

4.10 Taxi & Shutdown

Objective

To safely taxi from the runway to the gate and perform complete aircraft shutdown while maintaining SOP compliance, passenger comfort, and ground crew safety.

Taxi After Landing

Initial Rollout

PF:

- Maintain runway centerline
- Smoothly decelerate using:
 - Autobrake (until 60–80 kt, siehe Landing SOP)
 - Reverse thrust (as required, idle ~70 kt)

PM:

- Monitor speed and runway clearance
 - Call out speed reductions
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Runway Exit

- Enter taxiway at appropriate speed:
 - **High-speed exit:** 40 kt target, max 50 kt
 - **Tighter turns / standard turns:** max 15 kt

PF:

- Steer via tiller / rudder pedals

- Maintain smooth control

PM:

- Monitor external traffic
 - Verify lights and brake status
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Taxi to Gate

- **Taxi speed:** approx. **20 kt**
- Outside apron: up to **30 kt allowed**
- Follow ATC instructions
- Maintain situational awareness

Lights:

- Taxi lights → TAXI
 - Landing lights → OFF
 - Turnoff lights → ON
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Approach to Parking Spot / Stand

PF:

- Align aircraft with stand
- Reduce speed gradually
- Apply brakes smoothly

PM:

- Monitor nose wheel alignment
- Monitor stand guidance (marshaller / VDGS)
- Call out distance and alignment

Ground Crew Safety:

- **ALL front lights (Taxi, Landing, Turnoff) → OFF**
 - Ensure visibility hazards minimized for ground personnel
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Engine Shutdown Procedure

Engine shutdown is based on **technical requirements**, not ground crew signals.

Cooldown Requirement

After engine operation at higher thrust settings:

☐ A **minimum cooldown period of 60 seconds** must be observed before shutdown.

This applies from:

- The last time engine thrust exceeded approximately **50% N1**
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Purpose of Cooldown

The cooldown period ensures:

- Stabilization of engine temperatures
 - Protection of internal components
 - Prevention of thermal damage
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Standard Procedure

After parking brake is set:

1. Maintain engines at **IDLE thrust**
 2. Monitor engine parameters
 3. Wait **minimum 60 seconds cooldown**
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Engine Shutdown

After cooldown is complete:

- ENG MASTER switches → OFF
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Important Notes

- Do **NOT** shut down engines immediately after high thrust usage
 - Reverse thrust and taxi phases must be considered in cooldown timing
 - Ground crew does **NOT** determine shutdown timing
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After Engine Shutdown (Turnaround)

Objective

To safely transition the aircraft from engine operation to ground handling during turnaround while ensuring system stability and ground crew safety.

Engine Spool Down Monitoring

After engine shutdown:

- Monitor engine parameters (N1)
 - Ensure engines are fully spooled down
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Beacon Light Policy

☐ **Beacon must remain ON until engines are fully spooled down**

- Wait until **N1 < 10%** on both engines

Only then:

- Beacon → OFF
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Purpose

This ensures:

- Clear indication to ground crew that engines are no longer hazardous
 - Prevention of personnel approaching running or spooling engines
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APU Usage During Turnaround

The APU may remain in operation during turnaround depending on environmental conditions.

Standard Practice

- APU → RUNNING (if required)
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Typical Use Cases

APU should remain ON when:

- **High outside temperatures (heat)** → cabin cooling required
 - **Low outside temperatures (cold)** → cabin heating required
 - No external power or air supply available
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When APU May Be Turned OFF

- External power is connected and stable
 - Environmental conditions allow
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Electrical Configuration

- External Power → PREFERRED (if available)
 - APU → BACKUP or primary (if needed)
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Cabin & Systems

- Seatbelt Signs → OFF
 - Fuel Pumps → AS REQUIRED
 - Lighting → AS REQUIRED
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Key Principles

- Engine shutdown does not end aircraft responsibility
 - Systems must remain stable during turnaround
 - Passenger comfort must be considered
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Core Rule

“Shutdown is a transition - not the end of operation.”

Outcome

- Safe handover to ground operations
 - Protected ground crew
 - Aircraft ready for next departure
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Aircraft Shutdown Procedure

Apply if crew leave the aircraft and no new crew is there to take the aircraft.

Before Shutdown

PM / PF:

- Verify systems powered down safely
 - Check fuel, lights, electrical systems
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Standard Shutdown Flow

1. **Engines → OFF** (Engine Master switches)
 2. **APU → ON** (if ground power needed)
 3. **External Power → CONNECTED**
 4. **Battery switches → OFF (as required)**
 5. **Anti-collision lights → OFF**
 6. **Flight Instruments → Parked / Safe**
 7. **Parking Brake → SET**
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After Shutdown

- Perform walk-around (virtual / checklist)
 - Ensure aircraft ready for next flight
 - Log flight details if required
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Key Principles

- Smooth, controlled taxi to gate
- Maximum taxi speed 20 kt (30 kt outside apron)
- All front lights **OFF** when entering parking stand
- Follow VA philosophy: passenger comfort & ground crew safety first
- Shutdown only after full stop and all systems verified

Outcome

- Aircraft safely at gate
- Engines off, systems secured
- Crew ready for debriefing / next flight

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