AIRBUS A330

FAMILIARIZATION / RECCURENT

APU

TECHSAVIATION

Training Academy

Qualidade é a chave da excelência

Este material em hipótese alguma substituirá os manuais do fabricante para qualquer ação de manutenção. Consulte os manuais correspondentes.

EDUCATIONAL PURPOSE ONLY

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Rev. 02

49 APU SYSTEM PRESENTATION (1)

GENERAL

The Auxiliary Power Unit (APU) is a constant-speed gas turbine engine. The APU lets the A/C to operate independently from electrical or pneumatic supply equipment. The main systems of the APU are:

- the APU installation,
- the engine,
- the electrical generator
- the oil system,
- the fuel system,
- the air system,
- the ignition and starting system,
- the control and indicating system,
- the drain system.

When you work on the A/C, you must obey all the safety procedures described in the Aircraft Maintenance Manual (AMM).

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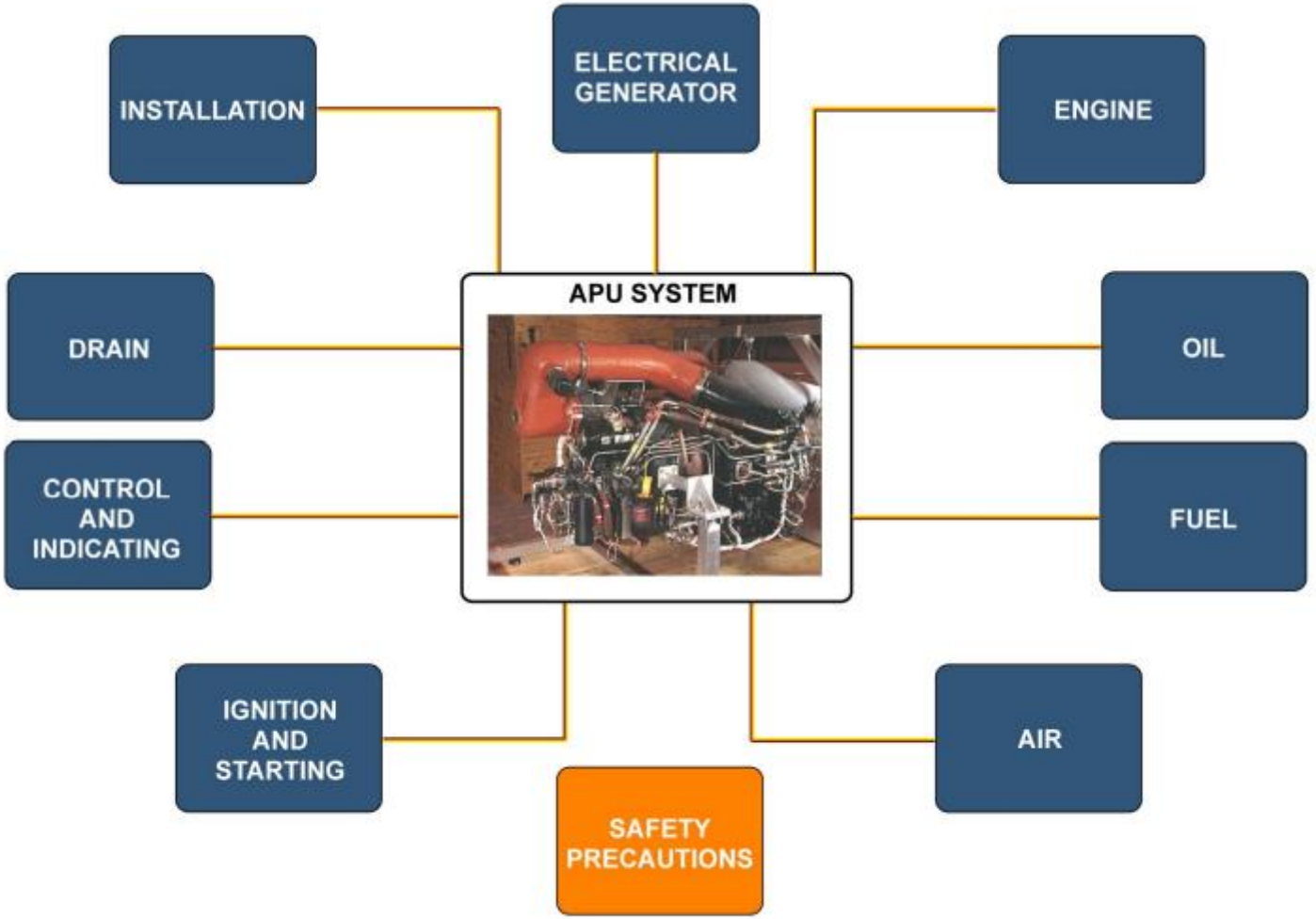

GENERAL

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GENERAL (continued)

USERS

The APU is designed to operate throughout the entire flight envelope. Electrical power is available whenever the APU operate, but bleed air is shut off above Flight Level 230 approximately (FL230).

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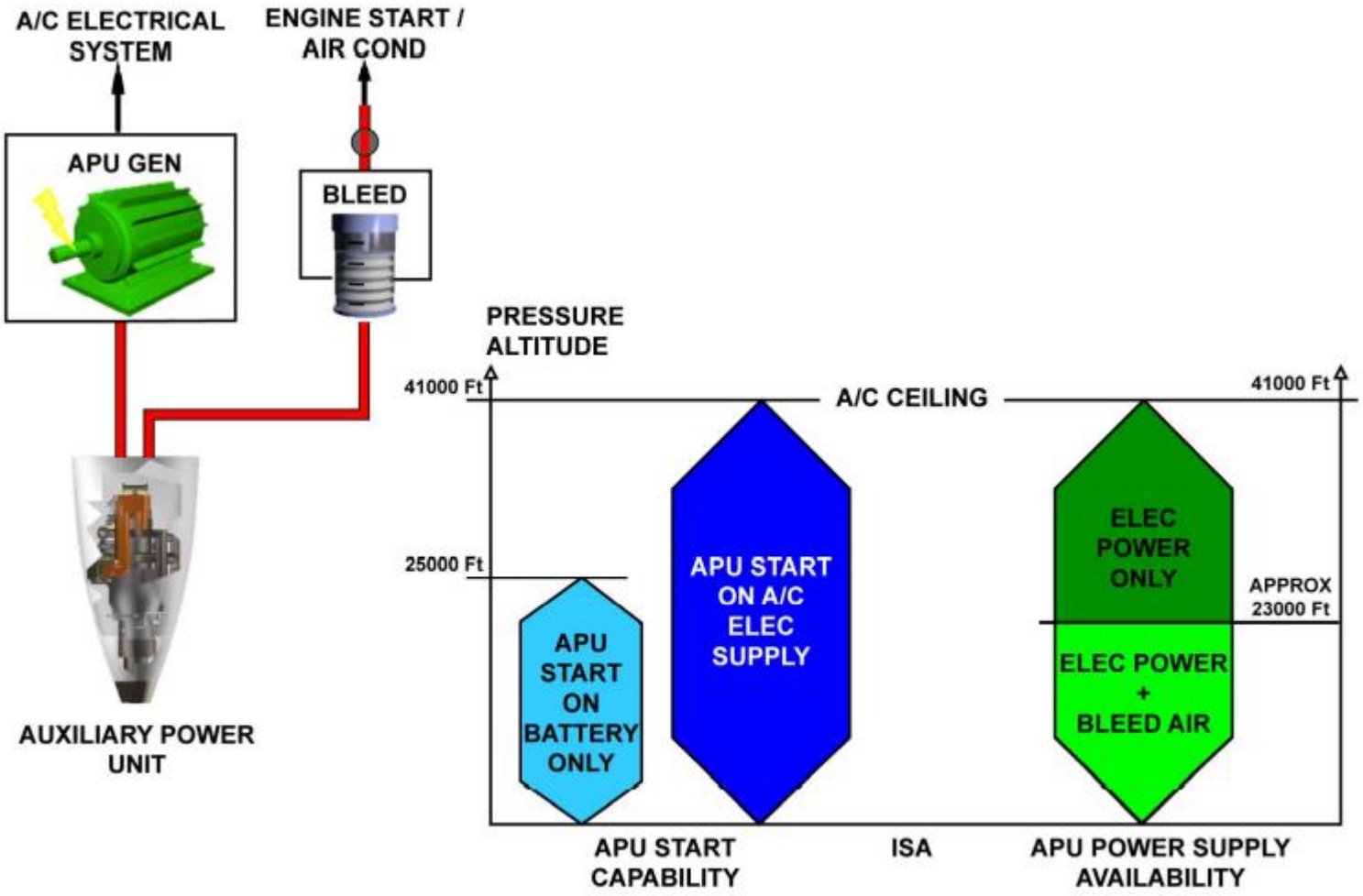

GENERAL - USERS

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INSTALLATION

The APU is mounted in a fireproof compartment located in the fuselage tailcone. Two access doors give access to the APU compartment for inspection and maintenance functions. The APU is suspended in its compartment by mounts. An exhaust duct releases the APU gas into the atmosphere.

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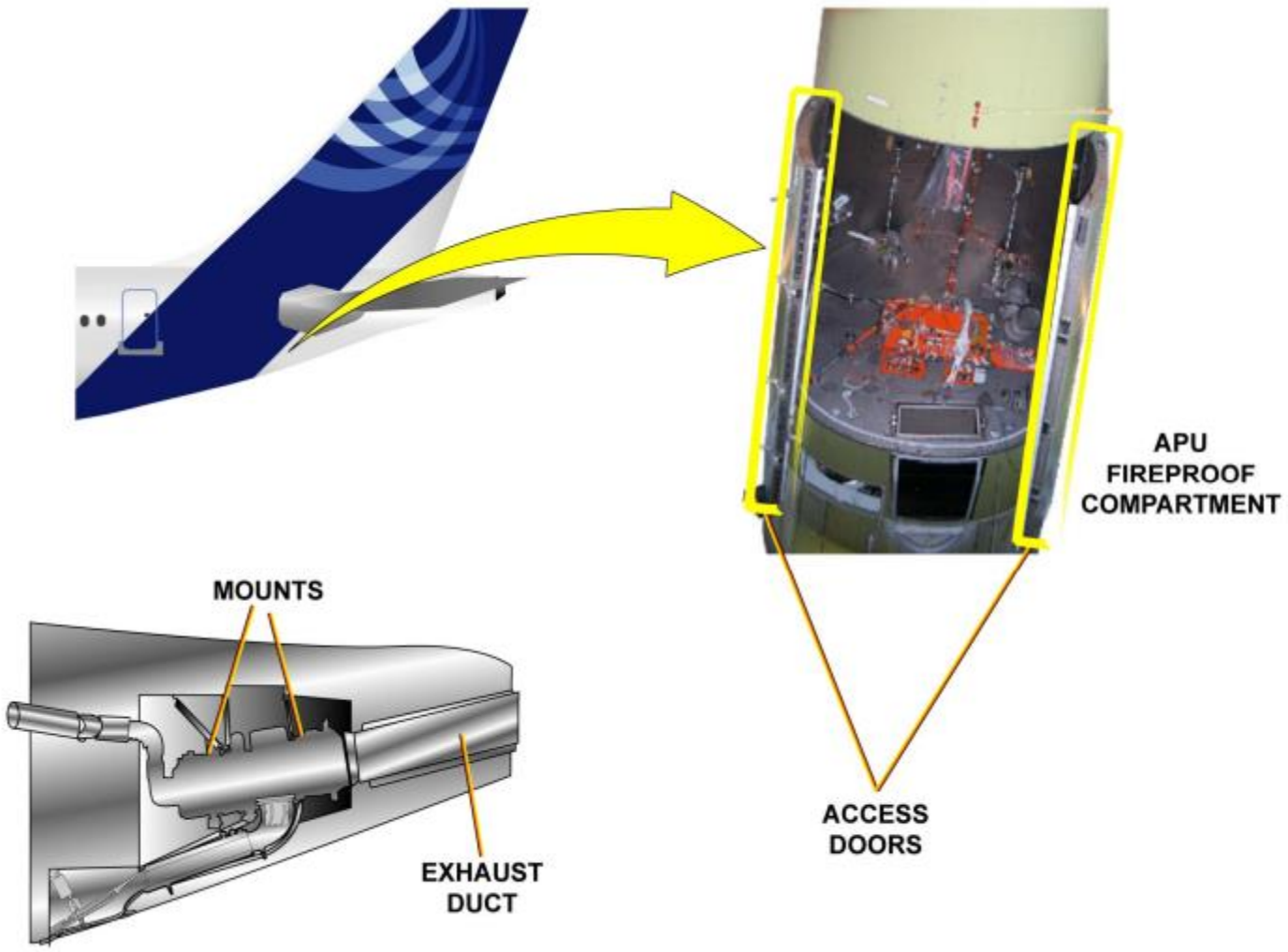

INSTALLATION

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49 APU SYSTEM PRESENTATION (1)

ENGINE

The APU is a constant speed, single shaft gas turbine engine that delivers mechanical shaft power to drive an accessory gearbox and a load compressor. The main components of the accessory gearbox are:
- the starter motor,
- the lubrication module, which drives the Fuel Control Unit (FCU),
- the AC generator.

The APU operation is controlled and monitored by the Electronic Control Box (ECB). The ECB has full authority over the following APU functions:
- starting,
- acceleration,
- speed governing,
- indication,
- fault monitoring,
- interface with A/C systems.

The air intake flap lets external air supply the APU inlet plenum. It cuts off the air supply when the APU does not operate. The APU bleed air system includes a bleed valve, a flow regulation with the Inlet Guide Vane (IGV) and surge protection by a surge control valve. The ECB fulfills the control and monitoring of these components. During starting, the electrical starter motor drives the APU and the initial combustion is initiated by the ignition system.

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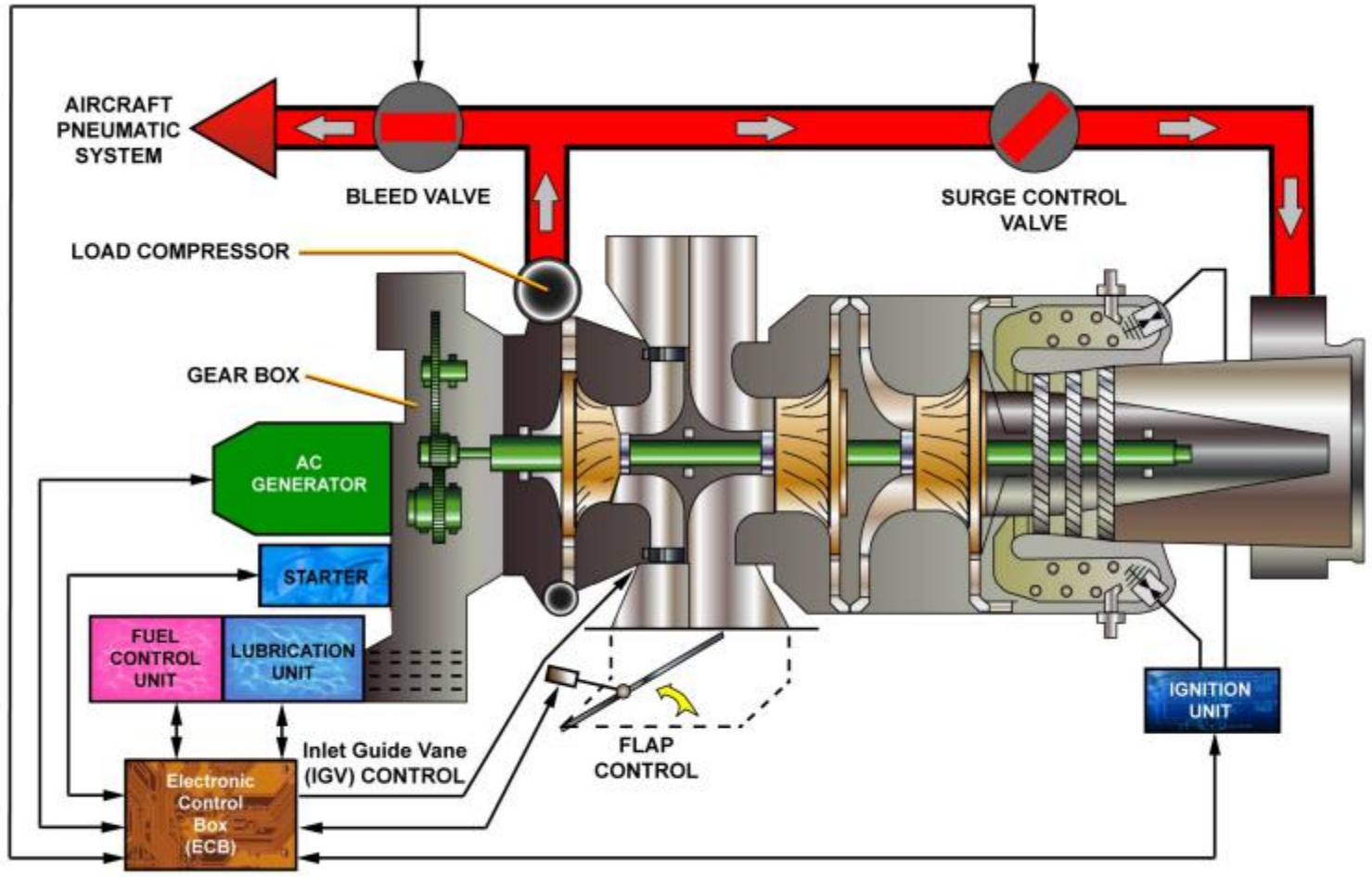

ENGINE

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49 APU SYSTEM PRESENTATION (1)

CONTROL AND INDICATING

This section will highlight the control panels and indications for the APU.

CONTROL PANELS

The controls used to operate the APU are:
- the APU MASTER SWitch and START P/BSW, on the APU control panel,
- the APU fire controls, on the APU fire panel.

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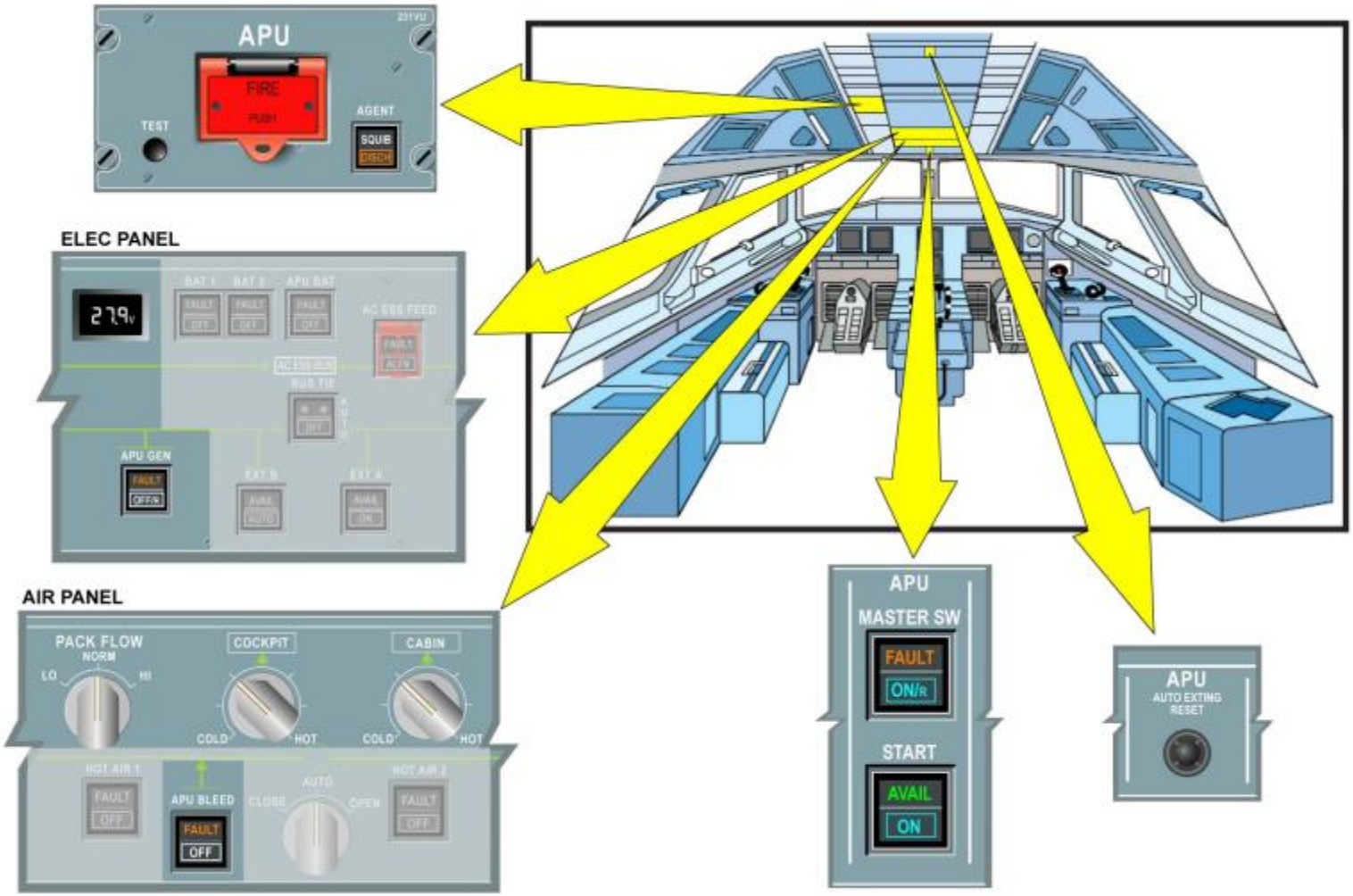

CONTROL AND INDICATING - CONTROL PANELS

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CONTROL AND INDICATING (continued)

EXTERNAL CONTROLS

It is possible to do an emergency shut down of the APU from either the REFUEL/DEFUEL panel or the EXTERNAL PWR panel by lifting the guard and pushing either the APU EMERGENCY P/BSW or the APU SHUT OFF P/BSW.

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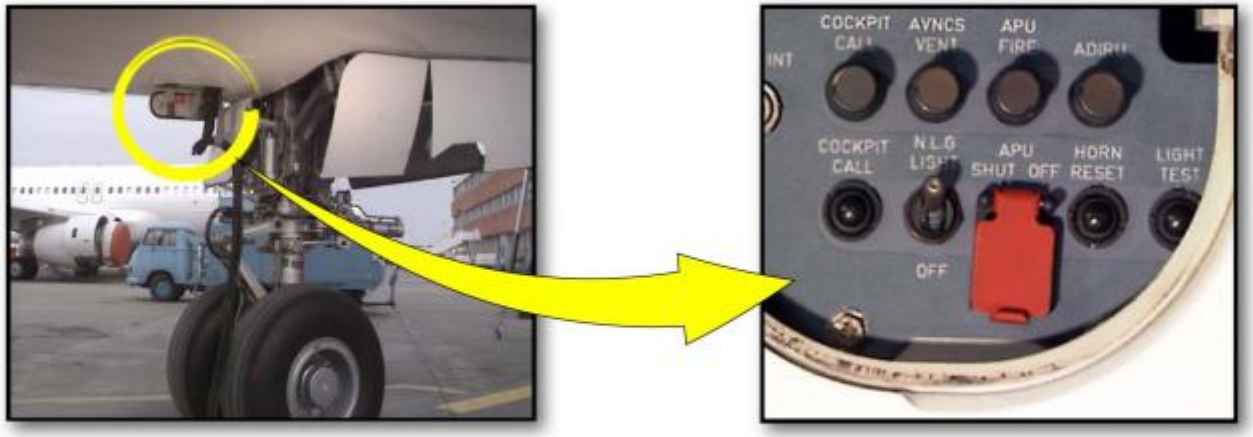
REFUEL/DEFUEL PANEL



EXTERNAL POWER PANEL

CONTROL AND INDICATING - EXTERNAL CONTROLS

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CONTROL AND INDICATING (continued)

ECAM APU PAGE

APU parameters are displayed on the ECAM APU page. The APU generator parameters are duplicated on the ECAM ELEC page and the APU pneumatic parameters are duplicated on the ECAM BLEED page.

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THE DU SHOW ALL INDICATIONS AVAILABLE BUT NOT A SYSTEM CONFIGURATION.

APU ECAM PAGE

SYSTEM DISPLAY (SD)

CONTROL AND INDICATING - ECAM APU PAGE

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APU LEFT SIDE

APU RIGHT SIDE

COMPONENT LOCATION - ENGINE VIEW

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MAINTENANCE/TEST FACILITIES

The Central Maintenance Computers (CMCs) let the maintenance crew analyze failure data present in the ECB BITE via the Multipurpose Control & Display Units (MCDUs).

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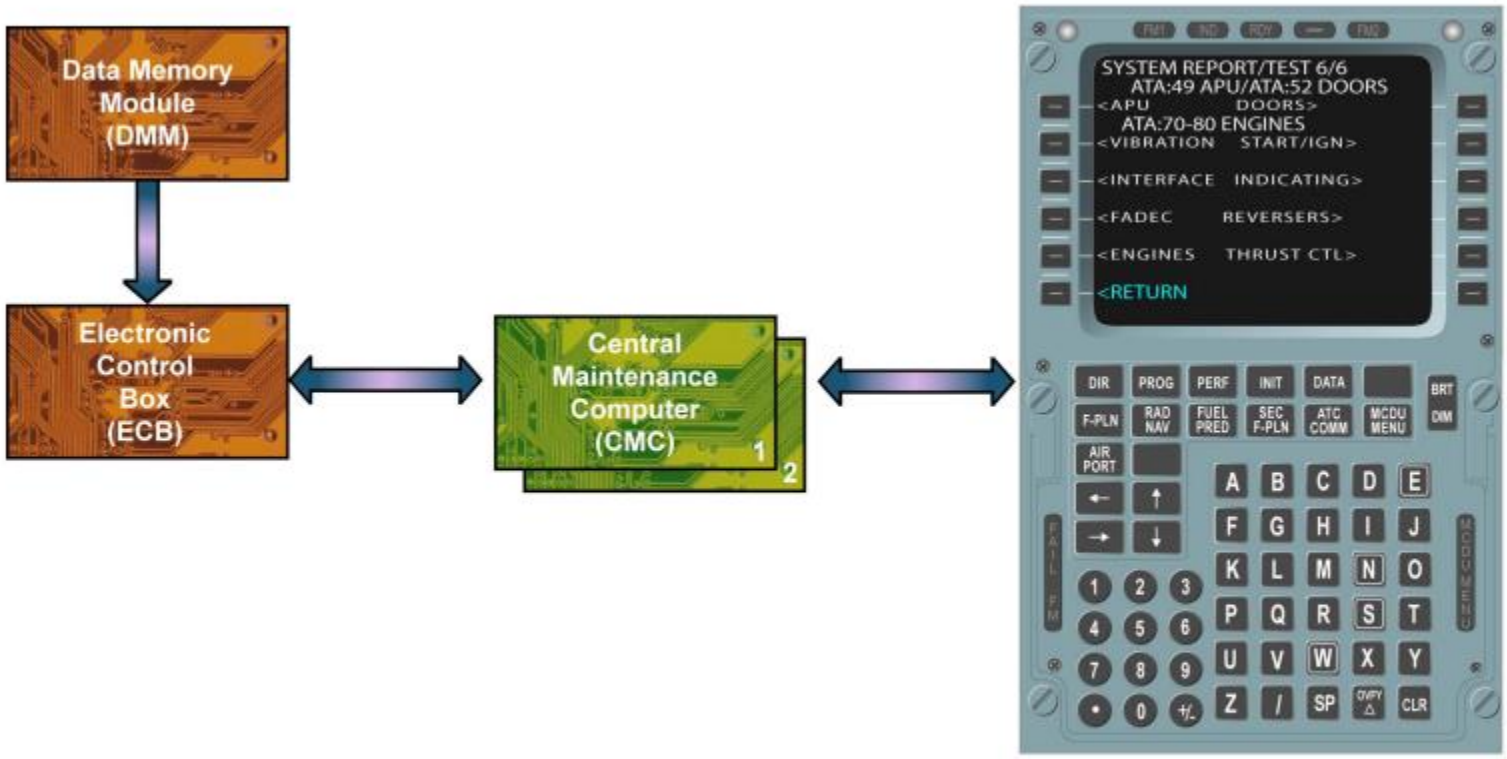

MAINTENANCE/TEST FACILITIES

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Avisos Legais

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