

4. Standard Operating Procedures (SOPs)

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4.1 Cockpit Preparation

Objective

To ensure the aircraft is correctly configured, powered, and programmed prior to engine start.

Crew Concept

- **PF (Pilot Flying):**
 - Reviews flight plan
 - Performs MCDU setup
 - Cross-checks entries
 - **PM (Pilot Monitoring):**
 - Performs cockpit setup
 - Powers aircraft systems
 - Executes checklists
-

Initial Cockpit Setup

PM:

1. BAT 1 + BAT 2 → ON
2. External Power → ON (if available)

Check:

- ECAM displays active
 - No abnormal warnings
-

Overhead Panel Setup (PM)

- Fuel Pumps → ON
- Hydraulic Panel → CHECK

- Electrical Panel → CHECK
- Air Conditioning → SET

ADIRS:

- Set all IR selectors → NAV
-

Cockpit Lighting (PM)

- Set as required for conditions
-

MCDU Initialization (PF)

INIT A Page:

- FROM / TO → Set departure & arrival airport
 - Flight Number → INSERT
 - Cost Index → SET
 - Cruise Level → SET
-

Flight Plan Page:

- Insert route (airways / waypoints)
 - Check for discontinuities
 - Insert SID (Standard Instrument Departure)
 - Verify routing
-

INIT B Page:

- Block Fuel → INSERT
 - Zero Fuel Weight → INSERT
-

Performance Setup:

- V1 / VR / V2 → CALCULATE & INSERT

- FLEX Temperature → SET (if applicable)
 - Thrust Reduction / Acceleration Altitude → SET
-

FMGS Crosscheck

PM cross-checks all entries:

- Route correctness
 - Fuel values
 - Performance data
-

Flight Instruments Setup

Both pilots:

- Set Barometric Reference
 - Set Initial Altitude
 - Set Vertical Display Selector on Above
-

Takeoff Briefing (PF)

Must include:

- Runway
 - SID
 - Initial altitude
 - Expected routing
 - Threats & considerations
-

Before Start Checklist

Performed when all preparation is complete.

Key Principles

- Always verify MCDU entries
 - Cross-check between PF and PM
 - Avoid rushing the setup
-

Philosophy

A correct cockpit preparation ensures:

- Reduced workload during taxi and takeoff
- Fewer errors in flight
- Better situational awareness

A rushed or incomplete setup increases risk significantly.

4.2 Engine Start

Objective

To safely start the engines while ensuring proper coordination with ground crew and maintaining full control of the aircraft during pushback or stand departure.

General Principle

Engine start must only be performed when:

- Aircraft is correctly configured
 - Area around aircraft is clear
 - Ground crew confirms readiness
-

Mandatory Condition

☐ **Engine start is only permitted after “CLEAR TO START” from ground crew**

Engine Start WITH Pushback

Preconditions

- Pushback clearance received
- Ground crew connected (headset)
- Beacon → ON
- APU BLEED → ON
- Fuel Pumps → ON

Procedure

PF:

- “Request pushback and start”

PM:

- Communicates with ground
-

Pushback Initiation

- Parking Brake → RELEASE (on instruction)
 - Pushback begins
-

Engine Start Sequence

After “**CLEAR TO START**”:

PF: “Start Engine 1”

PM: “Starting Engine 1”

PM:

- ENG MODE Selector → IGN/START
 - ENG 1 MASTER → ON
-

ECAM Monitoring (PM)

- N2 rotation
- Fuel Flow at ~20% N2
- EGT rise
- Stable parameters

Callouts

- “N2 increasing”
- “Fuel Flow”
- “EGT rising”
- “Engine 1 stabilized”

-
- Repeat for Engine 2
-

During Pushback

- Monitor aircraft movement
 - Maintain communication with ground crew
 - Avoid distractions during engine start
-

After Pushback

- Parking Brake → SET (on instruction)
 - Ground crew disconnect confirmed
-

Engine Start WITHOUT Pushback (Self Maneuvering Stand)

Preconditions

- Area around aircraft visually confirmed clear
- No ground crew in hazard area

- Beacon → ON
 - APU BLEED → ON
 - Fuel Pumps → ON
-

Procedure

PF:

- Confirms: “Area clear”
-

Engine Start

PF: “Start Engine 1”

PM: “Starting Engine 1”

PM:

- ENG MODE Selector → IGN/START
 - ENG 1 MASTER → ON
-

ECAM Monitoring

- N2 rotation
 - Fuel Flow
 - EGT rise
 - Stabilization
-

- Repeat for Engine 2
-

Key Difference

- No pushback coordination required

- PF responsible for visual clearance
-

After Start Actions (Both Cases)

PM Flow:

- ENG MODE Selector → NORM
 - APU BLEED → OFF
 - APU → OFF (if not required)
 - Anti-Ice → AS REQUIRED
 - Flaps → SET
 - Pitch Trim → SET
-

Key Principles

- Engine start is a controlled and monitored process
 - Ground crew safety has priority
 - Standard sequence must always be followed
-

Core Rule

“No clear area - no engine start.”

Outcome

- Engines started safely
 - Aircraft ready for taxi
 - Full coordination between cockpit and ground
-

Single Engine Taxi Policy

To improve fuel efficiency and reduce engine wear, single engine taxi should be used when operationally feasible.

Application

Single engine taxi is required when:

- Expected taxi time exceeds **10 minutes**

Applicable airports are defined in the respective **airport briefing**.

Procedure

- Start **Engine 1 only** during engine start phase
 - Keep **Engine 2 OFF**
-

Considerations

- Maintain sufficient thrust for taxi
- Monitor aircraft handling (asymmetric thrust)
- Use additional thrust carefully if required

4.3 Taxi

Objective

To safely maneuver the aircraft from stand to runway while maintaining full control, situational awareness and ground crew safety.

Taxi Phase Definition

The taxi phase begins when:

- Pushback is completed
 - **OR**
 - Aircraft starts moving under its own power (self-maneuvering stand)
-

Taxi Clearance

PF: Requests taxi clearance

PM: Handles ATC communication

Taxi Procedure

PF:

- Releases parking brake
 - Applies **minimum thrust required** to initiate movement
-

Thrust Management

- Use **IDLE thrust whenever possible**
 - Apply thrust only to start movement
 - Avoid continuous thrust application
-

Steering

- Nose wheel steering via tiller (PF)
 - Rudder pedals for small corrections
 - Use smooth and controlled inputs
-

Speed Control

- Standard taxi speed: **~20 kt**
 - Outside apron: **max 30 kt**
 - Tight turns: **max 15 kt**
-

Brake Usage

- Apply brakes smoothly
 - Avoid aggressive braking
 - Maintain passenger comfort
-

Self Maneuvering / 180° Turns

At stands where no pushback is used and a **self-turn (e.g. 180°)** is required:

Procedure

PF:

- Release parking brake
 - Use **minimum thrust only**
 - Initiate slow, controlled turn
-

Speed & Control

- Maintain very low speed
 - Avoid tight or aggressive steering
 - Aircraft should roll smoothly through the turn
-

Lighting Policy (Ground Safety)

During initial movement (nose still facing stand/apron):

- Taxi Lights → OFF
 - Runway Turnoff Lights → OFF
-

Once aligned with taxi direction:

- Taxi Lights → TAXI
 - Runway Turnoff Lights → ON
-

Purpose

- Prevent blinding ground personnel
 - Increase apron safety
 - Ensure professional operation
-

Taxi Lights Configuration

During normal taxi:

- Taxi Lights → TAXI
 - Runway Turnoff Lights → ON
 - Landing Lights → OFF
-

Monitoring (PM)

- Brake temperature
 - Taxi route
 - External traffic
 - Clearance compliance
-

Flight Control Check

Performed during taxi:

PF: “Flight Controls Check”

PM monitors ECAM:

- Full and free movement
 - Correct deflection
-

Before Takeoff Preparation

- Complete Before Takeoff Checklist
 - Verify aircraft configuration
-

Key Principles

- Maintain situational awareness at all times
- Taxi with low energy and high precision

- Protect ground crew through proper light usage
-

Core Rule

“Taxi is a low-energy phase - precision over speed.”

Outcome

A correct taxi ensures:

- Safe ground operations
 - Reduced workload before takeoff
 - Proper aircraft positioning
-

Second Engine Start (Single Engine Taxi Operations)

Objective

To ensure both engines are available and stabilized prior to takeoff.

Timing

☐ The second engine must be started:

- **At latest 5 minutes before expected takeoff**
-

Procedure

- Start remaining engine according to **Engine Start SOP (4.2)**
 - Ensure full stabilization before runway entry
-

Monitoring

- Confirm engine parameters stable
 - Verify no abnormal indications
 - Complete required after start flow
-

Operational Note

- Plan engine start early enough to avoid:
 - Time pressure
 - Delays at holding point
-

Core Rule

“Be ready before the runway - not on it.”

4.4 Takeoff

Line-Up

PF:

- Align aircraft with runway centerline

PM:

- Confirms runway and clearance
-

Takeoff Clearance

PM: Confirms ATC clearance

PF: "Takeoff"

Thrust Application

1. Thrust Levers → ~50% N1 (stabilization)
 2. Then → FLEX/MCT or TOGA
-

Standard Callouts (PM)

- "MAN FLEX / MAN TOGA"
 - "Thrust Set"
-

Takeoff Roll

PM Callouts:

- "100 knots"
- "V1"

- “Rotate”
-

Rotation

PF:

- Smooth pitch input ($\sim 2-3^\circ/\text{sec}$)
 - Target pitch $\sim 15^\circ$
-

Liftoff

PM:

- “Positive Climb”

PF:

- “Gear Up”
-

Initial Climb

- Maintain runway track
 - Follow FD (Flight Director)
-

After Takeoff

- At acceleration altitude:
 - Pitch down
 - Flaps retract according to schedule
-

Climb Thrust

- Thrust Levers $\rightarrow$ CL detent
-

Autopilot Engagement

The autopilot may only be engaged when the aircraft is properly stabilized and following the Flight Director.

Conditions for Autopilot Engagement:

- Aircraft is in a stable climb
- No excessive pitch or bank
- **Flight Director crossbars are aligned (aircraft follows FD commands)**
- No abnormal flight parameters

Recommendation:

- Typical engagement above 500–1000 ft AGL
-

Key Principle

“Follow the Flight Director first - then engage the autopilot.”

Engaging the autopilot while not aligned with the Flight Director may result in:

- Abrupt aircraft movements
 - Unstable flight path
 - Loss of situational awareness
-

Philosophy

A stabilized and disciplined takeoff ensures:

- Safe departure
 - Proper energy management
 - Smooth transition into climb phase
-

4.5 Climb

Objective

To establish a stable and efficient climb profile after takeoff.

After Takeoff Flow

At acceleration altitude:

PF:

- Reduce pitch attitude
- Select climb profile

PM:

- Monitor speed increase
-

Flap Retraction

- Retract flaps according to speed schedule
 - Ensure aircraft is clean (Flaps 0)
-

Thrust Setting

- Thrust Levers → CL detent
-

Autopilot

- Engage when conditions are met (see 4.4)
-

Standard Procedure

- **Climb Mode → MANAGED**
- **Speed → MANAGED**

The aircraft shall follow:

- FMGS vertical profile
 - SID constraints
 - Pre-programmed speed schedule
-

Exceptions

Selected modes may only be used if:

- **ATC explicitly assigns:**
 - A specific speed
 - A specific vertical rate or altitude constraint
 - **Operational reasons require intervention**, such as:
 - Avoiding traffic
 - Weather deviations
 - Energy management corrections
-

Monitoring (PM)

- Both pilots must ensure:
 - The aircraft follows the intended vertical profile
 - Speed constraints are respected
 - No unintended mode changes occur
-

Passing Transition Altitude

- Set Standard Pressure (STD)

During Climb

- As soon as its safe: Turn off the seat belt sign
 - When passing FL250: Set Vertical Display Selector on Below
-

Key Principles

- “Managed by default – Selected only when required.”
- Maintain situational awareness
- Monitor automation continuously
- Anticipate level-off

4.6 Cruise

Objective

To maintain a stable and efficient flight at cruise altitude.

Establishing Cruise

- Aircraft levels off at cruise altitude
 - Thrust reduces automatically
-

Autopilot & Automation

- Autopilot engaged
 - Managed speed (Mach mode typically active)
-

Cruise Speed Management

During cruise, the aircraft should remain in **Managed Speed Mode** under normal conditions.

Standard Procedure

- **Autopilot → ENGAGED**
- **Speed Mode → MANAGED (Mach mode)**

The aircraft automatically optimizes:

- Fuel efficiency
- Speed profile

Exceptions

Selected speed may only be used if:

- **ATC assigns a specific speed**
- Turbulence requires speed adjustment
- Operational considerations demand deviation

Monitoring Duties

Both pilots:

- Monitor flight progress
- Check fuel consumption
- Verify route

Systems Monitoring (PM)

- ECAM parameters normal
- Monitor Mach number and fuel consumption
- Ensure compliance with ATC instructions
- Detect any unexpected automation behavior

Navigation

- Follow programmed route
- Monitor for deviations

ATC Interaction

- Maintain assigned altitude and speed

- Respond to new clearances
-

Situational Awareness

- Monitor weather
 - Anticipate descent planning
-

Key Principles

- “Let the aircraft manage efficiency – intervene only when necessary.”
- Stay ahead of the aircraft
- Avoid complacency
- Continuously cross-check systems

4.7 Descent

Objective

To conduct a controlled and passenger-comfort-oriented descent from cruise altitude to approach phase while maintaining compliance with all constraints.

Descent Philosophy (VA Standard)

The descent is primarily flown with a focus on:

- **Passenger comfort (smooth vertical profile)**
 - **Pilot control over vertical path**
 - **Compliance with ATC and charted constraints**
-

Descent Preparation

PF:

- Reviews arrival (STAR, constraints, transition)
- Conducts approach briefing

PM:

- Programs arrival and approach into MCDU
 - Verifies constraints and routing
-

Top of Descent (TOD)

- Descent initiated prior to or at TOD
 - ATC clearance must be received before descent
-

Descent Mode (STANDARD VA PROCEDURE)

Vertical Mode:

- **Primary Mode → SELECTED V/S (Vertical Speed)**

The descent is manually controlled to ensure:

- Smooth cabin experience
 - Stable and predictable vertical profile
-

Managed Mode Usage:

- **Managed Descent is NOT the default**
- It is used **only when required to comply with constraints**

Examples:

- Altitude restrictions on STAR
 - Complex vertical profiles
 - When automation assistance is beneficial
-

Speed Management

- **Speed Mode → MANAGED (throughout STAR)**

The aircraft shall:

- Follow FMGS speed profile
 - Respect all published constraints
-

After STAR (Approach Phase Transition)

- Speed may be adjusted as required:
 - ATC instructions

- Approach setup
 - Traffic situation
-

Exceptions

Selected modes may be used if:

- **ATC assigns specific:**
 - Speed
 - Descent rate
 - Altitude constraints
 - **Abnormal situations occur**
-

Monitoring (PM)

- Vertical path vs constraints
 - Speed profile
 - ATC compliance
 - Energy state (too high / too fast)
-

Energy Management

If aircraft is high or fast:

- Increase descent rate (V/S adjustment)
 - Use Speed Brakes as required
-

Thrust Management

- Typically idle during descent
 - Monitor engine parameters
-

Transition Level

- Set local QNH when passing transition level
-

Key Principles

- Smooth descent is priority
 - Maintain control over vertical profile
 - Use automation selectively, not blindly
-

Core Rule

“Vertical path is pilot-controlled - speed is aircraft-managed.”

Outcome

A properly managed descent results in:

- Passenger comfort
- Stabilized approach conditions
- Reduced workload in final phase

4.8 Approach

Objective

To establish a stable, controlled and smooth transition from descent into final approach, ensuring a safe and predictable landing.

Approach Philosophy (VA Standard)

The approach continues the descent philosophy:

- **Vertical path → primarily pilot controlled (Selected modes)**
- **Speed → managed by aircraft (Managed mode)**

Focus:

- Passenger comfort
 - Stabilized approach
 - Controlled energy management
-

Approach Preparation

PF:

- Conducts full approach briefing:
 - Runway
 - Approach type (ILS / RNAV)
 - Minimums
 - Missed approach procedure

PM:

- Verifies MCDU setup
- Tunes and identifies navigation aids
- Sets minimums

Initial Approach Phase

- Descent continues using:
 - **Selected V/S (preferred)**
 - Managed Descent only if required
- **Speed → MANAGED**

Localizer Capture

- Arm approach mode (APPR) as required
- Monitor LOC capture

Glide Slope Intercept

Configuration Requirement:

☐ **Flaps 2 must be set BEFORE Glide Slope capture**

This ensures:

- Stable aerodynamic configuration
- Smooth GS interception
- Reduced workload during capture

Configuration During Approach

Progressive configuration:

- Flaps 1 → as speed decreases
 - **Flaps 2 → BEFORE GS capture (mandatory SOP)**
-

Final Approach (Stabilization Phase)

Configuration Targets:

By **latest 5 NM Final**:

- Gear → DOWN
 - Flaps → FULL (in progress or completed)
-

Stabilization Requirement:

By **2 NM Final (latest at MINIMUM call)**:

The aircraft **MUST** be:

- Fully configured (**Flaps FULL, Gear DOWN**)
 - At **Final Approach Speed (VAPP)**
 - On correct vertical and lateral path
 - Stable descent rate
-

Speed Management

- **Managed Speed maintained throughout STAR and approach**

On final:

- Aircraft transitions to **VAPP automatically**
 - Manual intervention only if required
-

Stabilized Approach Criteria

At:

- **1000 ft (IMC)**
- **500 ft (VMC)**

Aircraft must be:

- On correct flight path
 - At correct speed
 - Fully configured
 - Stable
-

If NOT stabilized:

☐ **Immediate GO-AROUND**

Monitoring (PM)

- Localizer / Glide slope deviation
 - Speed trend (VAPP control)
 - Configuration status
 - Callouts
-

Standard Callouts

- “LOC STAR”
 - “GLIDE SLOPE STAR”
 - “FLAPS 2”
 - “GEAR DOWN”
 - “FLAPS FULL”
 - “STABLE”
-

Mode Philosophy

- **Vertical path:**
 - Controlled via GS or pilot input
 - **Speed:**
 - Managed by aircraft
-

Exceptions

Deviation from SOP allowed only if:

- **ATC instructions**
 - **Abnormal situations**
 - **Safety requires immediate action**
-

Core Rule

“Stabilize early - never chase the aircraft.”

Outcome

A correct approach results in:

- Fully stabilized final
- Predictable aircraft behavior
- Safe and smooth landing phase

4.9 Landing

Objective

To safely land the aircraft from a stabilized approach and conduct a controlled rollout while maintaining compliance with ATC and ensuring passenger comfort.

Landing Clearance Policy (VA Standard)

Without Landing Clearance:

If **no landing clearance** is received:

☐ At **MINIMUM call**:

- **MANDATORY GO-AROUND**
-

With “Expect Late Landing Clearance”:

If ATC issues:

☐ **“Expect Late Landing Clearance”**

Procedure:

- Continue approach below minimums
- Continue until **over the runway threshold**

If still **NO landing clearance**:

- **Initiate GO-AROUND at/over threshold**
-

Final Approach (Short Final)

- Maintain stabilized approach
 - Monitor speed (VAPP)
 - Small corrections only
-

Flare

PF:

- At **~20 ft** → **initiate flare**
 - Smoothly reduce descent rate
-

Touchdown

- Target:
 - Main gear touchdown first
 - Within touchdown zone
-

After Touchdown

PF:

- Maintain runway centerline

PM:

- Monitor deceleration
-

Automatic Systems

- Spoilers → Deploy automatically
 - Autobrake → Active
 - Reverse Thrust → As required
-

Deceleration Phase

Autobrake Policy:

- **High-speed exit (rapid vacate):**
 - Autobrake remains active until **80 knots**
- **Normal rollout:**
 - Autobrake remains active until **60 knots**

☐ Autobrake must **NOT be disconnected before these speeds**

Manual Braking

- Take over braking after autobrake phase as required
-

Runway Exit Speeds

High-Speed Turnoff:

- Target: **40 knots**
 - Maximum: **50 knots**
-

Standard / Tight Turns:

- Follow Airbus standard:
 - **Maximum 15 knots**
-

Reverse Thrust

- Use as required for runway conditions
 - Reduce to idle at ~70 knots (typical)
-

Callouts (Typical)

- “RETARD” (automatic)
 - “SPOILERS”
 - “REVERSERS GREEN”
 - “80 knots”
 - “60 knots”
-

After Landing

- Vacate runway when safe
 - Inform ATC
 - Begin after landing flow
-

Key Principles

- Respect landing clearance at all times
 - Never continue below minimums without authorization
 - Maintain full control during rollout
-

Core Rule

“No clearance - no landing.”

“Any deviation results in a GO-AROUND - landing is considered a bonus, not a requirement.”

Outcome

A correct landing results in:

- Safe touchdown
- Controlled deceleration
- Efficient runway exit

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
-

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
-

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
-

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
-

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**
-

Purpose of Cooldown

The cooldown period ensures:

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

Standard Procedure

After parking brake is set:

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

Engine Shutdown

After cooldown is complete:

- ENG MASTER switches → OFF
-

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
-

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
-

Beacon Light Policy

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

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

Only then:

- Beacon → OFF
-

Purpose

This ensures:

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

APU Usage During Turnaround

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

Standard Practice

- APU → RUNNING (if required)
-

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
-

When APU May Be Turned OFF

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

Electrical Configuration

- External Power → PREFERRED (if available)

- APU → BACKUP or primary (if needed)
-

Cabin & Systems

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

Key Principles

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

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
-

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
-

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**
-

After Shutdown

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

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