and (-) buttons.

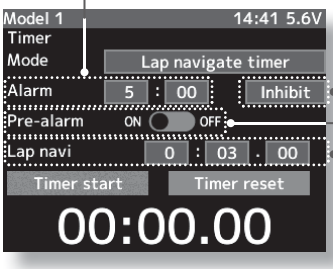
The setting item at the right side of the alarm time is the alarm vibration setting. Select one of the 3 patterns or inhibit (OFF) by (+) or (-) button.

(Pre alarm time setting)

Select the setting item "Pre-alarm" by (JOG) button up, down, left, or right operation and set the pre alarm time with the (+) and (-) buttons.

(Lap navigation time setting)

Select the setting item "Lap navi" by (JOG) button up, down, left, or right operation and set the lap navigation alarm (target) time with the (+) and (-) buttons.



Alarm time
OFF, 1 ~ 99 m
Initial value: 5 m

Grip vibrator type
Inhibit(Off), Type1,2,3
Initial value: Inhibit

Prealarm time
OFF, ON
Initial value: OFF

Navi alarm time (NAVI)
OFF, 1 ~ 99 s
Initial value: 3 s

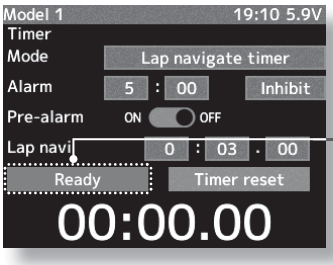
2 (Timer start/navigation restart operation)

When the switch ("Timer start") assigned by function select switch function is pressed, the timer starts.

- Linking only start to the throttle trigger

Select the setting item "Timer start" by (JOG) button up, down, left, or right operation and press the (+) and (-) buttons simultaneously for about 1 second. The set beeps and the status display changes from "Timer start" to blinking "Ready" and the set enters the trigger operation ready state. When the trigger is operated at the forward side, the timer starts. (Status display "Timer start")

When your own lap time is less than the target time and the lap counts overlap, the lap navigation alarm timing is too big. The alarm timing can be corrected by pressing the switch ("Timer start") during measurement.



Switches
Timer start :start / stop
Lap reset :stop / reset

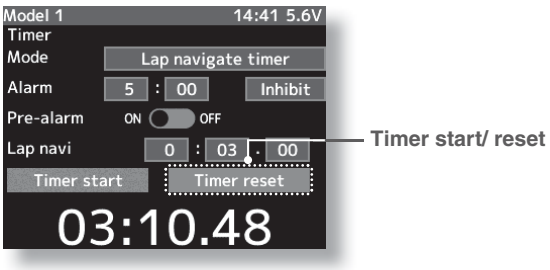
Status display
Ready:
Throttle trigger operation wait
Timer start:
Timer running/ Timer stopped

Function

4PX-Eng-08-Function-104-156.indd 110 2014/07/18 17:36:09

3 (Timer stop/reset operation)

When the switch ("Timer reset") assigned by function select switch function is pressed, the timer is reset. When a switch is not set, select "Timer reset" by (JOG) button up or down operation, and press the (JOG) button. A beeping sound is generated and the timer and lap list are reset.



Lap List

Call Lap list when checking the lap memory data (each lap time) memorized by lap timer (p.105, 109) operation.

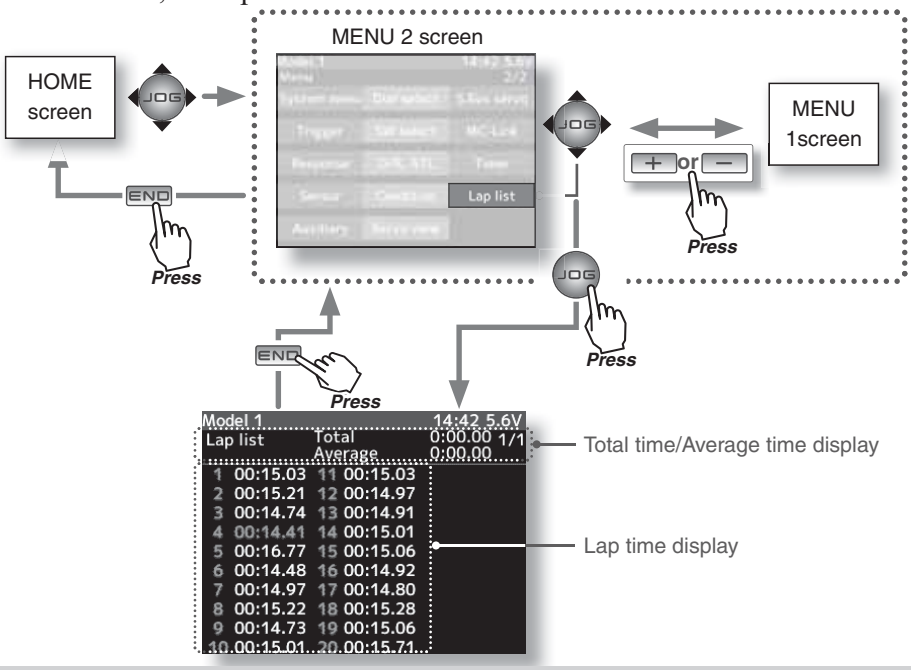
- After the lap timer is started, the lap time is sequentially memorized at each switch operation.

-The total time and average time are displayed. The faster time is displayed in red characters.

-Lap time data is saved in each model data.

-Up to 60 laps can be saved.

-If the lap timer is reset, the lap list is also cleared.



Using the lap memory

1 (Lap memory check)

The lap list displays up to 30 laps on page 1 and 60 laps on page 2. The page is switched by (+) or (-) button.

2 When ending setting, return to the menu screen by pressing the (END) button.

4PX-Eng-08-Function-104-156.indd 111 2014/07/18 17:36:10