3. Cockpit Layout

3.1 General Layout

The Airbus A320 cockpit is designed for efficiency, clarity, and automation management.

It is divided into three main areas:

- **Overhead Panel** (systems control)
- **Main Instrument Panel** (flight information & automation)
- **Pedestal** (thrust, navigation input, communication)

This standardized layout is identical across the A320 family.

3.2 Overhead Panel

The overhead panel is used to control and monitor aircraft systems.

Main sections include:

- Electrical system
- Fuel system
- Hydraulic system
- Air conditioning and pressurization
- Anti-ice systems

Design principle:

- “Dark cockpit philosophy”
  → In normal operation, no lights should be illuminated
  → Lights indicate abnormal or non-standard conditions

3.3 Main Instrument Panel

This is the primary area for flight control and monitoring.

Primary Flight Display (PFD)

Displays essential flight data:

- Attitude (pitch & bank)
- Airspeed
- Altitude
- Vertical speed

Navigation Display (ND)

Shows:

- Flight plan route
- Weather radar (if active)
- Navigation aids
- Terrain (if enabled)

ECAM Displays

The ECAM system consists of two screens:

- **Upper ECAM (E/WD):**
  - Engine parameters
  - Warning and status messages
- **Lower ECAM (SD):**
  - System pages (e.g. HYD, FUEL, ELEC)

Purpose:
To provide automatic system monitoring and assist pilots in abnormal situations.

3.4 Flight Control Unit (FCU)

The FCU is located on the glare shield and is used to control the autopilot.

Functions include:

- Speed selection
- Heading selection
- Altitude selection
- Vertical modes (climb/descent)

Key concept:

- **Managed Mode** → aircraft follows flight plan
- **Selected Mode** → pilot manually sets values

3.5 Pedestal

The pedestal contains systems used during active flight management.

Thrust Levers

- Control engine thrust
- Include detents:
  - IDLE
  - CL (Climb)
  - FLX/MCT
  - TOGA

MCDU (Multipurpose Control and Display Unit)

Used to interact with the Flight Management System (FMS).

Main functions:

- Route planning
- Performance calculations
- Navigation management

Radio and Communication Panels

Used for:

- ATC communication
- Navigation frequency tuning

3.6 Sidestick

Each pilot controls the aircraft using a sidestick.

Characteristics:

- Independent for each pilot
- No physical linkage between sides
- Inputs are processed by flight control computers

3.7 Summary

The A320 cockpit is designed around:

- Automation
- Clear information display
- Efficient pilot interaction

Pilots are expected to:

- Understand where systems are located
- Use automation effectively
- Monitor all systems continuously

A solid understanding of the cockpit layout is essential before performing operational procedures.