

Project No: **BDHRN002**Job Card No **0149**

Notif.No.: 10049235

Activity: **1040**

Rev No: 20000622

Model.: F900EX

Sheet 1 of 1

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

Serial No.: 096

Type: F900EX

Starting Phase: Functions

Starting Work Centre: MTX AVIO DEPT

Job Description: **FNC ATC 1 System Using Test Set ATC601**

ETOPS A/C: No

RVSM A/C: No

Warranty: -

ATA: 34

|               |  |
|---------------|--|
| Work Center   |  |
| MTX AVIO DEPT |  |
|               |  |
|               |  |
|               |  |
|               |  |

**Zone:** 100,200**Access Required for this task:**

210A,PAX

## Corrective Action

|      |   |      |           |      |  |  |
|------|---|------|-----------|------|--|--|
| 0001 | <b>Task carried out in accordance with the attached Customer Card that quotes the Operator code detailed below.</b> |      |           |      |  | <br><br>Order: 80069312<br>Operation: 0010<br>Phase: Functions - scheduling activity<br>Work Center: MTX AVIO DEPT |
|      | 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  |             |           |     |          |              |
| OFF |             |           |     |          |              |
| ON  |             |           |     |          |              |
| OFF |             |           |     |          |              |
| ON  |             |           |     |          |              |
| OFF |             |           |     |          |              |
| ON  |             |           |     |          |              |

Occurance Report Raised? YES ☐

Operations Above &amp; Notifications Completed IAW MOE 2.13.

OEM Code: 34-54-00-720-802-01

Operator Code: 34-54-00-720-802-01

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.: **34.300**

Serial No.: **096**

Model: **FALCON 900EX**

Reg No.: **D-AHRN**

Workorder No.: \_\_\_\_\_

|              | Date               | A/C HRS | AFL | APH |  |  |  |
|--------------|--------------------|---------|-----|-----|--|--|--|
| Due At       | <b>24-JAN-2013</b> |         |     |     |  |  |  |
| Accomplished |                    |         |     |     |  |  |  |

TECHNICIAN SIGNATURE: \_\_\_\_\_ KIND OF CERTIFICATE & NO.: \_\_\_\_\_

INSPECTED BY: \_\_\_\_\_ KIND OF CERTIFICATE & NO.: \_\_\_\_\_

|      |      |                       |
|------|------|-----------------------|
| TECH | INSP | LABOR-HRS<br>HRS.MINS |
|------|------|-----------------------|

**>34-54-00-720-802- FUNCTIONAL TEST NO. 1 ATC TRANSPONDER**  
**01**  
**RVSM**

REMARKS : \_\_\_\_\_

AMM 34-54-00-720-802

Operator: **HERON AVIATION**

Work Card No.: **34.300**

Serial No.: **096**

Model: **FALCON 900EX**

Reg No.: **D-AHRN**

Workorder No.: \_\_\_\_\_

**SOURCE SUMMARIES**

**956 MPD 05-20-34 PAGE NO.:PAGE 2/2 REF: 34-50 DEPENDENT POSITION DETERMINING DATE: MAR 09/2012 2**

34-54-00-720-802-01 FUNCTIONAL TEST NO. 1 ATC TRANSPONDER

## FALCON 900EX AIRCRAFT MAINTENANCE MANUAL

### TASK 34-54-00-720-802

## FUNCTIONAL TEST OF THE AIR TRAFFIC CONTROL (ATC) SYSTEM

**WARNING:** THE ATC TRANSPONDER SYSTEM EMITS RADIO FREQUENCY (RF) SIGNALS. DO NOT OPERATE OR TEST THE ATC TRANSPONDER SYSTEM WITH PERSONNEL STANDING AT LESS THAN 2 M (7 FT APPROX.) FROM THE ANTENNA. THIS WILL PREVENT THE RISK OF INJURY CAUSED BY RF EMISSIONS.

**CAUTION:** THE LOCAL STATION MUST BE INFORMED BEFORE PERFORMING THESE TESTS.

**CAUTION:** THESE TESTS MUST BE PERFORMED, AS FAR AS POSSIBLE, INSIDE A METALLIC HANGAR WITH DOORS CLOSED TO AVOID DISTURBING LOCAL TRAFFIC.

**CAUTION:** LIMIT THE ATC TRANSMISSION TIME TO THE MINIMUM.

### 1. OVERVIEW OF THE JOB

Operation codes:

- 34-54-00-720-802-01                      ATC 1 system periodic tests
- 34-54-00-720-802-02                      ATC 2 system periodic tests
- 34-54-00-720-802-03                      ATC 1 system complementary tests
- 34-54-00-720-802-04                      ATC 2 system complementary tests

**NOTE 1:** The procedure is broken down as follows:

- Periodic Tests:
  - ATC 1 system: operation code 34-54-00-720-802-01,
  - ATC 2 system: operation code 34-54-00-720-802-02.
- Complementary Tests:
  - ATC 1 system: operation code 34-54-00-720-802-03,
  - ATC 2 system: operation code 34-54-00-720-802-04.

**NOTE 2:** The software of ramp test set (**ATC-601**) must be updated to version 2.22 (or higher) for the test of the "FLIGHT ID" (A/C with SB F900EX-205 ) and to version 3.04 (or higher) for the test of "Enhanced Surveillance" (A/C with SB F900EX-239 ).

The version of the software can be checked on the "START UP" screen when Ramp Test Set (**ATC-601**) is energized.

**NOTE 3:** For the test, do not use the codes that follow:

- code 0001 (military intercept code),
- code 7500 (hijack code),
- code 7600 (defective VHF COM receiver code),
- code 7700 (emergency code).

### 2. LOGISTICS

#### A. References

| Reference | Designation |
|-----------|-------------|
|-----------|-------------|

Effectivity: USING ATC-601 TEST SET  
Rev. Date: MAR 09/2012  
**34-54-00-720-802**

## FALCON 900EX AIRCRAFT MAINTENANCE MANUAL

- [24-00-00-860-801](#) ENERGIZATION / DE-ENERGIZATION OF THE AIRCRAFT
- [32-60-00-910-801](#) USE OF THE GROUND / FLIGHT BOX
- [32-60-00-910-802](#) USE OF THE TARGETS FOR FLIGHT SIMULATION
- [34-10-00-860-801](#) PREPARATION AND USE OF THE AIR DATA BENCH
- [34-21-00-820-801](#) IRS ALIGNMENT

### B. Tools and Ground Support Equipment

| Reference                 | Designation  | Quantity |
|---------------------------|--------------|----------|
| • <a href="#">ATC-601</a> | ATC TEST SET |          |

### C. Energy

- ELECTRICAL
- HYDRAULIC

### D. Access

| Reference              | Designation    |
|------------------------|----------------|
| • <a href="#">PAX</a>  | PASSENGER DOOR |
| • <a href="#">210A</a> | NOSE CONE      |

### E. Miscellaneous

- ACCESS PLATFORM (LOCAL PROCUREMENT)

## 3. PRELIMINARY STEPS

Refer to [fig. 1](#)

- A. Connect the Electrical Ground Power Unit (Refer to [TASK 24-00-00-860-801](#), paragraph "Connection of the Electrical Ground Power Unit").
- B. Connect the digital air data bench (Refer to [TASK 34-10-00-860-801](#), paragraph "Connection").
- C. 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").
- D. For A/C with SB F900EX-239 "Enhanced Surveillance", open nose cone ([210A](#)).
- E. Energize the aircraft systems (Refer to [TASK 24-00-00-860-801](#), paragraph "Energization with the Electrical Ground Power Unit").
- F. Select a reference pressure of 29.92 in.Hg on pilot Primary Flight Display (PFD) ([L12FV](#)) and copilot PFD ([R12FV](#)) by pressing the "STD" key on the lower strip of each PFD.

## 4. INITIALIZATION OF RAMP TEST SET ([ATC-601](#))

- A. Switch on ramp test set ([ATC-601](#)) by pressing the "POWER" key.

## FALCON 900EX AIRCRAFT MAINTENANCE MANUAL

**NOTE:** On the "START UP" screen, check that the version of the software is compatible with the tests to be performed:

- Version 2.22 (or higher) for the test of the "FLIGHT ID" (A/C with SB F900EX-205 ).
- Version 3.04 (or higher) for the test of "Enhanced Surveillance" (A/C with SB F900EX-239 ).

B. Press the "SELF TEST" key to display the "SELF TEST" screen.

C. Press the "RUN/STOP" key to start the self-test.

**NOTE:** The "TEST RUNNING" message appears in the bottom line of display to indicates that the test is running. At the end of the test, the message disappears.

D. Check that the "SELF TEST - PASSED" message is displayed at the end of the test.

**NOTE:** If the test fails, the "SELF TEST - FAILURE" message is displayed; if so, refer to ramp test set (**ATC-601**) operating manual for error code definitions.

### 5. PERIODIC TESTS

Refer to **fig. 1**, **fig. 2** and **fig. 4**

**NOTE:** For these tests, ramp test set (**ATC-601**) can be installed on board the aircraft.

A. Test procedure for ATC 1 bottom antenna (**L5SH**)

- (1) Install the cover on ATC 1 top antenna (**L9SH**).
- (2) Using a coaxial cable, connect the test set antenna to the "ANTENNA" connector of ramp test set (**ATC-601**).
- (3) Orientate the test set antenna towards ATC 1 bottom antenna (**L5SH**)

**NOTE:** The test set antenna can be placed on the ground, under ATC 1 bottom antenna (**L5SH**). Prevent any metal object from interfering between ATC 1 bottom antenna (**L5SH**) and the test set antenna.

(4) On copilot Radio Tuning Unit (RTU 2) (**R12RC**), set "BRT OFF" knob (1) away from "OFF".

(5) On pilot Radio Tuning Unit (RTU 1) (**L12RC**):

- (a) Set "BRT OFF" knob (1) away from "OFF".
- (b) Press line key (2) as many times as necessary to display the "ATC" main page.
- (c) Press line key (3) to select ATC 1 transponder.

**NOTE 1:** The active transponder is displayed in cyan block letters on the "ATC" main page.

**NOTE 2:** The "ATC 1" main page is not displayed permanently.

In the absence of any activity for more than 20 seconds (selection with a line key or action on the three concentric knobs), the RTU main page is displayed again. In this case, press line key (2) as many times as necessary to display the "ATC 1" main page.

- (d) Press line key (4) to select "STBY".
- (e) Press line key (5) to select "ALT ON".

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- (f) Press line key (12) and turn two of the three concentric knobs (7) to set the code 7776.  
NOTE: Another code may be provided by the local station. If so, use this code instead of code 7776.
- (6) On ramp test set (**ATC-601**):
- (a) Press the "SETUP" key to display the "SETUP#1 MENU" page, and configure the following parameters:
- NOTE 1: In order not to adversely affect the test, the data entered in this page has to be as precise as possible.
- NOTE 2: Enter the data, using the "SELECT" keys (up/down), to change the parameters (the cursor line indicates the parameter selected), and the "SLEW" keys (up/down) to change the values. The "SLEW" keys have different rates of change according to the parameter and the way the keys are pressed.
- 1 RANGE (in feet): enter the distance between the antenna to be tested and the test set antenna.
  - 2 HEIGHT (in feet): enter the height between the antenna to be tested and the test set antenna.
  - 3 SELECTED: select the antenna to be tested (top or bottom antenna).
  - 4 GAIN (in dB): the relevant gain value to be entered is mentioned at the back of the test antenna.
    - GAIN 1030: enter the gain of the test antenna at 1030 MHz.
    - GAIN 1090: enter the gain of the test antenna at 1090 MHz.
  - 5 LOSS (in dB): enter the gain loss due to the length of the coaxial cable between ramp test set (**ATC-601**) and the test set antenna (the value of gain loss to be entered is mentioned on the coaxial cable).
- (7) If the GROUND/FLIGHT BOX is used, set the aircraft in FLIGHT configuration (Refer to **TASK 32-60-00-910-801**, paragraph "Use").
- (8) POWER TEST
- (a) On the "ATC 1" main page of RTU 1 (**L12RC**), press line key (4) to select "ON".
- (b) On ramp test set (**ATC-601**):
- Press the "PWR TEST" key.
  - Press the "SELECT" key to select the ATC 1 bottom antenna.
  - Press the "RUN/STOP" key to start the test.
  - Check that the "PASSED" message is displayed in the "STATUS" column.
  - Press the "RUN/STOP" key to stop the test.
- (c) On the "ATC 1" main page of RTU 1 (**L12RC**), press line key (4) to select "STBY".
- (9) TRANSPONDER MODE TEST (AUTO TEST)
- NOTE: The operation manual of the test set gives references to the appropriate FAA requirements.
- (a) On the "ATC 1" main page of RTU 1 (**L12RC**), press line key (4) to select "ON".
- (b) On ramp test set (**ATC-601**):
- Press the "AUTO TEST" key.

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- Press the "RUN/STOP" key and wait for the end of the test.
- Check that the "AUTO TEST - PASSED" message is displayed.

NOTE: To get more information about the results of an autotest, press the "SELECT" key to select the desired test and press the "RUN/STOP" to restart the test.

- (c) On the "ATC 1" main page of RTU 1 (**L12RC**), press line key (4) to select "STBY".

### (10) ALTITUDE TEST (A/C WITHOUT SB F900EX-239 "Enhanced Surveillance") (**fig. 2**)

- (a) Adjust the digital air data bench until an altitude higher than 30,000 ft is read on pilot PFD (**L12FV**) and on copilot PFD (**R12FV**) (Refer to **TASK 34-10-00-860-801**, paragraph "Use of the Digital Air Data Bench").
- (b) On the "ATC 1" main page of RTU 1 (**L12RC**):
- Press line key (4) to select "ON".
  - Check that the same altitude is displayed.
- (c) On ramp test set (**ATC-601**):
- Select "MODE S UFØ" test, using the "SELECT" key.
  - Press the "RUN/STOP" key to start the test.
  - Check that the same altitude is displayed next to "AC=".
- (d) On the digital air data bench, increase the altitude by 1000 ft (Refer to **TASK 34-10-00-860-801**, paragraph "Use of the Digital Air Data Bench"), and check that the altitude has also increased on "ATC 1" main page of RTU 1 (**L12RC**) and on ramp test set (**ATC-601**).
- (e) With the following table, check whether the altitude is displayed on ramp test set (**ATC-601**) for the various statuses of "ADC 1" (**L1FX**) and "ADC 2" (**R1FX**) circuit breakers:

| CIRCUIT BREAKER PANEL ( <b>10PP</b> ) |                       | RAMP TEST SET ( <b>ATC-601</b> ) |
|---------------------------------------|-----------------------|----------------------------------|
| ADC 1 ( <b>L1FX</b> )                 | ADC 2 ( <b>R1FX</b> ) |                                  |
| Disengaged                            | Engaged               | Altitude displayed next to "AC=" |
| Disengaged                            | Disengaged            | Altitude not displayed           |
| Engaged                               | Disengaged            | Altitude displayed next to "AC=" |
| Engaged                               | Engaged               | Altitude displayed next to "AC=" |

- (f) On the "ATC 1" main page of RTU 1 (**L12RC**), press line key (5) to select "ALT OFF".
- (g) On ramp test set (**ATC-601**):
- Check that the altitude is not displayed.
  - Press the "RUN/STOP" key to stop the test.
- (h) On the "ATC 1" main page of RTU 1 (**L12RC**), press line key (4) to select "STBY".

### (11) ALTITUDE TEST (A/C WITH SB F900EX-239 "Enhanced Surveillance") (**fig. 2**)

- (a) Adjust the digital air data bench until an altitude higher than 30,000 ft is read on pilot PFD (**L12FV**) and on copilot PFD (**R12FV**) (Refer to **TASK 34-10-00-860-801**, paragraph "Use of the Digital Air Data Bench").



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- (b) On the "ATC 1" main page of RTU 1 (**L12RC**):
  - Press line key (4) to select "ON".
  - Check that the same altitude is displayed.
- (c) On ramp test set (**ATC-601**):
  - Select "MODE S UFØ" test, using the "SELECT" key.
  - Press the "RUN/STOP" key to start the test.
  - Check that the same altitude is displayed next to "AC=".
- (d) On the digital air data bench, increase the altitude by 1000 ft (Refer to **TASK 34-10-00-860-801**, paragraph "Use of the Digital Air Data Bench"), and check that the altitude has also increased on "ATC 1" main page of RTU 1 (**L12RC**) and on ramp test set (**ATC-601**).
- (e) With the following table, check whether the altitude is displayed on ramp test set (**ATC-601**) for the various statuses of "ADC 1" (**L1FX**) and "ADC 2" (**R1FX**) circuit breakers:

| CIRCUIT BREAKER PANEL<br>(10PP)                            |                          | RAMP TEST SET ( <b>ATC-601</b> ) |                                  |
|--|--------------------------|----------------------------------|----------------------------------|
| ADC 1<br>( <b>L1FX</b> )                                   | ADC 2<br>( <b>R1FX</b> ) | ATC 1 TESTED (see note)          | ATC 2 TESTED (see note)          |
| Disengaged   | Engaged                  | Altitude not displayed           | Altitude displayed next to "AC=" |
| Disengaged   | Disengaged               | Altitude not displayed           | Altitude not displayed           |
| Engaged  | Disengaged               | Altitude displayed next to "AC=" | Altitude not displayed           |
| Engaged  | Engaged                  | Altitude displayed next to "AC=" | Altitude displayed next to "AC=" |
| NOTE: Refer to tested ATC 1 or ATC 2 column, respectively. |                          |                                  |                                  |

- (f) On the "ATC 1" main page of RTU 1 (**L12RC**), press line key (5) to select "ALT OFF".
- (g) On ramp test set (**ATC-601**):
  - Check that the altitude is not displayed.
  - Press the "RUN/STOP" key to stop the test.
- (h) On the "ATC 1" main page of RTU 1 (**L12RC**), press line key (4) to select "STBY".
- (12) ENHANCED SURVEILLANCE TEST (A/C WITH SB F900EX-239 ) (**fig. 2**)
  - (a) On AP control unit (**32CA**), turn the "ASEL" rotary switch to select an altitude, and check that the display in "ASEL" window varies on PFD (**L12FV**) or (**R12FV**).
  - (b) On the "ATC 1" main page of RTU 1 (**L12RC**):
    - Press line key (5) to select "ALT ON".
    - Press line key (4) to select "ON".
  - (c) On ramp test set (**ATC-601**):
    - Select the "SEL VERT INTENT RPT #1" test, using the "SELECT" key.
    - Press the "RUN/STOP" key to start the test.
    - Check that the same altitude is displayed next to "MCP / FCU SEL ALT=".

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- (d) With the following table, check whether the selected altitude is displayed on ramp test set (**ATC-601**) for the various statuses of "ADC 1" (**L1FX**) and "ADC 2" (**R1FX**) circuit breakers:

| CIRCUIT BREAKER PANEL<br>(10PP)                            |                          | RAMP TEST SET ( <b>ATC-601</b> )                         |  |
|--|--------------------------|--|--|
| ADC 1<br>( <b>L1FX</b> )                                   | ADC 2<br>( <b>R1FX</b> ) | ATC 1 TESTED (see note)                                  | ATC 2 TESTED (see note)                                  |
| Disengaged   | Engaged                  | Selected altitude not displayed                          | Selected altitude displayed next to "MCP / FCU SEL ALT=" |
| Disengaged   | Disengaged               | Selected altitude not displayed                          | Selected altitude not displayed                          |
| Engaged  | Disengaged               | Selected altitude displayed next to "MCP / FCU SEL ALT=" | Selected altitude not displayed                          |
| Engaged  | Engaged                  | Selected altitude displayed next to "MCP / FCU SEL ALT=" | Selected altitude displayed next to "MCP / FCU SEL ALT=" |
| NOTE: Refer to tested ATC 1 or ATC 2 column, respectively. |                          |  |  |

- (e) On ramp test set (**ATC-601**), press the "RUN/STOP" key to stop the test.
- (f) On the "ATC 1" main page of RTU 1 (**L12RC**), press line key (4) to select "STBY".
- (g) On pilot and copilot Navigation Display (ND 1/ND 2) (**L22FV**)/(**R22FV**) (**fig. 3**):
- 1 Check that label "TRU" (1) is not displayed just below and on the left heading digital readout (2).
  - 2 If label "TRU" (1) is displayed, apply the following procedure to select the magnetic heading:
    - On pilot or copilot Control Display Unit (CDU 1/CDU 2) (**L2RJ**)/(**R2RJ**), press "NAV" function key (3) to access "NAV INDEX 1/2" page (5).
    - When "NAV INDEX 1/2" page (5) is displayed, press "NEXT" function key (4), on pilot or copilot CDU (**L2RJ**)/(**R2RJ**), to access "NAV INDEX 2/2" page (6).
    - On "NAV INDEX 2/2" page (6), select "MAINTENANCE" line key (7) to access "MAINTENANCE 1/3" page (8).
    - When "MAINTENANCE 1/3" page (8) is displayed, press "NEXT" function key (4), on pilot or copilot CDU (**L2RJ**)/(**R2RJ**), to access "MAINTENANCE 2/3" page (9).
    - When "MAINTENANCE 2/3" page (9) is displayed, press "NEXT" function key (4), on pilot or copilot CDU (**L2RJ**)/(**R2RJ**), to access "MAINTENANCE 3/3" page (10).
    - On "MAINTENANCE 3/3" page (10), select the magnetic heading mode by pressing "SELECTED HDG MODE" line key (11) (MAG selected). The "MAG" mode is activated by pressing "ACTIVE HDG MODE" line key (12).
    - On pilot or copilot ND (**L22FV**)/(**R22FV**), check that "TRU" label (13) is not displayed just below and on the left heading digital readout (2).
- (h) Perform an Inertial Reference System (IRS) 1 and 2 alignment (**L2FP**)/(**R2FP**) (Refer to **TASK 34-21-00-820-801**).
- (i) Disengage the following circuit breakers:
- "AHS 1 BAT" (**L11FP**),

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- "AHS 2 BAT" (**R11FP**).
- (j) In nose cone (**210A**), disconnect the electrical cable from IRS 1 and IRS 2 batteries (**L12FP**)/(**R12FP**).
- (k) On the "ATC 1" main page of RTU 1 (**L12RC**), press line key (4) to select "ON".
- (l) On ramp test set (**ATC-601**):
  - Select the "HEADING & SPEED REPORT" test, using the the "SELECT" key.
  - Press the "RUN/STOP" key to start the test.
  - Check that the heading value displayed on pilot or copilot ND (**L22FV**)/(**R22FV**) is displayed next to "MAG HDG=".
- (m) With the following table, check whether the heading is displayed on ramp test set (**ATC-601**) for the various statuses of "AHS 1" (**L1FP**) and "AHS 2" (**R1FP**) circuit breakers:

| CIRCUIT BREAKER PANEL<br>( <b>10PP</b> )                   |                          | RAMP TEST SET ( <b>ATC-601</b> )        |   |
|--|--------------------------|---|---|
| AHS 1 ( <b>L1FP</b> )                                      | AHS 2<br>( <b>R1FP</b> ) | ATC 1 TESTED (see note)                 | ATC 2 TESTED (see note)                 |
| Disengaged   | Engaged                  | Heading not displayed                   | Heading displayed next to<br>"MAG HDG=" |
| Disengaged   | Disengaged               | Heading not displayed                   | Heading not displayed                   |
| Engaged (1)  | Disengaged               | Heading displayed next to<br>"MAG HDG=" | Heading not displayed                   |
| Engaged  | Engaged (1)              | Heading displayed next to<br>"MAG HDG=" | Heading displayed next to<br>"MAG HDG=" |
| NOTE: Refer to tested ATC 1 or ATC 2 column, respectively. |                          |   |   |

**NOTE:** When "AHS 1" (**L1FP**) or "AHS 2" (**R1FP**) circuit breakers are re-engaged, set the mode selector switch of Mode Select Unit (MSU) 1 (**L3FP**) or MSU 2 (**R3FP**) to "ATT" position and wait for the new alignment of the IRSs.

- (n) On ramp test set (**ATC-601**), press the "RUN/STOP" key to stop the test.
- (o) On the "ATC 1" main page of RTU 1 (**L12RC**), press line key (4) to select "STBY".
- (13) Slowly return the digital air data bench to ambient atmospheric pressure (Refer to **TASK 34-10-00-860-801**, paragraph "Use of the Digital Air Data Bench").
- (14) GROUND/FLIGHT TEST (A/C WITH SB F900EX-270 or F900EX-239)
  - (a) On the "ATC 1" main page of RTU 1 (**L12RC**), press line key (4) to select "ON".
  - (b) On ramp test set (**ATC-601**):
    - Select the "ATCRBS REPLY TEST" test, using the "SELECT" key.
    - Press the "RUN/STOP" key to start the test.
    - Check that "ATCRBS REPLY TEST - PASSED" is displayed at the top of the screen.
    - Press the "RUN/STOP" key to stop the test.
  - (c) On the "ATC 1" main page of RTU 1 (**L12RC**), press line key (4) to select "STBY".

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- (d) If the GROUND/FLIGHT box is used, set the aircraft in GROUND configuration (Refer to [TASK 32-60-00-910-801](#), paragraph "Use"). Otherwise:
    - For A/C with SB F900EX-239 "Enhanced Surveillance", set the mode selector of MSU 1 and MSU 2 ([L3FP](#))/([R3FP](#)) to "OFF".
    - On RTU 1 ([L12RC](#)), wait for the RTU main page to be displayed, and set "BRT OFF" knob (1) of RTU 1 and RTU 2 ([L12RC](#))/([R12RC](#)) to "OFF" position.
    - De-energize the aircraft systems (Refer to [TASK 24-00-00-860-801](#), paragraph "De-energization with the Electrical Ground Power Unit").
    - Remove the in-flight simulating tools (Refer to [TASK 32-60-00-910-802](#), paragraph "Removal").
    - Energize the aircraft systems (Refer to [TASK 24-00-00-860-801](#), paragraph "Energization with the Electrical Ground Power Unit").
    - On RTU 1 and RTU 2 ([L12RC](#))/([R12RC](#)), set "BRT OFF" knob (1) away from "OFF".
  - (e) On the "ATC 1" main page of RTU 1 ([L12RC](#)), press line key (4) to select "ON".
  - (f) On ramp test set ([ATC-601](#)):
    - Press the "RUN/STOP" key to start again the "ATCRBS REPLY TEST" test.
    - Check that "ATCRBS REPLY TEST - NO REPLY" screen is displayed at the top of the screen.
    - Press the "RUN/STOP" key to stop the test.
  - (g) On the "ATC 1" main page of RTU 1 ([L12RC](#)), press line key (4) to select "STBY".
  - (15) Remove the cover from ATC 1 top antenna ([L9SH](#)).
- B. Test procedure for ATC 1 top antenna ([L9SH](#)):
- (1) Install the cover on ATC 1 bottom antenna ([L5SH](#)).
  - (2) Orientate the test set antenna towards ATC 1 top antenna ([L9SH](#)).  
NOTE: The test set antenna can be placed with caution, on the LH wing outboard upper surface. Prevent any metal object from interfering between the ATC 1 top antenna ([L9SH](#)) and the test set antenna.
  - (3) If the GROUND/FLIGHT box is used, set the aircraft in FLIGHT configuration (Refer to [TASK 32-60-00-910-801](#), paragraph "Use"). Otherwise:
    - On RTU 1 ([L12RC](#)), wait for the RTU main page to be displayed, and set "BRT OFF" knob (1) of RTU 1 and RTU 2 ([L12RC](#))/([R12RC](#)) to "OFF".
    - De-energize the aircraft systems (Refer to [TASK 24-00-00-860-801](#), paragraph "De-energization with the Electrical Ground Power Unit").
    - Install the in-flight simulating tools (Refer to [TASK 32-60-00-910-802](#), paragraph "Removal").
    - Energize the aircraft systems (Refer to [TASK 24-00-00-860-801](#), paragraph "Energization with the Electrical Ground Power Unit").
    - On RTU 1 and RTU 2 ([L12RC](#))/([R12RC](#)), set "BRT OFF" knob (1) away from "OFF".
  - (4) Repeat the test in the same way as for testing ATC 1 bottom antenna ([L9SH](#)), but only perform steps F through I.  
NOTE: To evaluate the height between the top antenna and the test set antenna (ramp test set "HEIGHT" parameter), the operator can consider that the height of the top antenna with respect to the ground is 12 ft.

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- (5) If the GROUND/FLIGHT box is used, set the aircraft in GROUND configuration (Refer to **TASK 32-60-00-910-801**, paragraph "Use").
  - (6) Remove the cover from ATC 1 bottom antenna (**L5SH**).
- C. Test procedure for ATC 2 bottom antenna (**R5SH**):
- (1) Install the cover on ATC 2 top antenna (**R9SH**).
  - (2) Orientate the test set antenna towards ATC 2 bottom antenna (**R5SH**).  
NOTE: The test set antenna can be placed on the ground, under ATC 2 bottom antenna (**R5SH**). Prevent any metal object from interfering between the ATC 2 bottom antenna (**R5SH**) and the test set antenna.
  - (3) Repeat the test in the same way as for testing ATC 1 bottom antenna (**L5SH**), but only perform steps E through N as applicable:
    - Instead of "RTU 1", read "RTU 2".
    - Instead of "ATC 1", read "ATC 2".
  - (4) Remove the cover from ATC 2 top antenna (**R9SH**).
- D. Test procedure for ATC 2 top antenna (**R9SH**)
- (1) Install the cover on ATC 2 bottom antenna (**R5SH**).
  - (2) Orientate the test set antenna towards ATC 2 top antenna (**R9SH**).  
NOTE: The test set antenna can be placed with caution on the RH wing outboard upper surface. Prevent any metal object from interfering between the ATC 2 top antenna (**R9SH**) and the test set antenna.
  - (3) If the GROUND/FLIGHT box is used, set the aircraft in FLIGHT configuration (Refer to **TASK 32-60-00-910-801**, paragraph "Use"). Otherwise:
    - On RTU 2 (**R12RC**), wait for the RTU main page to be displayed, and set "BRT OFF" knob (1) of RTU 1 and RTU 2 (**L12RC**)/(**R12RC**) to "OFF".
    - De-energize the aircraft systems (Refer to **TASK 24-00-00-860-801**, paragraph "De-energization with the Electrical Ground Power Unit").
    - Install the in-flight simulating tools (Refer to **TASK 32-60-00-910-802**, paragraph "Removal").
    - Energize the aircraft systems (Refer to **TASK 24-00-00-860-801**, paragraph "Energization with the Electrical Ground Power Unit").
    - On RTU 1 and RTU 2 (**L12RC**)/(**R12RC**), set "BRT OFF" knob (1) away from "OFF".
  - (4) Repeat the test in the same way as for testing ATC 1 bottom antenna (**L5SH**), but only perform steps F through I:
    - Instead of "RTU 1", read "RTU 2".
    - Instead of "ATC 1", read "ATC 2".NOTE: To evaluate the height between the top antenna and the test set antenna (ramp test set "HEIGHT" parameter), the operator can consider that the height of the top antenna with respect to the ground is 12 ft.
  - (5) If the GROUND/FLIGHT box is used, set the aircraft in GROUND configuration (Refer to **TASK 32-60-00-910-801**, paragraph "Use").
  - (6) Remove the cover from ATC 2 bottom antenna (**R5SH**).

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### 6. COMPLEMENTARY TESTS

Refer to **fig. 1**, **fig. 2** and **fig. 4**

NOTE: The following tests are described in this paragraph:

- IDENT - CODE test,
- FLIGHT ID test (A/C with SB F900EX-205 ), and
- SQUITTER test (A/C with SB F900EX-282 ).

These tests are not included in the scheduled maintenance, but they are used for checking various parameters according to the aircraft configuration.

#### A. Test procedure for ATC 1 transponder (**L3SH**):

- (1) Install the cover on ATC 1 top antenna (**L9SH**).
- (2) Orientate the test set antenna towards ATC 1 bottom antenna (**L5SH**).

NOTE: The test set antenna can be placed on the ground, under ATC 1 bottom antenna (**L5SH**). Prevent any metal object from interfering between the ATC 1 bottom antenna (**L5SH**) and the test set antenna.

- (3) On copilot Radio Tuning Unit (RTU 2) (**R12RC**), set "BRT OFF" knob (1) away from "OFF".
- (4) On pilot Radio Tuning Unit (RTU) 1 (**L12RC**):
  - (a) Set "BRT OFF" knob (1) away from "OFF".
  - (b) Press line key (2) as many times as necessary to display the "ATC" main page.
  - (c) Press line key (3) to select ATC 1 transponder.

NOTE 1: The active transponder is displayed in cyan block letters on the "ATC" main page.

NOTE 2: The "ATC 1" main page is not displayed permanently.

In the absence of any activity for more than 20 seconds (selection with a line key or action on the three concentric knobs), the RTU main page is displayed again. In this case, press line key (2) as many times as necessary to display the "ATC 1" main page.

- (d) Press line key (4) to select "STBY".
- (e) Press line key (5) to select "ALT ON".
- (f) Press line key (12) and turn two of the three concentric knobs (7) to set the code 7776.

NOTE: Another code may be provided by the local station. If so, use this code instead of code 7776.

#### (5) On ramp test set (**ATC-601**):

- (a) Press the "SETUP" key to display the "SETUP#1 MENU" page, and configure the following parameters:

NOTE 1: In order not to adversely affect the test, the data entered in this page has to be as precise as possible.

NOTE 2: Enter the data, using the "SELECT" keys (up/down), to change the parameters (the cursor line indicates the parameter selected), and the "SLEW" keys (up/down) to change the values. The "SLEW" keys have different rates of change according to the parameter and to the way the keys are pressed.



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- 1 RANGE (in feet): enter the distance between the antenna to be tested and the test set antenna.
  - 2 HEIGHT (in feet): enter the height between the antenna to be tested and the test set antenna.
  - 3 SELECTED: select the antenna to be tested (top or bottom antenna).
  - 4 GAIN (in dB): the relevant gain value to be entered is mentioned at the back of the test antenna.
    - GAIN 1030: enter the gain of the test antenna at 1030 MHz.
    - GAIN 1090: enter the gain of the test antenna at 1090 MHz.
  - 5 LOSS (in dB): enter the gain loss due to the length of the coaxial cable between ramp test set (**ATC-601**) and the test set antenna (the value of gain loss to be entered is mentioned on the coaxial cable).
- (6) If the GROUND/FLIGHT box is used, set the aircraft in FLIGHT configuration (Refer to **TASK 32-60-00-910-801**, paragraph "Use").
- (7) IDENT - CODE TEST
- (a) On the "ATC 1" main page of RTU 1 (**L12RC**), press line key (4) to select "ON".
  - (b) On ramp test set (**ATC-601**):
    - Press the "AUTO TEST" key on ramp test set (**ATC-601**).
    - Select the "ATCRBS REPLY TEST" test, using the "SELECT" key.
    - Press the "RUN/STOP" key to start the test.
    - Check that the code 7776 (or the code given by the local station) is displayed next to "CODE=".
  - (c) On the "ATC 1" main page of RTU 1 (**L12RC**):
    - Press "IDENT" button (8).
    - Check that the cyan "ID" mnemonic is displayed below "ATC 1" for 20 ± 5 seconds.
  - (d) On ramp test set (**ATC-601**), check that the "ID" is displayed next to "CODE=".
  - (e) On the "ATC 1" main page of RTU 1 (**L12RC**):
    - Press line key (4) to select "STBY".
    - Press line key (5) to select "ALT OFF".
    - Check that "STBY" is displayed.
  - (f) On ramp test set (**ATC-601**), check that no code is displayed next to "CODE=".
  - (g) On the "ATC 1" main page of RTU 1 (**L12RC**):
    - Press line key (4) to select "ON".
    - Check that "STBY" is not displayed on the "ATC 1" main page.
  - (h) On ramp test set (**ATC-601**):
    - Check that code 7776 (or the code given by the local station) is displayed next to "CODE=".
    - Press the "RUN/STOP" key to stop the test.
  - (i) On the "ATC 1" main page of RTU 1 (**L12RC**), press line key (4) to select "STBY".
- (8) FLIGHT ID TEST (A/C with SB F900EX-205 )

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- (a) On the "ATC 1" main page of RTU 1 (**L12RC**):
- 1 Press line key (4) to select "ON".
  - 2 Press line key (11) to select a preset Flight ID (10).  
NOTE: Pressing line key (11) causes a window to frame the leftmost preset Flight ID (10).
  - 3 Enter the Flight ID characters, using two of three concentric knobs (7):  
NOTE: The Flight ID characters must contain the first eight characters of the approved repair station performing the tests.
    - the inner knob changes the character inside the window,
    - the outer knob moves one character at a time from the leftmost character to the rightmost character.
  - 4 Press line key (11) to switch active Flight ID (9) and preset Flight ID (10).
  - 5 Press "IDENT" button (8).
  - 6 Check that the cyan "ID" mnemonic is displayed below "ATC 1" for 20 ± 5 seconds.
- (b) On ramp test set (**ATC-601**):
- Select the "FLIGHT ID TEST" test, using the "SELECT" key.
  - Press the "RUN/STOP" key to start the test.
  - Check that FLIGHT ID is displayed next to "FLIGHT ID=".
  - Press the "RUN/STOP" key to stop the test.
- (c) On the "ATC 1" main page of RTU 1 (**L12RC**), press line key (4) to select "STBY".
- (9) SQUITTER test (A/C with SB F900EX-282 )
- (a) On the "ATC 1" main page of RTU 1 (**L12RC**), press line key (4) to select "ON".
- (b) On ramp test set (**ATC-601**):
- Select the "SQUITTER TEST" test, using the "SELECT" key.
  - Press the "RUN/STOP" key to start the test.
  - Check that "DF17 DETECTED = NO" is displayed.
  - Press the "RUN/STOP" key to stop the test.
- (c) On the "ATC 1" main page of RTU 1 (**L12RC**), press line key (4) to select "STBY".
- (10) If the GROUND/FLIGHT box is used, set the aircraft in GROUND configuration (Refer to **TASK 32-60-00-910-801**, paragraph "Use").
- (11) Remove the cover from ATC 1 top antenna (**L9SH**).
- B. Test procedure for ATC 2 transponder (**R3SH**):
- (1) Install the cover on ATC 2 top antenna (**R9SH**).
  - (2) Orientate the test set antenna towards ATC 2 bottom antenna (**R5SH**).
- NOTE: The test set antenna can be placed on the ground, under ATC 2 bottom antenna (**R5SH**). Prevent any metal object from interfering between the ATC 2 bottom antenna (**R5SH**) and the test set antenna.



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- (3) Repeat the test in the same way as for testing ATC 1 transponder (**L3SH**), but only perform steps D through J:
  - Instead of "RTU 1", read "RTU 2".
  - Instead of "ATC 1", read "ATC 2".
- (4) Remove the cover from ATC 2 top antenna (**R9SH**) at the end of the test.

### 7. FINAL STEPS

- A. On ramp test set (**ATC-601**):
  - Press the "POWER" key to switch (**ATC-601**) off.
  - Disconnect the coaxial cable from the "ANTENNA" connector.
- B. Set "BRT OFF" knob (1) of RTU 1 and RTU 2 (**L12RC**)/(**R12RC**) to "OFF".
- C. For A/C with SB F900EX-239 "Enhanced Surveillance":
  - (1) In nose cone (**210A**), connect the electrical cable from IRS 1 and IRS 2 batteries (**L12FP**)/(**R12FP**).
  - (2) Engage the following circuit breakers:
    - "AHS 1 BAT" (**L11FP**),
    - "AHS 2 BAT" (**R11FP**).
  - (3) Perform a test of IRS 1 and IRS 2 batteries (**fig. 1**).
    - (a) IRS 1 battery (**L12FP**):
      - 1 On the overhead panel, press and hold "AHS 1" pushbutton (**L13FP**),
      - 2 On LH voltmeter (**L1PJ**), check that the battery voltage is  $\geq 24$  VDC,
      - 3 Release "AHS 1" pushbutton (**L13FP**).
    - (b) IRS 2 battery (**R12FP**):
      - 1 On the overhead panel, press and hold "AHS 2" pushbutton (**R13FP**),
      - 2 On RH voltmeter (**R1PJ**), check that the battery voltage is  $\geq 24$  VDC,
      - 3 Release "AHS 2" pushbutton (**R13FP**).
- D. De-energize the aircraft systems (Refer to **TASK 24-00-00-860-801**, paragraph "De-energization with the Electrical Ground Power Unit").
- E. Disconnect the digital air data bench (Refer to **TASK 34-10-00-860-801**, paragraph "Disconnection").
- F. Remove the in-flight simulating tools (Refer to **TASK 32-60-00-910-802**, paragraph "Removal").
- G. If the GROUND/FLIGHT box was used, disconnect it (Refer to **TASK 32-60-00-910-801**, paragraph "Removal").
- H. Disconnect the Electrical Ground Power Unit (Refer to **TASK 24-00-00-860-801**, paragraph "Disconnection of the Electrical Ground Power Unit").

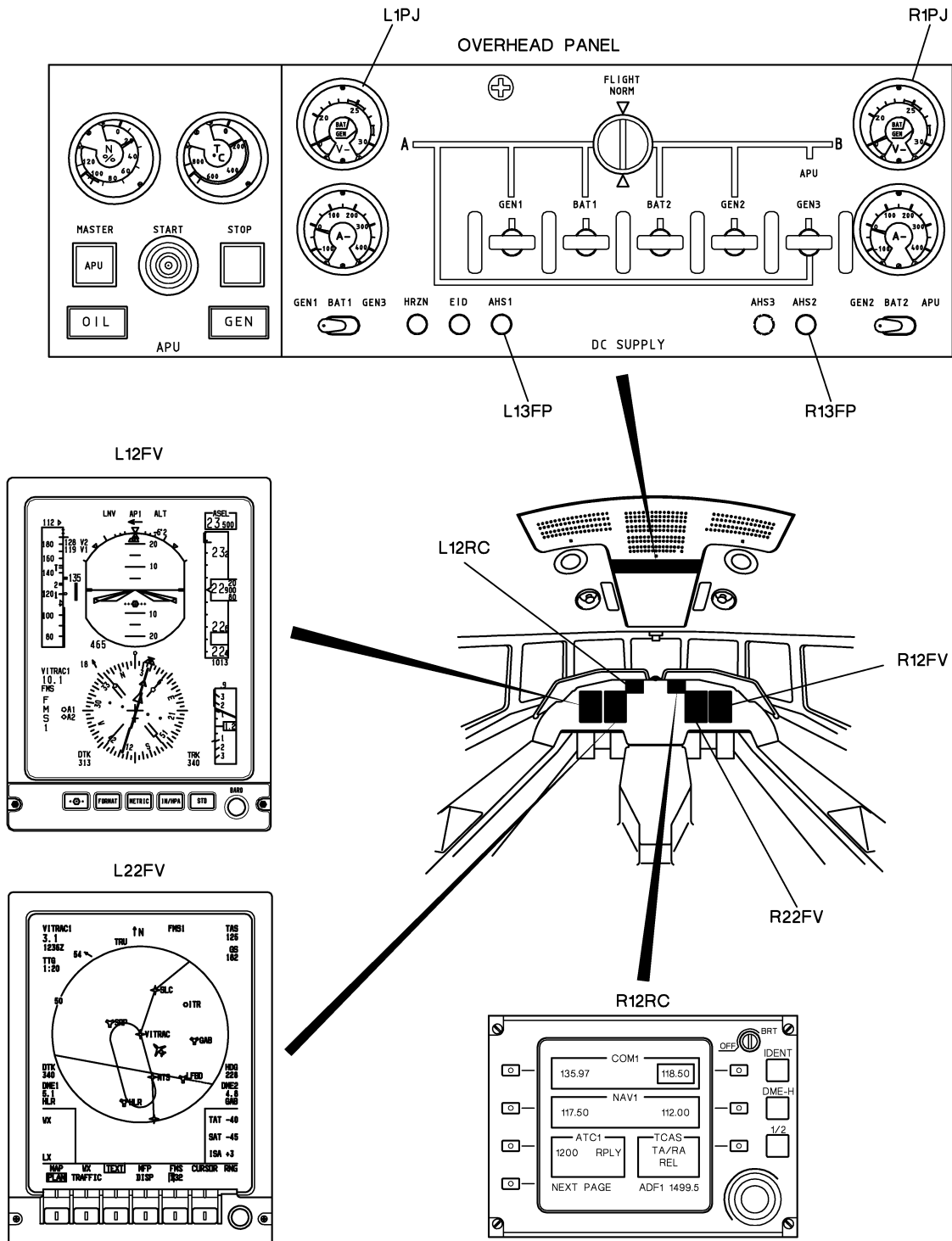
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**CAUTION:** WHEN CLOSING THE NOSE CONE, IT MUST BE SLOWED DOWN BEFORE IT REACHES THE BOTTOM STOP.

- I. For A/C with SB F900EX-239 "Enhanced Surveillance", close nose cone (**210A**).

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**Figure 1: LOCATION OF COCKPIT CONTROLS**

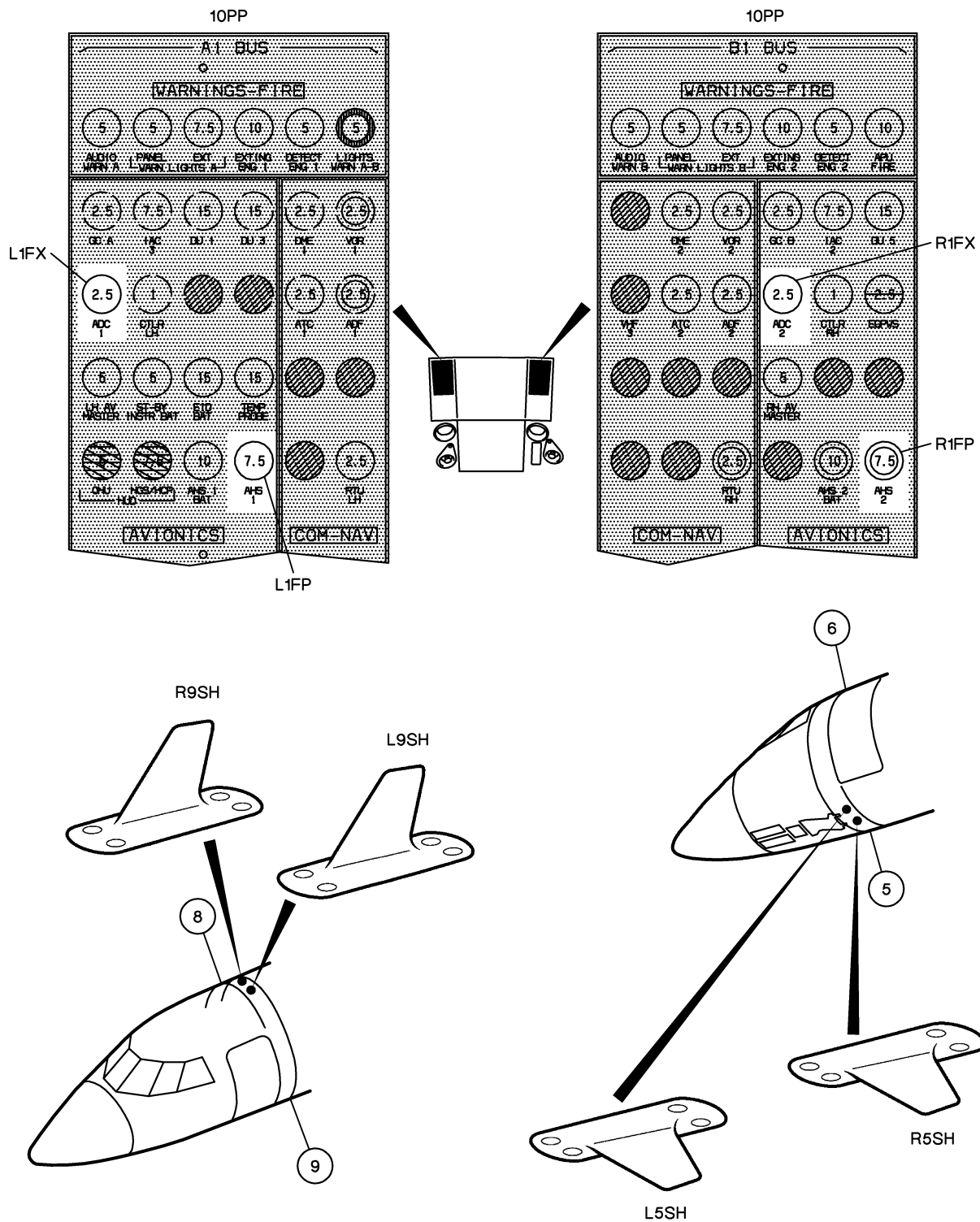
Effectivity: USING ATC-601 TEST SET

Rev. Date: MAR 09/2012

34-54-00-720-802

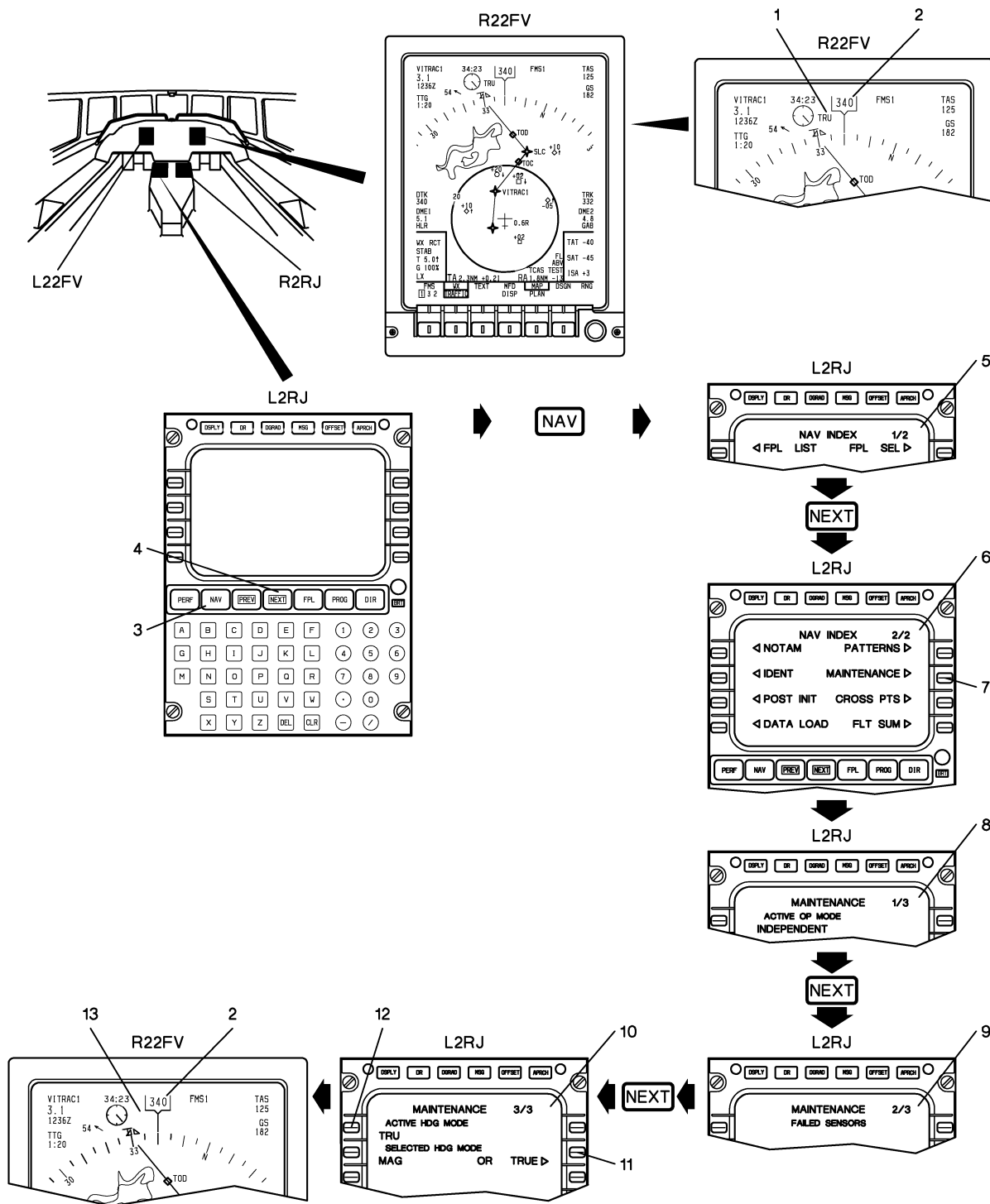
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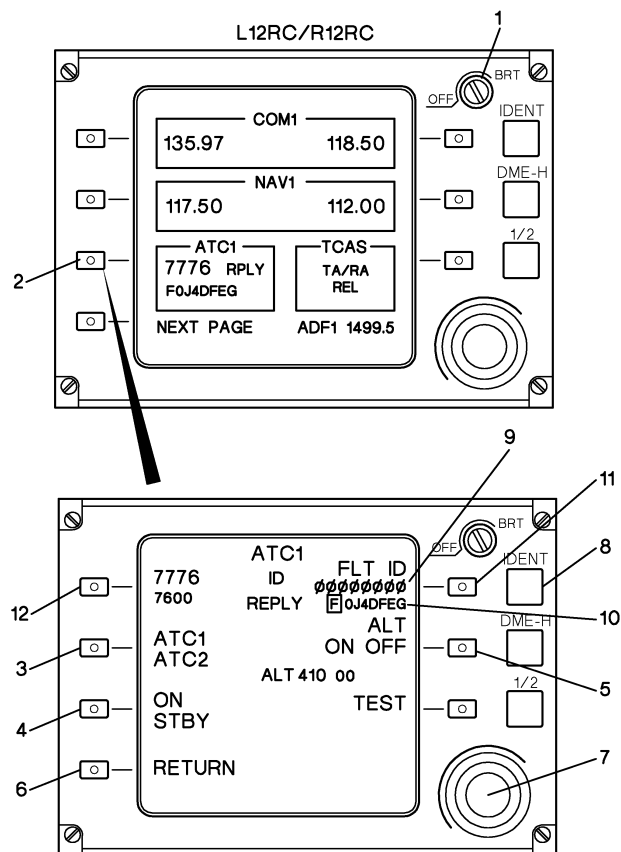
**Figure 2: LOCATION OF CIRCUIT BEAKERS AND ATC ANTENNAS**

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**Figure 3: SELECT MAGNETIC HEADING**

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**Figure 4: ATC WINDOW ON RTU**