7. Flight Handling & Airbus Philosophy

7.1 Objective and Philosophy

Objective

To understand how to properly control and manage the Airbus A320 using automation, while maintaining full situational awareness.

Core Philosophy

The Airbus is designed around one key concept:

“Manage the flight path, monitor the automation.”

Pilots do NOT “fly the aircraft” in the traditional sense:

- They manage modes
- They supervise systems
- They intervene when necessary

7.2 Managed vs Selected Mode

This is the most important concept in Airbus operations.

Managed Mode

- Aircraft follows FMGS flight plan
- Speed, altitude and path are automated

Used when:

- Normal operations
- Following SID / STAR
- Cruise and climb

Selected Mode

- Pilot manually selects values (speed, heading, vertical speed)

Used when:

- ATC instructions
- Tactical corrections
- Specific energy management

Core Rule

“Managed by default – Selected when required.”

7.3 Flight Director (FD)

The Flight Director provides guidance via crossbars on the PFD.

Key Rule

□□ The aircraft must **follow the FD crossbars**

Autopilot Engagement Rule

The autopilot may only be engaged if:

- Aircraft is stable
- **FD crossbars are aligned**
- Aircraft is already following FD commands

Core Principle

“First fly the FD – then engage the autopilot.”

7.4 Flight Mode Annunciator (FMA)

Located at the top of the PFD.

Importance

The FMA shows:

- Active modes
- Armed modes
- Autothrust status

Key Rule

□□ Always confirm mode changes on the FMA

Standard Call

- “FMA checked”

7.5 Thrust Management

The A320 uses fixed thrust detents:

- IDLE
- CL (Climb)
- FLX/MCT
- TOGA

Key Concept

- Thrust levers are set to detents
- Autothrust manages thrust within limits

Core Rule

“Set thrust – let the system manage it.”

7.6 Energy Management

Energy = Speed + Altitude

Good Energy State

- On profile
- Correct speed
- Minimal corrections required

Bad Energy State

- Too fast / too high
- Too slow / too low

Correction Methods

- Adjust vertical speed
- Use speed brakes
- Select speed if required

7.7 Automation Discipline

Pilots must:

- Understand active modes
- Anticipate aircraft behavior
- Intervene early

Common Mistakes

- Blind trust in automation
- Wrong mode selected
- Late corrections

Core Rule

“If you don’t understand the mode – you are not in control.”

7.8 Manual Flying

Manual flying is required:

- During training
- In abnormal situations
- When automation is not appropriate

Key Principle

- Smooth inputs via sidestick
- Trust flight control laws

7.9 Situational Awareness

Pilots must always know:

- Where the aircraft is going
- What the aircraft is doing
- What will happen next

Core Rule

“Stay ahead of the aircraft.”

Outcome

Correct application of Airbus philosophy results in:

- Smooth, efficient flights
- Proper automation usage
- High level of control and awareness