

## TCAS - ADJUSTMENT/TEST

*EFFECTIVITY: ALL*

### 1. General

- A. This section gives the procedures to do the check of TCAS II or TCAS 2000, as applicable.
- B. The procedures in this section are given in the sequence below. The tasks identified with (◆) are part of the Scheduled Maintenance Requirements Document (SMRD).

<i>TASK NUMBER</i>	<i>DESCRIPTION</i>	<i>EFFECTIVITY</i>
<a href="#">34-43-00-700-801-A</a>	TCAS - OPERATIONAL TEST	ALL

TASK 34-43-00-700-801-A

EFFECTIVITY: ALL

## 2. TCAS - OPERATIONAL TEST

### A. General

- (1) This task gives the procedures to do the Operational Test of TCAS II or TCAS 2000, as applicable.

### B. References

REFERENCE	DESIGNATION
AMM SDS 23-51-00/1	
AMM SDS 23-81-00/1	
AMM SDS 31-51-00/1	
AMM SDS 34-15-00/1	
AMM SDS 34-22-00/1	
AMM SDS 34-31-00/1	
AMM SDS 34-43-00/1	
AMM SDS 34-51-00/1	
AMM SDS 34-52-00/1	
AMM TASK 20-40-01-860-801-A/200	ENERGIZATION OF THE AIRCRAFT WITH AN EXTERNAL POWER SOURCE
S.B.145-34-0033	-

### C. Zones and Accesses

Not Applicable

### D. Tools and Equipment

Not Applicable

### E. Auxiliary Items

Not Applicable

### F. Consumable Materials

Not Applicable

### G. Expandable Parts

Not Applicable

### H. Persons Recommended

QTY	FUNCTION	PLACE
1	Does the task	Cockpit

I. Preparation

SUBTASK 841-002-A

- (1) Energize the aircraft with the External DC Power Supply ( [AMM TASK 20-40-01-860-801-A/200](#)).
- (2) Make sure that the TCAS system has the Extended Range Feature as follows:
  - (a) On RMU1, push the PGE function key.  
Result:  
1 The System 1 Page Menu is shown.
  - (b) Push the line select key near MAINTENANCE.  
Result:  
1 The Maintenance Data System 1 page is shown.
  - (c) Push the line select key near RMU SETUP.  
Result:  
1 The RMU Setup System 1 page is shown.
  - (d) Make sure that the TCAS RANGE 80/120 option is installed and that it is set to ENABLE.  
  
NOTE: If the option is disabled, push the line select key near TCAS RANGE 80/120 to enable it.
  - (e) Push the line select key near RETURN TO RADIOS.  
Result:  
1 The Radios Page is shown.
- (3) (Aircraft with Extended Range Feature) Do the previous procedure again for RMU2 to make sure that the TCAS RANGE 80/120 option is ENABLED.
- (4) (Aircraft with Extended Range Feature) On RMU1, on the Radios page, push the line select key near RANGE.
- (5) (Aircraft with Extended Range Feature) On RMU1, turn the TUNE knob and make the range value on RMU1 and MFD1 change to: 6, 12, 20, 40, 80 and 120.
- (6) (Aircraft without Extended Range Feature) On RMU1, turn the TUNE knob and make the range value on RMU1 and MFD1 change to: 6, 12, 20 and 40.
- (7) (Aircraft with Extended Range Feature) On RMU2, turn the TUNE knob and make the range value on RMU2 and MFD2 change to: 6, 12, 20, 40, 80 and 120.
- (8) (Aircraft without Extended Range Feature) On RMU2, turn the TUNE knob and make the range value on RMU2 and MFD2 change to: 6, 12, 20 and 40.
- (9) On the overhead panel, set the BATT1 and BATT2 switches to the OFF position.
- (10) Put the aircraft in the flight configuration (AIR) as follows:
  - (a) Aircraft on the ground.
  - (b) On the circuit breaker panel, open the AIR/GND A, B, C, and D circuit breakers.  
  
Circuit breaker location tips:

- AIR/GND A: DC BUS1/LDG GEAR/AIR/GND A.
- AIR/GND B: ESSENTIAL DC BUS1/LDG GEAR/AIR/GND B.
- AIR/GND C: DC BUS2/LDG GEAR/AIR/GND C.
- AIR/GND D: ESSENTIAL DC BUS2/LDG GEAR/AIR/GND D.

Result:

- 1 Make sure that the AIR/GND FAIL caution message is shown on the EICAS.

(11) Make sure that the Systems below are serviceable and on:

- Airborne Audio System ([AMM SDS 23-51-00/1](#)).
- Radio Management System ([AMM SDS 23-81-00/1](#)).
- Aural Warning System ([AMM SDS 31-51-00/1](#)).
- ADC System ([AMM SDS 34-15-00/1](#)).
- EFIS ([AMM SDS 34-22-00/1](#)).
- Radio Altimeter System ([AMM SDS 34-31-00/1](#)).
- TCAS II or TCAS 2000 ([AMM SDS 34-43-00/1](#)).
- DME System ([AMM SDS 34-51-00/1](#)).
- Mode-S Transponder ([AMM SDS 34-52-00/1](#)).

J. TCAS Operational Test Procedures ([Figure 501](#)) ([Figure 502](#)) ([Figure 503](#))

**SUBTASK 710-002-A**

(1) Do the test below:

- (a) Push the TCAS button, on MFD 1, on the Instrument Panel.

Result:

- 1 The MFD shows the TCAS window.

- (b) Open the TCAS circuit breaker (Location tip for TCAS II: 115 V AC BUS/TCAS; Location tip for TCAS 2000: DC BUS 1/NAV/TCAS), on the Circuit Breaker Panel, in the Cockpit.

Result:

- 1 The PFDs and MFDs show the TCAS FAIL indication (amber).

- (c) Close the TCAS circuit breaker.

Result:

- 1 The TCAS FAIL indication (amber) goes out of view, on the PFDs and MFDs.

(2) Set the RMU to the ATC/TCAS window:

- (a) Set the ATC/TCAS window to the TA/RA mode.

Result:

- 1 The TCAS window, on the MFD, shows a white TA ONLY indication.

- (b) Set the ATC/TCAS window to the TA ONLY mode.  
Result:  
1 The TCAS window, on the MFD and PFD, shows a white TA ONLY indication.
- (c) Set the ATC/TCAS window to the ATC ALT or ATC ON mode.  
Result:  
1 The TCAS window, on the MFD and the PFD, shows a white TCAS OFF indication.
- (3) Do the self-test of the system as follows:
- (a) On the RMU, set the ATC/TCAS window to the TA/RA mode.
- (b) Push and hold for 7 seconds the RMU TST function key.  
Result:  
1 On the RMU, the ATC/TCAS window shows TEST and SYS TEST (amber).  
2 The MFDs and PFDs show TCAS TEST (white).  
NOTE: If the TCAS is defective, the MFDs and PFDs show TCAS FAIL (amber).  
3 The Aural Warning gives out the TCAS TEST aural annunciation.  
4 (This step is not applicable to aircraft with AWU P/N: 80-0694-2-5 or aircraft PRE-MOD [S.B.145-34-0033](#) and PRE-MOD S.B. 145-34-0046 with TCAS Processor P/N: 7517900-55001 MOD A or P/N: 7517900-71002) The Master Warning lights will flash and the associated sound will be activated.  
5 The MFDs show a Traffic test pattern, which permits the check of each type of intruder symbol:
- Hollow blue diamond.
  - Solid blue diamond.
  - Solid amber circle.
  - Solid red square.
- 6 On the PFDs, the VSI shows red and green arc zones.
- (c) At the end of the test cycle:  
Result:  
1 The RMU shows a green ATC PASS indication.  
NOTE: If the Transponder is defective, the RMU shows ATC ERROR (amber).  
2 The Aural Warning gives the TCAS TEST PASS aural annunciation.  
NOTE: If the TCAS is defective, the TCAS FAIL aural warning is heard, and the MFD and PFD show an amber TCAS FAIL indication.
- (4) Do a one-by-one subsystem failure test with the related circuit breakers as follows:
- (a) (Aircraft equipped with two transponders) On the RMU, set the ATC/TCAS window to XPDR #1.

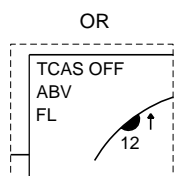
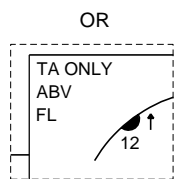
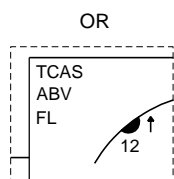
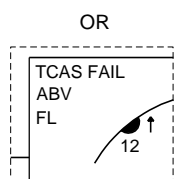
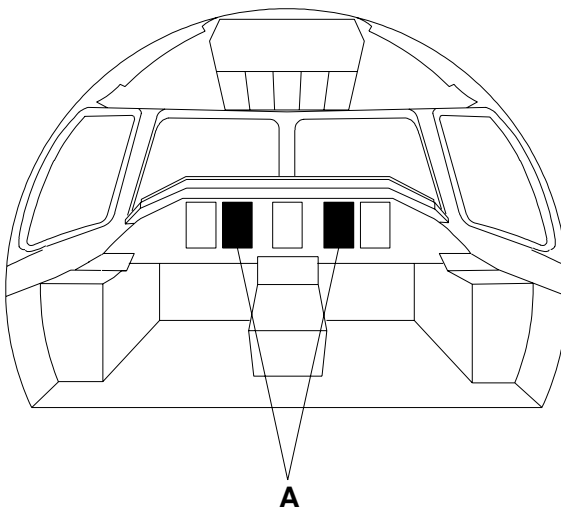
- (b) On the reversionary panels, make sure that the ADC pushbuttons are not pushed (striped bars off).
- (c) On the RMU, set the ATC/TCAS window to the TA/RA mode.  
Result:
  - 1 The TCAS window, on the MFD and PFD, shows a white TA ONLY indication.
- (d) Open the ADC 1 circuit breaker (Location tip: ESSENTIAL DC BUS 1/NAV ADC 1).  
Result:
  - 1 The MFDs show a white TCAS OFF indication.
  - 2 The PFDs show a white TCAS OFF indication.
- (e) Close the ADC 1 circuit breaker.  
Result:
  - 1 The white TA ONLY replaces TCAS OFF, on the MFDs and PFDs.
- (f) Open the ADC 2 circuit breaker (Location tip: DC BUS 2/NAV/ADC 2).  
Result:
  - 1 The MFDs show a white TA ONLY indication.
  - 2 The PFDs show a white TA ONLY indication.
- (g) Close the ADC 2 circuit breaker.  
Result:
  - 1 TA ONLY stays, on the MFDs and PFDs.
- (h) Open RA (Radio Altimeter) 1 and 2 (if installed) circuit breakers (Location tip for RA 1: DC BUS 1/NAV/RA 1; Location tip for RA 2: DC BUS 2/NAV/RA 2).  
Result:
  - 1 The MFDs show an amber TCAS FAIL indication.
  - 2 The PFDs show an amber TCAS FAIL indication.
- (i) Close RA (Radio Altimeter) 1 and 2 (if installed) circuit breakers.  
Result:
  - 1 The amber TCAS FAIL indication goes out of view, on the MFDs and PFDs.

K. Follow-on

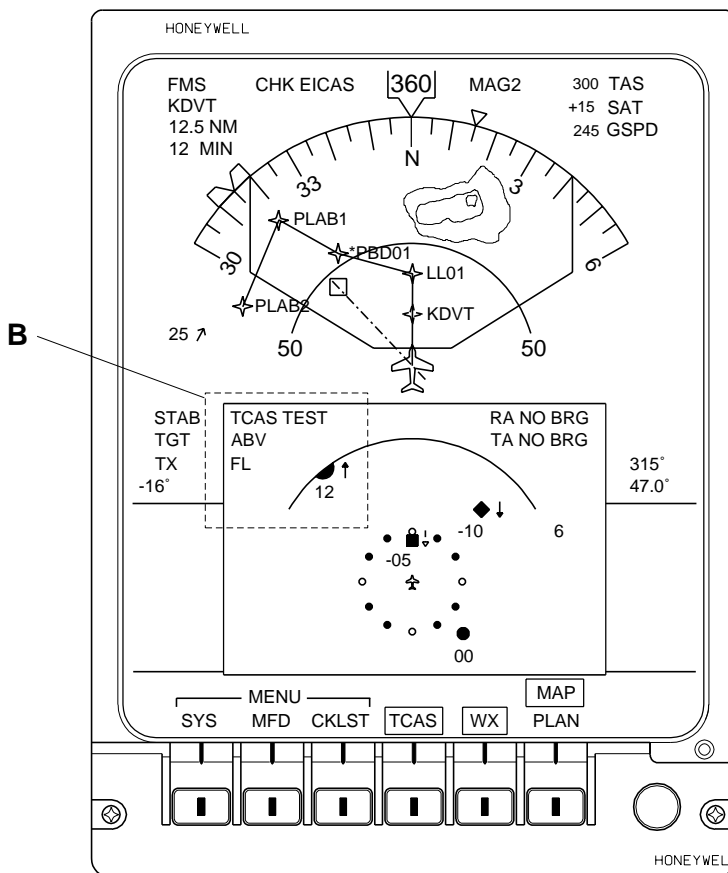
**SUBTASK 842-002-A**

- (1) To put the aircraft in the ground configuration again, do as follows:
  - (a) On the circuit breaker panel, close the AIR/GND A, B, C, and D circuit breakers in 10 seconds maximum.  
Result:
    - 1 Make sure that the AIR/GND caution message is not shown on the EICAS.
- (2) Deenergize the aircraft ( [AMM TASK 20-40-01-860-801-A/200](#)).

EFFECTIVITY: ALL  
TCAS - MFD Display  
Figure 501



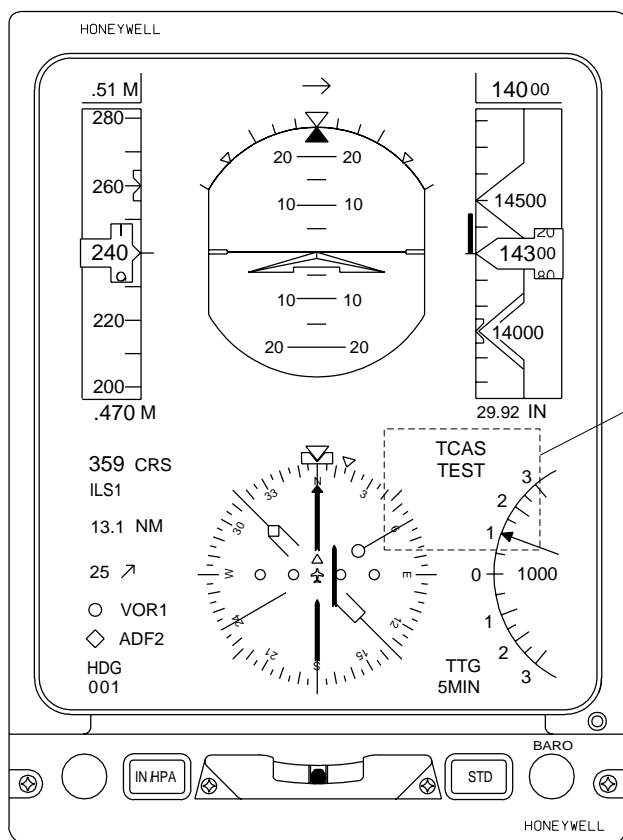
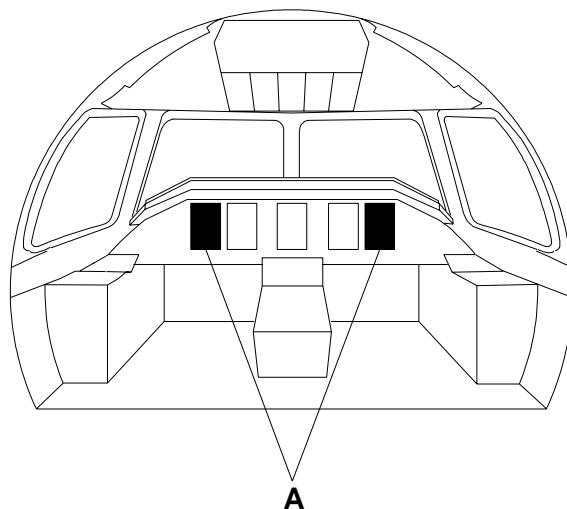
DET. B



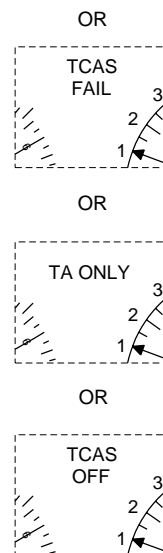
DET. A

145AMM340007.MCE A

EFFECTIVITY: ALL  
TCAS - PFD Display  
Figure 502



DET. A

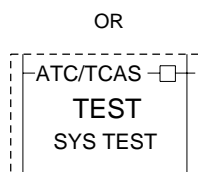
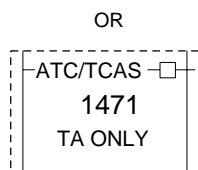
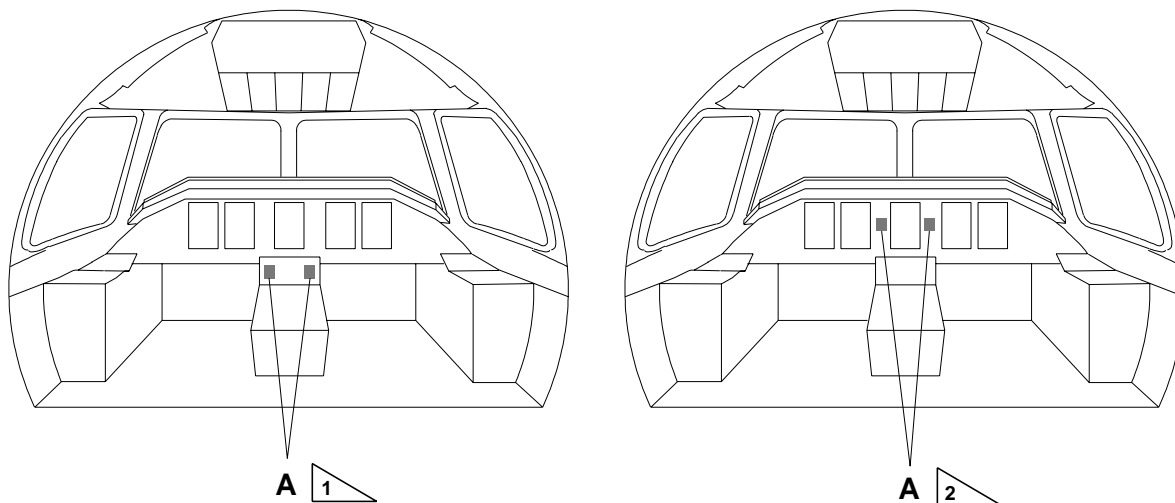


DET. B

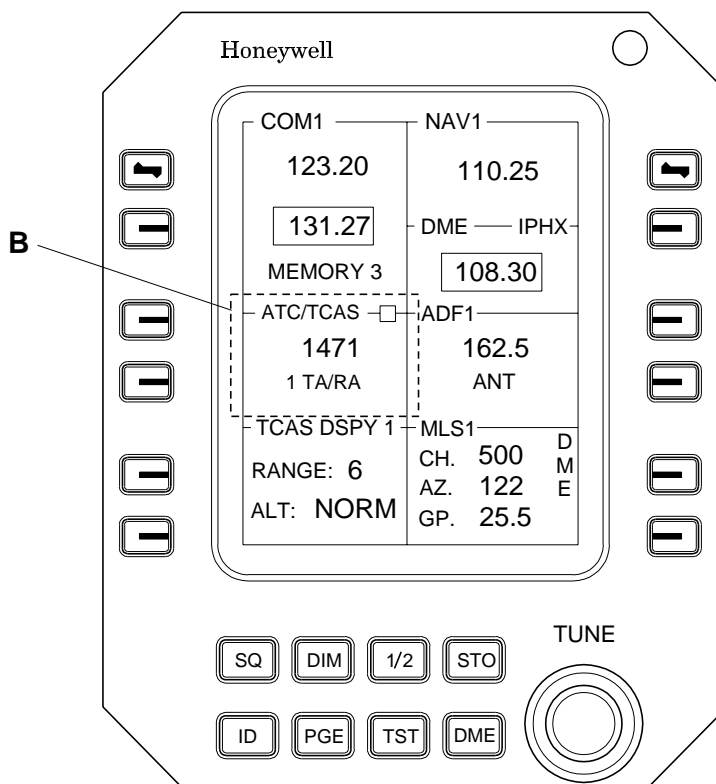
145AMM340006.MCE A



EFFECTIVITY: ALL  
TCAS - RMU Display  
Figure 503



**DET. B**



**DET. A**



AIRCRAFT WITH RMU INSTALLED ON CONTROL PEDESTAL.



AIRCRAFT WITH RMU INSTALLED ON MAIN INSTRUMENT PANEL.

145AMM340004.MCE A

