

Project No: **BDHRN002**Job Card No **0170**

Notif.No.: 10049029

Activity: **1001**

Rev No: 20000622

Model.: F900EX

Sheet 1 of 2

A/C Regn: **D-AHRN**

Serial No.: 096

Type: F900EX

Starting Phase: Functions

Starting Work Centre: MTX AVIO DEPT

Job Description: OPC Automatic Flight Control System Afcs

ETOPS A/C: No

RVSM A/C: No

Warranty: -

ATA: 22

Check Type: 2A CHECK

Work Center	
MTX AVIO DEPT	
FALCON A/C	

Zone: 200,300,400,500**Access Required for this task:**

PAX

Corrective Action

0001	Task carried out in accordance with the attached Customer Card that quotes the Operator code detailed below.					 Order: 80069252 Operation: 0010 Phase: Functions - scheduling activity Work Center: MTX AVIO DEPT
	Accomplished		Inspected			
	Pers. No.	Date	Pers. No.	Date		
	Stamp		Stamp			
Completed & Confirmed on SAP IAW MOE 2.13.						
0002	Task carried out in accordance with the attached Customer Card that quotes the Operator code detailed below.					 Order: 80069252 Operation: 0020 Phase: Functions - scheduling activity Work Center: FALCON A/C TEAM
	Accomplished		Inspected			
	Pers. No.	Date	Pers. No.	Date		
	Stamp		Stamp			
Completed & Confirmed on SAP IAW MOE 2.13.						

Defect Card Raised

Components Removed/Installed

	Part Number	Part Name	S/N	Location	Comm. Off/On
OFF					
ON					

OEM Code: 22-10-00-710-801

Form No: JA-SAP-MTX-002

Operator Code: 22-10-00-710-801-01

Printed by: ADAMOVIC G



Printed: 03.09.2012

13:34:17

Print No: 1

Project No: **BDHRN002**

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Sheet 2 of 2

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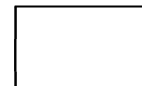
Check Type: 2A CHECK

Work Center	
MTX AVIO DEPT	
FALCON A/C	

OFF					
ON					
OFF					
ON					
OFF					
ON					

Occurance Report Raised? YES ☐

Operations Above & Notifications Completed IAW MOE 2.13.



OEM Code: 22-10-00-710-801

Operator Code: 22-10-00-710-801-01

Form No: JA-SAP-MTX-002

Printed by: ADAMOVIC G



Printed: 03.09.2012

13:34:17

Print No: 1

Operator: **HERON AVIATION**

Work Card No.: **22.010**

Serial No.: **096**

Model: **FALCON 900EX**

PKG # 2 2A INSPECTION

Reg No.: **D-AHRN**

Workorder No.: _____

	Date	A/C HRS	AFL	APH			
Due At	25-NOV-2012	4410:47					
Accomplished							

TECHNICIAN SIGNATURE: _____ KIND OF CERTIFICATE & NO.: _____

INSPECTED BY: _____ KIND OF CERTIFICATE & NO.: _____

TECH	INSP	LABOR-HRS HRS.MINS
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**>22-10-00-710-801- OPERATIONAL TEST OF THE AUTOMATIC FLIGHT CONTROL
01 SYSTEM (AFCS)**

REMARKS : _____

AMM 22-10-00-710-801

FALCON 900EX AIRCRAFT MAINTENANCE MANUAL

TASK 22-10-00-710-801

OPERATIONAL TEST OF THE AUTOMATIC FLIGHT CONTROL SYSTEM (AFCS)

WARNING: SERIOUS PERSONNEL INJURIES CAN RESULT FROM OPERATIONS ON ACTIVE FLIGHT CONTROLS IF THE FOLLOWING INSTRUCTIONS ARE NOT OBSERVED:

- THE FLIGHT CONTROLS MANEUVERING SPACES MUST BE UNOBSTRUCTED,
- APPROPRIATE SAFETY FENCES AND WARNING LIGHTS MUST BE INSTALLED AROUND THE AIRCRAFT,
- THE PERSONNEL INSIDE THE FENCED AREA MUST BE AWARE OF THE ONGOING OPERATIONS AND OF THE ASSOCIATED HAZARDS.

1. OVERVIEW OF THE JOB

Operation code: 22-10-00-710-801-01

2. LOGISTICS

A. References

Reference

- [24-00-00-860-801](#)
- [29-00-00-860-801](#)
- [32-60-00-910-801](#)
- [32-60-00-910-802](#)
- [34-01-00-720-801](#)
- [34-21-00-820-801](#)

Designation

ENERGIZATION / DE-ENERGIZATION OF THE AIRCRAFT
PRESSURIZATION / DE-PRESSURIZATION OF THE HYDRAULIC
SYSTEMS
USE OF THE GROUND / FLIGHT BOX
USE OF THE TARGETS FOR FLIGHT SIMULATION
FUNCTIONAL TEST OF THE EFIS SYSTEM
IRS ALIGNMENT

B. Energy

- ELECTRICAL
- HYDRAULIC

C. Access

Reference

- [PAX](#)

Designation

PASSENGER DOOR

D. Miscellaneous

- SAFETY FENCES (LOCAL PROCUREMENT)
- WARNING LIGHTS (LOCAL PROCUREMENT)

3. PRELIMINARY STEPS

- Install the safety fences and the warning lights.
- Connect the electrical ground power unit (Refer to [TASK 24-00-00-860-801](#), paragraph "Connection of the Electrical Ground Power Unit").

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- C. Connect the hydraulic ground power unit (Refer to [TASK 29-00-00-860-801](#), paragraph "Connection of the Hydraulic Ground Power Unit").
- D. Energize the aircraft systems (Refer to [TASK 24-00-00-860-801](#), paragraph "Energization with the Electrical Ground Power Unit").
- E. Make sure that LH Angle-of-Attack (AoA) sensor ([L11CM](#)) and RH Angle-of-Attack sensor ([R11CM](#)) are set to middle position.

4. SYSTEM INTEGRITY CHECK

Refer to **fig. 2**

- A. Make sure that none of the "AP", "YD" or "A/T" functions is selected on AP control unit ([32CA](#)).
- B. Press "TEXT" pushbutton on the lower strip of Navigation Display (ND) 1 ([L22FV](#)) or ND 2 ([R22FV](#)).

NOTE: The "CHECK LIST" page is displayed on the selected ND screen.

- C. Press "MAINT" pushbutton on the lower strip of ND 1 ([L22FV](#)) or ND 2 ([R22FV](#)) in use for approx. 3 sec. to enter the maintenance mode.

NOTE 1: The "Maintenance" mode test program is used to check the autopilot. This function is internal to the Integrated Avionics Computers:

- IAC 1 ([L2FV](#)), for the pilot autopilot,
- IAC 2 ([R2FV](#)), for the copilot autopilot.

NOTE 2: The complete running of the test program is detailed in the HONEYWELL document: PRIMUS 2000 INTEGRATED AVIONICS SYSTEM (IAC) (System Test and Fault Isolation).

On the "MAINT" main menu, the operator can then select:

- "SYSTEM STATUS", to check the status of the avionics systems,
 - "FLT FAULTS", to display the flight faults from systems,
 - "PROGRM", to enter aircraft specific data,
 - "LIST SUBSYS", to list and test the operative systems.
- D. Press the "SYSTEM STATUS" pushbutton.
 - E. Make sure that no system failure is displayed.
 - F. Press the "RETURN" pushbutton to return to the main menu.
 - G. Press the "LIST SUBSYS" pushbutton to display the "SUBSYSTEM LIST" page.
 - H. Using the setting knob, select the "IAC-AFCS 1" line to test the autopilot integrated in IAC 1 ([L2FV](#)).
 - I. Press the "SELECT" pushbutton to display the subsystem main menu page.
 - J. Press the "LRU TESTS" pushbutton to display the "LRU TEST MENU".
 - K. Perform all the tests listed in the following table:

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NOTE:

- select the test to be performed using the setting knob, press the "SELECT" pushbutton to start the test,
- at the end of the test, observe the instructions for corrective actions if necessary,
- press the "RETURN" pushbutton to return to the "LRU TEST MENU" page,
- select the next test.

Test	Description	LRU to be tested
"IAC-FGC Test"	Testing FGC (Flight Guidance Controller) PCBs and interfaces with IAC	IAC 1 (L2FV) or IAC 2 (R2FV)
"Guidance Controller Test"	Check of AP control unit (lights, pushbuttons and interface with IAC)	IAC 1 (L2FV) or IAC 2 (R2FV) AP control unit (32CA)
"Aileron Servo Test"	Check of aileron deflection (performance and interfaces)	IAC 1 (L2FV) or IAC 2 (R2FV) Aileron servomotor (12CA)
"Elevator Servo Test"	Check of elevator deflection (performance and interfaces)	IAC 1 (L2FV) or IAC 2 (R2FV) Elevator servomotor (13CA)
"Rudder Actuator Test"	Check of rudder deflection (performance and interfaces)	IAC 1 (L2FV) or IAC 2 (R2FV) Rudder actuator (3CC)
"IAC/Trim System Interface Test"	Check of IAC/elevator trim interface	IAC 1 (L2FV) or IAC 2 (R2FV)
"AFCS Switches Test"	Check of pushbuttons relative to the autopilot (GA, TCS, AP pushbuttons, trim levers, etc.)	IAC 1 (L2FV) or IAC 2 (R2FV) AP control unit (32CA) Pilot control column (L8TB) or copilot control column (R8TB)

L. Press "RETURN" pushbutton until the "SUBSYSTEM LIST" page is displayed.

M. Repeat the steps for each of the following subsystems:

NOTE: For "IAC-EDS 1", "IAC-EDS 2" and "IAC-EDS 3" subsystems, the following table lists the tests being performed.

- the "IAC-AFCS 2" line to test the autopilot integrated in IAC 2 ([R2FV](#)),
- the "IAC-EDS 1" line to test the EFIS (Electronic Flight Instrument System) integrated in IAC 1 ([L2FV](#)),

NOTE: Engage "Maintenance" mode on ND1 ([L22FV](#)) first before running this test.

- the "IAC-EDS 2" line to test the EFIS integrated in IAC 2 ([R2FV](#)),

NOTE: Engage "Maintenance" mode on ND2 ([R22FV](#)) first before running this test.

- the "IAC-EDS 3" line to test the EFIS integrated in IAC 3 ([52FV](#)).

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NOTE: Engage "Maintenance" mode on ND1 ([L22FV](#)) first before running this test.

Test	Description	LRU to be tested
"Display Controllers Test"	Test of pushbuttons, selector switches and rotary knob on: - DCP (Display Control Panel), - RSP (Reversion Switch Panel), - AP control Unit (the following controls: "IAS/MACH", "MINIMUM DH/MDA", "ASEL", speed "SEL", IAC AFCS SEL "1/2"), - PFD (Primary Flight Display), - ND (Navigation Display), - and EID (Engine Instrument Display)	DCP 1 (L32FV) or DCP 2 (R32FV) RSP 1 (L33FV) or RSP 2 (R33FV) RSP 1 (L33FV) or RSP 2 (R33FV) PFD 1 (L12FV) or PFD 2 (L12FV) ND 1 (L22FV) or ND 2 (R22FV) ND 1 (L22FV) or ND 2 (R22FV) EID (62FV) AP control unit (32CA)

NOTE: The other tests of this menu are:

- used in the procedure (Refer to [TASK 34-01-00-720-801](#)),
- or reserved for system handling by HONEYWELL.

N. Press the "EXIT SUBSYS" then "EXIT IMT" pushbuttons to exit the "Maintenance" mode.

5. AP DISENGAGEMENT TEST

Refer to [fig. 1](#) and [fig. 2](#)

- A. De-energize the aircraft systems (Refer to [TASK 24-00-00-860-801](#), paragraph "De-energization with the Electrical Ground Power Unit").
- B. Install the in-flight simulating tools (Refer to [TASK 32-60-00-910-802](#), paragraph "Use").

NOTE: The ground/flight box may be used instead of the in-flight simulating tools.

In this case, connect the ground/flight box (Refer to [TASK 32-60-00-910-801](#), paragraph "Installation") and set the aircraft to flight configuration (Refer to [TASK 32-60-00-910-801](#), paragraph "Use").

- C. Energize the aircraft systems (Refer to [TASK 24-00-00-860-801](#), paragraph "Energization with the Electrical Ground Power Unit").
- D. Pressurize hydraulic system 1 (Refer to [TASK 29-00-00-860-801](#), paragraph "Pressurization from the Hydraulic Ground Power Unit").
- E. Perform the alignment of Inertial Reference Systems 1 (IRS1) and IRS2 (Refer to [TASK 34-21-00-820-801](#)).

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F. Press the "AP" pushbutton on AP control unit (**32CA**) to engage the autopilot.

G. Check that the autopilot disengages for each of the following actions:

NOTE:

- After each action leading to the disengagement of the autopilot, check that the "AUTOPILOT" disengagement audio warning is heard.
- As required, confirm the disengagement of the autopilot by pressing pilot control column wheel "AP" disengagement pushbutton (**L8TB5**) or copilot control column wheel "AP" disengagement pushbutton (**R8TB5**). This action cuts off the "AUTOPILOT" audio message.
- After each disengagement action, engage the autopilot again.

(1) Press the "YD" pushbutton on AP control unit (**32CA**).

(2) Disengage "STAB NORMAL" circuit breaker (**1CF**).

NOTE: "STAB NORMAL" circuit breaker (**1CF**) must be re-engaged before resuming the test.

(3) On airbrake/tailplane/trim control unit (**2CF**):

(a) Tilt the "TAILPLANE" emergency control lever (1) to the "UP" position (HS "NORMAL" mode control circuit breaker (2) disengages).

NOTE: HS "NORMAL" mode control circuit breaker (2) must be re-engaged before resuming the test.

(b) Tilt the "TAILPLANE" emergency control lever (1) to the "DOWN" position (HS "NORMAL" mode control circuit breaker (2) disengages).

NOTE: HS "NORMAL" mode control circuit breaker (2) must be re-engaged before resuming the test.

(4) On pilot control column (**L8TB**):

NOTE: The terms "nose-down" and "nose-up" apply to the aircraft attitude, not to the movable horizontal stabilizer (HS). Consequently, an aircraft "nose-down" attitude corresponds to an HS "nose-up" position or to the upward displacement of the HS leading edge.

(a) Actuate HS dual rocker (**L8TB2**) in the nose-up direction.

(b) Actuate HS dual rocker (**L8TB2**) in the nose-down direction.

(c) Press "AP" pushbutton (**L8TB5**).

(d) Press "GA" pushbutton (**L8TB1**).

(5) On copilot control column wheel (**R8TB**):

(a) Actuate HS dual rocker (**R8TB2**) to the nose-up direction.

(b) Actuate HS dual rocker (**R8TB2**) to the nose-down direction.

(c) Press "AP" pushbutton (**R8TB5**).

(d) Press "GA" pushbutton (**R8TB1**).

(6) Actuation of LH Angle-of-Attack (AoA) sensor (**L11CM**):

(a) Set LH AoA sensor (**L11CM**) to stall position (upper stop).

(b) Make sure that the stall audio warning is heard.

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NOTE: The stall warning overrides the autopilot disengagement warning.

- (c) Set AoA sensor (**L11CM**) to middle position.
- (7) Actuation of RH AoA sensor (**R11CM**):
 - (a) Set RH AoA sensor (**R11CM**) to stall position (upper stop).
 - (b) Make sure that the stall audio warning is heard.

NOTE: The stall warning overrides the autopilot disengagement warning.

- (c) Set RH AoA sensor (**R11CM**) to middle position.

6. AP DISENGAGEMENT AUDIO WARNING TEST

Refer to **fig. 1** and **fig. 2**

- A. Make sure that the pilot flight director has priority. If not, press the "CPL" pushbutton on AP control unit (**32CA**) and make sure that the light on the left of the pushbutton illuminates.

- B. Disengage "IAC 1" circuit breaker (**L1FV**).

NOTE: Pilot PFD (**L12FV**) and ND (**L22FV**) are switched off.

- C. Engage the autopilot by actuating the "AP" pushbutton on AP control unit (**32CA**).

- D. Make sure that the green "AP2" symbol is displayed on copilot PFD (**R12FV**).

- E. Disengage the autopilot by actuating the "AP" pushbutton on AP control unit (**32CA**).

- F. Make sure that the "AP2" symbol turns red, flashes then extinguishes on copilot PFD (**R12FV**).

- G. Make sure that the "AUTOPILOT" disengagement audio warning of the autopilot is heard (once only).

- H. Engage "IAC 1" circuit breaker (**L1FV**).

- I. Disengage "IAC 2" circuit breaker (**R1FV**).

NOTE: Copilot PFD (**R12FV**) and ND (**R22FV**) are switched off.

- J. Press the "CPL" pushbutton on AP control unit (**32CA**) to set flight director to copilot priority.

- K. Engage the autopilot by actuating the "AP" pushbutton on AP control unit (**32CA**).

- L. Make sure that the green "AP1" symbol is displayed on pilot PFD (**R12FV**).

- M. Disengage the autopilot by actuating the "AP" pushbutton on AP control unit (**32CA**).

- N. Make sure that the "AP1" symbol turns red, flashes then extinguishes on pilot PFD (**L12FV**).

- O. Make sure that the "AUTOPILOT" disengagement audio warning of the autopilot is heard (once only).

- P. Engage "IAC 2" circuit breaker (**R1FV**).

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7. FINAL STEPS

- A. Command the horizontal stabilizer deflection to the take-off position:
- using pilot or copilot horizontal stabilizer dual rockers (**L8TB2**)/(**R8TB2**),
 - reading the horizontal stabilizer take-off position on "STAB" green sector of trim position indicator (**2DQ**).
- B. De-energize the IRSs (Refer to **TASK 34-21-00-820-801**).
- C. Cut off and drop the pressure in hydraulic system 1 (Refer to **TASK 29-00-00-860-801**, paragraph "Cut off and Drop Pressure from the Hydraulic Ground Power Unit").
- D. De-energize the aircraft systems (Refer to **TASK 24-00-00-860-801**, paragraph "De-Energization with the Electrical Ground Power Unit").
- E. Remove the in-flight simulating tool (Refer to **TASK 32-60-00-910-802**, paragraph "Removal").
- NOTE:** If the ground/flight box is used, disconnect it (Refer to **TASK 32-60-00-910-801**, paragraph "Removal").
- F. Disconnect the hydraulic ground power unit (Refer to **TASK 29-00-00-860-801**, paragraph "Disconnection of the Hydraulic Ground Power Unit").
- G. Disconnect the electrical ground power unit (Refer to **TASK 24-00-00-860-801**, paragraph "Disconnection of the Electrical Ground Power Unit").
- H. Remove the safety fences and the warning lights.

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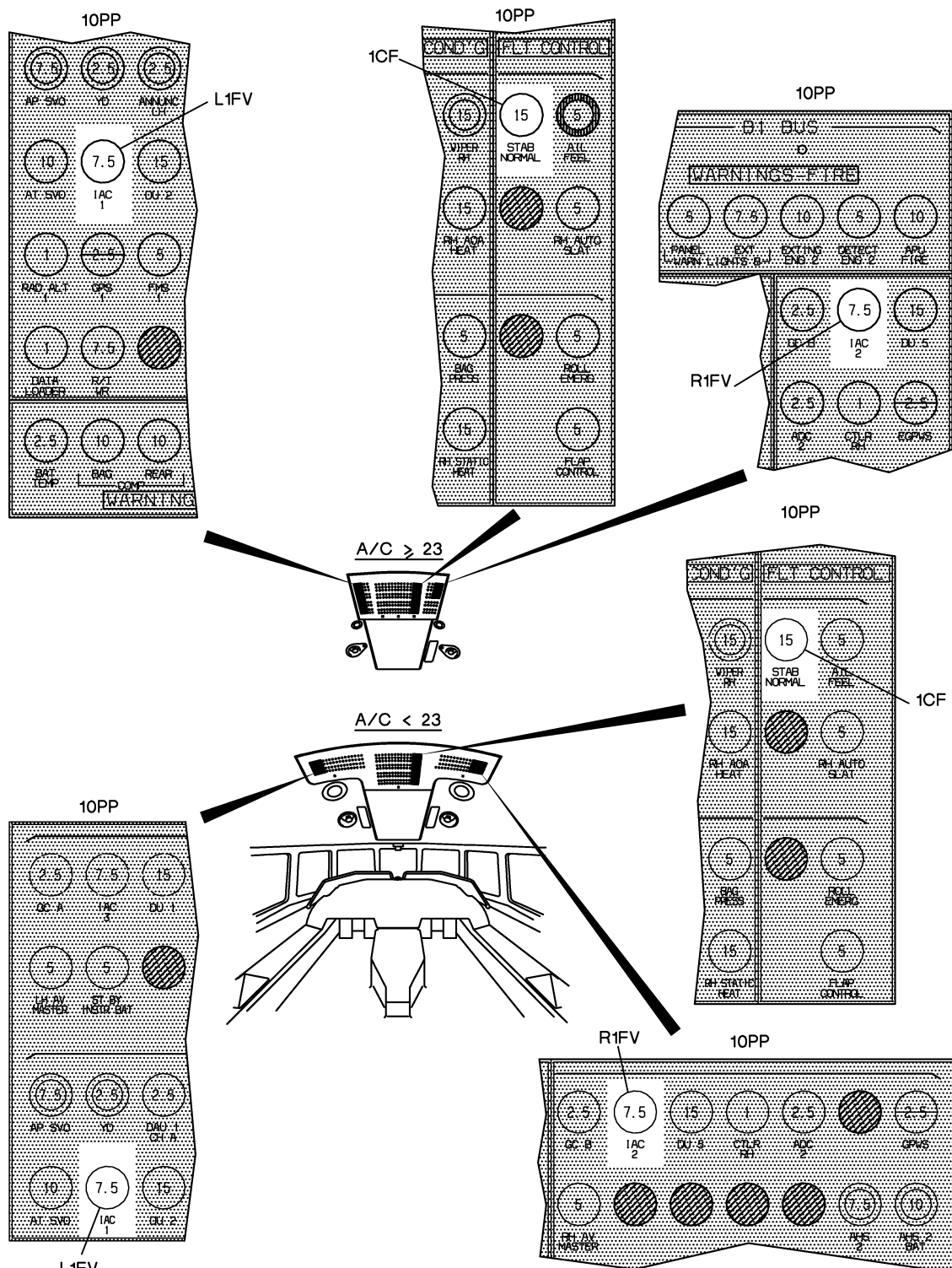


Figure 1: Location of Circuit Breakers

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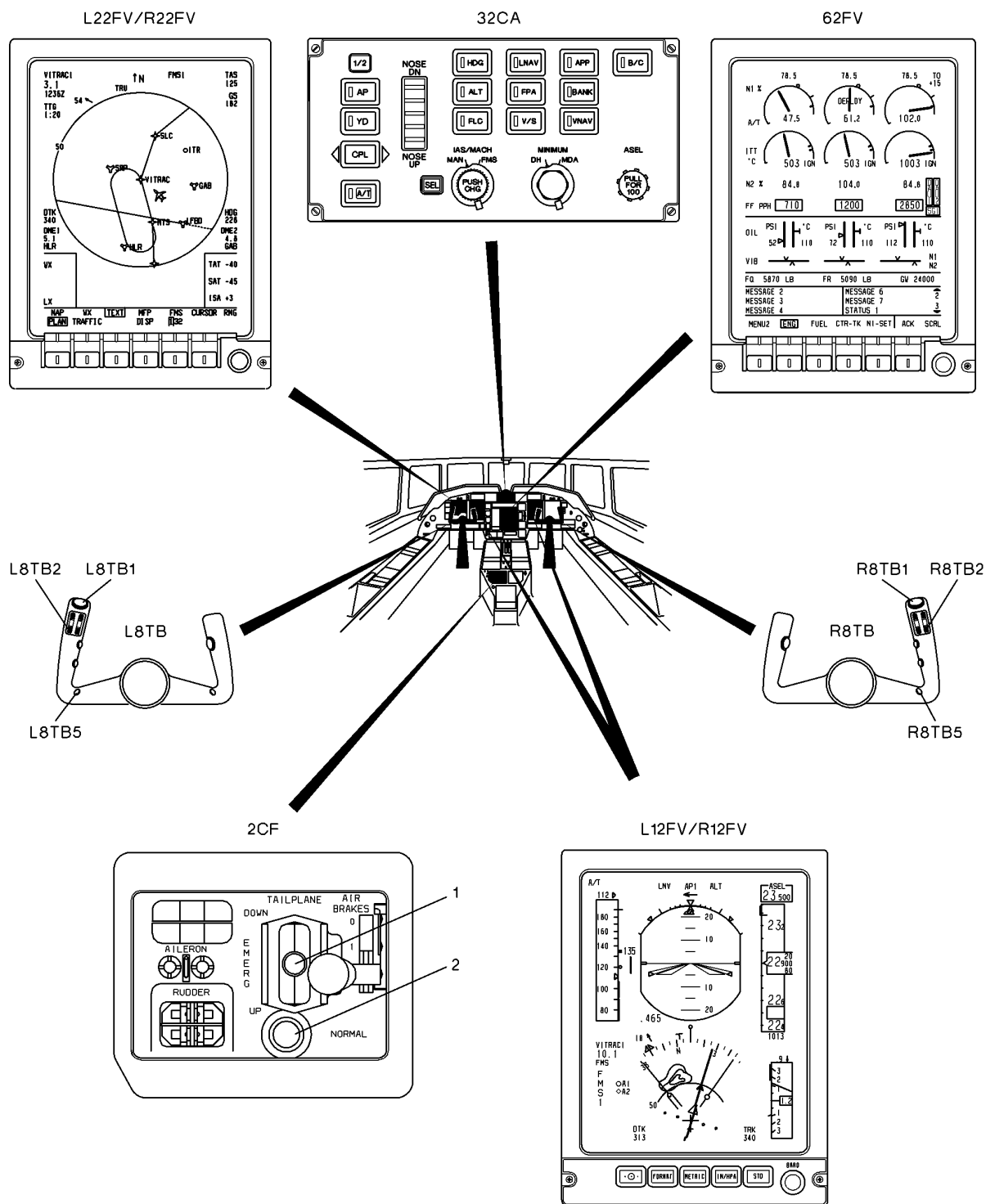


Figure 2: Location of Controls and Indications