

# Retract Sequencer MKII

Congratulations on buying this Model Radio Workshop Retract Sequencer. If you treat it with respect it will reward you with many years of trouble free service.

## Features

Proportional "retract door" and "retract wheel" servos are controlled in sequence by the gear switch.

A two movement sequence: door down, wheel down – wheel up, door up can be selected.

A three movement sequence: door down, wheel down, door up – door down, wheel up, door up can be selected.

Servo endpoints (travel) can be individually set between +150% and –150% giving automatic servo reverse.

The transmitter switch operating direction can be selected.

The transit time of the servos can be set between about 2 and 16 seconds for 100% travel.

Factory reset is available.

## Instructions

It is probably best to make initial adjustments to servo direction and servo travel before fitting the servos into the model. In addition, as the door servo transit speed depends on the travel end points selected, set the travel end points before finally adjusting the speed. On switch on, the servos are driven at full speed to the position set by the gear switch. Take care therefore that once set, the gear switch is in the correct position for the servos before switching the transmitter on.

Plug the receiver flying lead on the Retract Sequencer into the gear channel on your receiver. Plug the "Door" servo into the "Door" connector and the "Wheel" servo into the "Wheel" connector.

## Set-up

Before operating or adjusting your Retract Sequencer, set the transmitter operating channel travel to 100% and the travel direction to normal.

As the transmitter switch direction affects the remaining set-up, you **MUST** detect the gear switch operating direction first. The unit remembers the position and it is only necessary to detect the operating direction once or if you perform a factory reset.

## Transmitter Switch Direction Detect

Switch the transmitter on and move the gear switch to your chosen "GEAR UP" position. Press and hold the "-" key and switch the unit on. **HOLD THE KEY UNTIL THE LED LIGHTS.** The LED will not light until the unit receives a valid signal from the gear channel. The stick direction is stored and the LED goes out when the key is released.

## 2 or 3 Stage Sequence

To change the operating sequence, press and hold the "+" key and switch the unit on. **HOLD THE KEY UNTIL THE LED LIGHTS.** The unit will toggle between the 2 stage sequence and the 3 stage sequence each time this operation is performed. The new sequence is stored and the LED goes out when the key is released.

## Reset

To reset the unit to the factory defaults, press and hold the "+" and "-" keys and switch the unit on. **HOLD THE KEYS UNTIL THE LED LIGHTS.** The system is reset and the LED goes out when the keys are released.

## Travel adjustment

The servo endpoint positions can be anywhere on the travel range from +150% to -150% so a separate reverse function is not needed.

Press and hold the "+" key until the LED blinks to indicate that the travel set-up is active. When the key is released, the LED will glow continuously and the door servo will respond to the gear switch at full speed. Move the gear switch to "GEAR UP" and use the "+" key to move the servo in one direction and the "-" key to move it in the other to give the required "GEAR UP" position. Do the same with the gear switch in the "GEAR DOWN" position. Note that the selected position can be on either side of neutral, ANYWHERE on the travel range.

When this has been done, press the "+" and "-" keys simultaneously for about a second to enter the "Wheel" travel set-up. The LED will flash rapidly while the keys are pressed and light continuously when they are released to confirm that the "Wheel" set-up is active. The door servo will move immediately to the down position to give clearance for the wheel servo. The wheel servo will respond to the gear switch at full speed. Repeat the above procedure to set the wheel servo travel.

To exit set-up, press and hold the "+" and "-" keys simultaneously for about a second. The door servo will move to the position appropriate to the number of stages in the sequence and the gear switch position.

## Servo speed

To enter the procedure for setting the servo transit speed, press and hold the "-" key. The LED will flash evenly while the key is pressed and asymmetrically when it is released to confirm that the speed set procedure is active.

To adjust the door servo transit time (speed), press and hold the "+" key. The LED will flash up to 8 times and then pause. Count the LED flashes from the pause and release the key when the required number of flashes have been seen. A single flash will give the maximum speed and a servo transit time of about 2 seconds for 100% travel. More flashes will give more delay (less speed) and with 8 flashes, the servo transit time is about 16 seconds for 100% travel. If you accidentally go past the required number of flashes, release the key and start again. The count always starts from one when the key is pressed.

The wheel servo transit time (speed) is adjusted in the same way by pressing the "-" key.

To exit the speed set-up, press and hold the "+" and "-" keys simultaneously UNTIL THE LED FLASHES RAPIDLY. **A short press will not exit!** The servos will operate at the selected speed.

The unit remembers all settings and it is only necessary to adjust the servos initially and when making modifications.

## SAFETY

Please ensure that the set-up keys cannot be pressed accidentally while the unit is in use.

