

About the 747-8 Autopilot and Autothrottle

by John Williams

Autopilot

Pitch Modes

ALT knob - adjusts the target altitude (but does not change the current altitude)

ALT HOLD - AP holds the current indicated altitude (rounded to the nearest 100 ft)

V/S scroll wheel - adjusts the rate of climb or descent in increments of 100 ft/min

V/S hold - climb or descend at the rate shown on the V/S display in ft/min

FLCH - Climb or descend to target altitude shown in ALT display; when used in conjunction with V/S mode, climb/descent rate is controlled by V/S scroll wheel

VNAV - hold and change altitudes as specified in FMS route manager (note: VNAV only looks ahead to the next waypoint. It will not plan a climb or descent.)

APP - Arms and activates LOC lateral mode, and arms and activates G/S mode to follow ILS glideslope path

Notes:

- If FLCH mode is activated while in V/S mode, mode will automatically change to ALT upon reaching target altitude.
- If V/S mode is activated while in FLCH mode, flight level change will occur at the vertical speed specified in the V/S display, and mode will automatically change to ALT upon reaching target altitude.
- G/S mode will arm, but will not capture while FLCH mode is activated. Activate V/S or ALT mode first, then activate APP mode.
- When VNAV activates FLCH mode, target altitude cannot be changed until system returns to VNAV mode.
- VNAV is designed to make minor altitude adjustments during the cruise phase of the flight. It does not control vertical speed or pitch angle, and therefore is not equipped to properly manage the climb and descent phases of the flight.
- If your speed is not sufficient to maintain the requested altitude or climb/descent rate, vertical mode may deactivate automatically.

Lateral Modes

HDG knob - adjusts target magnetic heading

HDG HOLD - turn to and hold target magnetic heading

BANK LIMIT knob - AP bank angle limiter (Auto, 5, 10, 15, 20, 25, 30 deg)

LOC - Arms and activates LOC lateral mode to follow VOR radials and localizer approach paths

LNAV - Follow flightplan specified in FMS route manager

Notes:

- If BANK LIMIT is set to "Auto," the aircraft will not turn at speeds greater than 0.86 mach.
- At low speeds, AP may overshoot turns if BANK LIMIT is set to "Auto."
- When using LNAV mode with closely spaced waypoints and frequent turns (such as the end phase of and RNAV STAR), monitor your speed closely. Flying too fast will cause you to miss waypoints and leads to unpredictable AP behavior. 747s don't turn on a dime, especially when the AP is engaged.

Autothrottle

AT knob - adjust target IAS or mach

IAS/MACH selector - switch between IAS and mach hold modes