

Boeing 737 MAX 8 Quick Reference Guide

Pre-Flight & Pushback

- Brief yourself and any other pilots you may be flying with on your takeoff flaps, thrust and speeds (*refer to the Takeoff Config Table*) and your initial flight level (*refer to Cruise Table*) appropriate for your weight
- Engine start procedure:
 - o Start ENG 2, wait until fully stabilized, then start ENG 1
 - o Once all engines are fully stabilized, shut down the APU, perform a flight controls check and set your takeoff flaps
 - o If you're flying at a heavier weight requiring more takeoff power, keep the APU on and shut it down after setting CLB THR
- Single engine taxi:
 - o Single engine taxi is performed on ENG 2 on taxi out and on ENG 1 on taxi in.
- Takeoff trim:
 - o Shouldn't exceed 25% for most weight configurations – the MAX rotates with minimal back pressure, so excessive trim on takeoff can result in a tailstrike
 - o Can be set to 30-35% nearing MTOW, though 0-20% is still recommended
 - o Rule of thumb: To find out the ideal trim for your weight configuration, take the load factor and divide it by 3. Trimming up may be necessary after liftoff.

Taxi Out

- Use no more than 35% N1 as breakaway thrust
- The 737 MAX has a low rolling resistance, meaning it requires little to no thrust above idle to maintain speed and accelerate.
- 90° turns are to be taken at no more than 10kts ground speed
- Single engine taxi:
 - o Use breakaway thrust until 5kts GS, then reduce to 25% N1 – this will help you maintain speed at heavier weights, and may even result in acceleration at lighter weights
- Dual engine taxi:
 - o It is common practice not to use breakaway thrust on dual engine taxi
 - o If breakaway thrust is needed, it can be used – up to 28% N1 until reaching 5kts GS, then reducing to idle in order to let the plane accelerate on its own
 - o It is common practice to let the plane reach 20kts, then gently brake to 10-15kts, repeating this cycle as many times as needed throughout the taxi.
 - o Do **NOT** ride the brakes in order to limit the natural acceleration of the aircraft.

Takeoff

- Set 25% THR (40% N1) and ensure the engines are stabilized
- Once stabilized, set takeoff power
- In crosswind situations:
 - o The MAX is sensitive on the rudder – be cautious on the handling. Only small rudder inputs are required to keep the aircraft straight.
 - o Do **NOT** roll your ailerons into the wind. Let the plane lean on crosswind takeoffs and compensate in the air.
 - o In stronger and direct crosswinds, no more than 10° of aileron can be added into the wind.
- Minimal back pressure is required to rotate. Do **NOT** exceed 7.3° pitch while the aircraft is on the ground.
- At heavier weights, the MAX's MLGs are prone to stick to the ground on rotation. **This is normal.** Do **NOT** attempt to force the aircraft off the ground - let the MLGs lift off the ground on their own.

- Once the main landing gear is off the ground, establish a positive climb rate and retract the gear.
- Pitch up to 20° to maintain V2 + 15-20kts. A pitch of 15° may be needed to maintain V2 + 15-20kts at heavier weights.

Climbout

- Lower the nose and set climb thrust at 800-1,500ft AAL
- Climb thrust is as follows (in N1%):
 - o Up to 10,000ft – 81 to 84%. An additional 5% N1 can be used if needed at heavier weights
 - o 10,000 – 20,000ft – 84 to 87%
 - o 20,000 – 30,000ft – 87 to 91%
 - o 30,000 – Cruise FL – 91 to 95%. Ensure 95% N1 is not exceeded.
- Up to 10,000ft MSL, adjust your pitch to maintain 250kts at the respective N1 setting
- After 10,000ft MSL, accelerate to 280-320kts. The higher end can be used for heavier weights, however, reducing to 294kts before FL280 to maintain M0.79 is imperative.
- Climb performance typically drops off to < 1,500fpm passing 30,000ft – this is normal behavior. Do **NOT** compensate by increasing the thrust – the plane simply requires a slower climb rate towards the end of its climbout.

Cruise

- Cruise at M0.79
- The typical N1 range for cruise is 83 to 88%.

Descent & Approach

- Plan to start your descent earlier than usual to maintain control of the speed – the MAX is very slippery, and speedbrakes do not have a significant effect.
- Descent via VNAV is recommended
- Avoid descending at >2,000 fpm below 10,000ft
- Arm A/BRK as required
- Lowering the landing gear earlier (15NM final/turning base within 15NM) is common practice if the aircraft has too much energy
- Set flaps as appropriate (*refer to the Flaps table*)
- An pitch up of 2.5-3° on final approach is normal

Landing & Taxi In

- Do **NOT** use more than +15% trim on landing – higher values will require forward pressure on the control column. Negative trim may be required for lighter weights
- Start your flare & reduce power to Idle once you hear the “30” callout
- Flare should be at 4.5-5°. Hold the flare steadily at 10ft and let the aircraft touch down on its own
- In crosswind situations:
 - o The maximum permissible direct crosswind for the MAX is 37kts
 - o Apply rudder to line up with the runway once you hear the “10” callout, ease off at 80kts
 - o Just like on takeoff, allow the aircraft to lean. If the lean is excessive, ailerons can be applied into the wind until 80kts
- Maintain slight back pressure once the aircraft has touched down to avoid slamming the nose into the ground. Deploy reverse thrust and stow at 60KIAS
- If there are lots of left turns on your taxi in, keep both engines on, and shut down ENG 2 as you pull into your stand.
- If taxiing on a single engine, shut down ENG 2 3 minutes after landing. Start the APU.
- Taxi to parking as instructed, shut down your remaining engine and attach GSEs