

CowanSim S76C++ Setup & Controls Manual

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1. Controls Binding Guide

Default MSFS control events for the CowanSim S76C++.

1.1 Lighting Controls

TAXI_LIGHTS_SET:

Hardware toggle sets Landing Lights on/off.

TAXI_LIGHTS_ON:

Turns Landing Lights on (gear extended only).

TAXI_LIGHTS_OFF:

Turns Landing and Recognition lights off.

TOGGLE_TAXI_LIGHTS:

Toggles Landing Lights; turns Recognition lights off.

LANDING_LIGHTS_SET:

Hardware toggle sets Search Light on/off.

LANDING_LIGHTS_ON:

Turns Search Light on.

LANDING_LIGHTS_OFF:

Turns Search Light off (does not retract).

LANDING_LIGHTS_TOGGLE:

Toggles Search Light.

RECOGNITION_LIGHTS_SET:

Hardware toggle sets alternating (pulse) landing lights on/off.

TOGGLE_RECOGNITION_LIGHTS:

Turns permanent Landing Lights off; toggles alternating landing lights.

TOGGLE_WING_LIGHTS:

Toggles Main Rotor Tip Lights.

LANDING_LIGHT_LEFT:

Search Light heading control (left).

LANDING_LIGHT_RIGHT:

Search Light heading control (right).

LANDING_LIGHT_UP:

Search Light pitch control (up).

LANDING_LIGHT_DOWN:

Search Light pitch control (down).

1.2 Avionics & Displays

DME2_TOGGLE:

Cycle pilot's DME display source (1-3).

TOGGLE_AVIONICS_MASTER:

Toggles Radio Master Switch.

AVIONICS_MASTER_1_OFF:

Copilot EFIS off.

AVIONICS_MASTER_1_ON:

Copilot EFIS on.

AVIONICS_MASTER_1_SET:

Hardware toggle sets Pilot EFIS on/off.

AVIONICS_MASTER_2_OFF:

Pilot EFIS off.

AVIONICS_MASTER_2_ON:

Pilot EFIS on.

AVIONICS_MASTER_2_SET:

Hardware toggle sets Copilot EFIS on/off.

1.3 Floats

RETRACT_FLOAT_SWITCH_INC:

Inflates floats if armed; otherwise tests float system.

1.4 Engine & Trim

HELICOPTER_ENGINE_1_BEEP_TRIM_INCREASE:

Increases manual throttle or collective trim based on helicopter state.

HELICOPTER_ENGINE_1_BEEP_TRIM_DECREASE:

Decreases manual throttle or collective trim based on helicopter state.

HELICOPTER_ENGINE_2_BEEP_TRIM_INCREASE:

Tail rotor trim left.

HELICOPTER_ENGINE_2_BEEP_TRIM_DECREASE:

Tail rotor trim right.

ROTOR_TRIM_RESET:

Force Trim Release—centers trim with or without autopilot (see procedure).

ROTOR_LONGITUDINAL_TRIM_INC/DEC:

Adjusts speed or vertical reference/trim based on autopilot mode.

ROTOR_LATERAL_TRIM_INC/DEC:

Adjusts bank or heading/nav reference/trim based on autopilot mode.

ELEV_TRIM_DN/UP:

Elevator trim down/up.

RUDDER_TRIM_LEFT/RIGHT:

Rudder trim left/right.

1.5 Fuel Selectors

FUEL_SELECTOR_OFF:

Left engine fuel off.

FUEL_SELECTOR_LEFT:

Left engine fuel direct from left tank.

FUEL_SELECTOR_ALL:

Left engine fuel prime position.

FUEL_SELECTOR_1_CROSSFEED:

Left engine fuel from right tank.

FUEL_SELECTOR_2_OFF:

Right engine fuel off.

FUEL_SELECTOR_2_RIGHT:

Right engine fuel direct from right tank.

FUEL_SELECTOR_2_ALL:

Right engine fuel prime position.

FUEL_SELECTOR_2_CROSSFEED:

Right engine fuel from left tank.

1.6 Alternators & Cautions

TOGGLE_ALTERNATOR1:

Toggles left engine DC alternator.

TOGGLE_ALTERNATOR2:

Toggles right engine DC alternator.

TOGGLE_ALTERNATOR3:

Toggles AC alternator.

MASTER_CAUTION_ACKNOWLEDGE:

Silences active cautions.

1.7 Autopilot & Flight Director

AP_MASTER:

Toggles both autopilots (no sync).

AUTOPILOT_ON:

Both autopilots on.

AUTOPILOT_OFF:

Both autopilots off.

AUTOPILOT_DISENGAGE_TOGGLE:

Decouples autopilot actuators from flight director.

AUTO_THROTTLE_TO_GA:

Toggles go-around mode.

AUTO_THROTTLE_ARM:

Arms autopilot collective drive.

AUTO_THROTTLE_DISCONNECT:

Disconnects autopilot from collective.

1.7.1 Attitude & Mode Controls

AP_ATT_HOLD:

Toggle SAS/ATT modes.

AP_ATT_HOLD_ON:

Engage ATT mode or cancel upper modes.

AP_ATT_HOLD_OFF:

Engage SAS mode.

AP_ALT_RADIO_MODE_TOGGLE:

Toggle radio altitude hold at current altitude.

AP_ALT_RADIO_MODE_ON:

Engage radio altitude hold.

AP_ALT_RADIO_MODE_OFF:

Disengage radio altitude hold.

AP_AIRSPEED_HOLD:

Toggle indicated airspeed hold.

AP_AIRSPEED_ON:

Engage indicated airspeed hold.

AP_AIRSPEED_OFF:

Disengage indicated airspeed hold.

AP_ALT_HOLD:

Toggle altitude hold.

AP_ALT_HOLD_ON:

Engage altitude hold.

AP_ALT_HOLD_OFF:

Disengage altitude hold.

AP_HDG_HOLD:

Toggle heading hold.

AP_HDG_HOLD_ON:

Engage heading hold.

AP_HDG_HOLD_OFF:

Disengage heading hold.

AP_MACH_HOLD:

Toggle velocity hold/hover augmentation.

AP_MACH_ON:

Engage velocity hold/hover augmentation.

AP_MACH_OFF:

Disengage velocity hold/hover augmentation.

FLIGHT_LEVEL_CHANGE:

Toggle altitude preselect mode.

FLIGHT_LEVEL_CHANGE_ON:

Engage altitude preselect mode.

FLIGHT_LEVEL_CHANGE_OFF:

Disengage altitude preselect mode.

AP_VS_HOLD:

Toggle vertical speed mode.

AP_VS_ON:

Engage vertical speed mode.

AP_VS_OFF:

Disengage vertical speed mode.

1.7.2 Approach & Navigation**AP_APR_HOLD:**

Toggle VOR approach mode.

AP_APR_HOLD_ON:

Disengage VOR approach mode.

AP_APR_HOLD_OFF:

Engage VOR approach mode.

AP_ALT_VAR_DEC:

Decrease autopilot altitude reference by 100 ft.

AP_ALT_VAR_INC:

Increase autopilot altitude reference by 100 ft.

AP_BC_HOLD:

Toggle backcourse mode.

AP_BC_HOLD_ON:

Engage backcourse mode.

AP_BC_HOLD_OFF:

Disengage backcourse mode.

AP_NAV1_HOLD:

Toggle NAV mode.

AP_NAV1_HOLD_ON:

Engage NAV mode.

AP_NAV1_HOLD_OFF:

Disengage NAV mode.

AP_LOC_HOLD:

Toggle ILS mode.

AP_LOC_HOLD_ON:

Disengage ILS mode.

AP_LOC_HOLD_OFF:

Arm ILS mode.

2. Hardware Axis Mapping

- Collective vs Throttle: assign separate axes.
- Governor: set throttle to max; governor manages RPM.
- No throttle axis: leave unassigned, use mouse.
- Unique profile: Controls Options → Open Preset Manager.

3. Flight Model Settings

Open General Options → Flight Model.

Select Modern. If issues, toggle Legacy → Modern.

4. Assistance Options

Assistance Options → Piloting.

Under Helicopters: Assisted Tail Rotor: Off & Assisted Cyclic: Off (Optional: enable for easier flying.)

5. Sensitivity Curves & Settings

Personalize curves and dead zones to your hardware and preference.

6. In-Cockpit Click Spots

Cockpit view only.

Hover or enable tooltips (General Options → Assistance → Tooltips).

Use click spots for doors, switches, custom features.

7. Weight & Balance Configuration

Enable Weight and Balance in menu.

Adjust payload while loaded; settings persist per session.

Main menu pre-flight changes overwrite on load.