

# 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.

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## 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.

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# 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)

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### Objective

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

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### 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.

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## 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.”**

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## 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
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## Outcome

- Aircraft safely at gate
  - Engines off, systems secured
  - Crew ready for debriefing / next flight
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Revision #3

Created 2026-03-23 16:07:03 UTC by Jonas

Updated 2026-03-28 08:17:50 UTC by Jonas