

Takeoff Functions Profile

By Dan Espejo

Takeoff roll:

8 knots: Anti-skid is active

20 knots: Body gear deactivates and should center

50 knots: Pushing a **TO/GA switch** activates the auto-throttle in thrust reference **[THR REF]** and advances thrust levers to the selected reference thrust limit. If the auto-throttle is not active by 50 knots airspeed, it cannot be activated until 400 feet or above.

65 knots: Auto-throttle annunciation changes to **HOLD**.

80 knots: **Master CAUTION lights** and Beeper, New EICAS caution messages are inhibited until 400 feet radio altitude or 20 seconds after rotation, whichever occurs first.

85 knots: Auto-brakes arm. (RTO commands maximum braking pressure for reject).

100 knots: PWS warning alerts Messages are inhibited, until 50 RA. The FMC records barometric altitude as the airplane accelerates through 100 knots. This altitude is used to activate LNAV and VNAV, enable auto-throttle activation (if not active), command acceleration for flap retraction, and set climb thrust if an altitude has been selected.

V1: **Master WARNING lights**, Bell, Siren Alerts are inhibited until 400 feet radio altitude or 25 seconds after V1, whichever occurs first.

No VNAV for takeoff:

Can we fly without VNAV? Yes, we will have to use FLCH, THR, & Speed intervention?

NADP 1 departure set:

Push THR switch at 1500'

Push FLCH and speed window 250 knots at 3000'

NADP 2 departure set:

Push FLCH and speed window 250 knots at 1000'

Push THR switch Flaps 5

Activation of Auto-Brake System:

Takeoff RTO:

1. Above 85Kts.
2. "All" Thrust levers idle

Landing:

1. Wheel spin up
2. "All" Thrust levers Idle

Speed Brakes: (*Not Armed*)

1. "All" Thrust levers Idle
2. Reverse Thrust 2 OR 4