



## AIRCRAFT MAINTENANCE MANUAL

### TCAS PROCESSOR - MAINTENANCE PRACTICES

EFFECTIVITY: ALL

#### 1. General

- A. This section gives the procedure to upload the operational software in the TCAS processor.
- 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).

TASK NUMBER	DESCRIPTION	EFFECTIVITY
34-43-01-470-801-A	TCAS PROCESSOR FIELD-LOADABLE SOFTWARE - UPLOADING	ALL



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TASK 34-43-01-470-801-A

EFFECTIVITY: ALL

2. TCAS PROCESSOR FIELD-LOADABLE SOFTWARE - UPLOADING

A. General

- (1) This task gives the procedure to upload the operational software in the TCAS processor.
- (2) This task is for the English version of the Microsoft Windows operational system.

B. References

REFERENCE	DESIGNATION
AMM MPP 06-41-04/100	-
AMM TASK 20-40-01-860-801-A/200	ENERGIZATION OF THE AIRCRAFT WITH AN EXTERNAL POWER SOURCE
AMM TASK 34-43-00-700-801-A/500	TCAS - OPERATIONAL TEST

C. Zones and Accesses

ZONE	PANEL/DOOR	LOCATION
232		Passenger cabin, RH side

D. Tools and Equipment

ITEM	DESCRIPTION	PURPOSE	QTY
130	Notebook	To check the part number of the TCAS processor operational software	
574	TCAS Software Part Number Tool	To check the part number of the TCAS processor operational software	
572	Portable Data Loader - PDL-615	To upload the TCAS processor operational software	
573	ARINC-615 Interface Cable	To upload the TCAS processor operational software	

E. Auxiliary Items

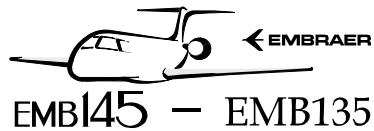
ITEM	DESCRIPTION	PURPOSE	QTY
	RS 232 cable with length 10 inches, 9-pin "D" female connector at one end and on the other end, 53-pin with male connector MS27484E18B53P. Pins 3, 2 and 5 of the 9-pin connector are connected to pins 40, 41 and 49 of the 53-pin connector, respectively.	To check the part number of the TCAS processor operational software	1

F. Consumable Materials

Not Applicable

G. Expandable Parts

Not Applicable



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## H. Persons Recommended

QTY	FUNCTION	PLACE
1	Does the task	In the passenger cabin

## I. Preparation (Figure 201)

## SUBTASK 841-002-A

- (1) Energize the aircraft with the External DC Power Supply ( [AMM TASK 20-40-01-860-801-A/200](#)).
- (2) On the circuit breakers panel, open the TCAS circuit breaker and attach a DO-NOT-CLOSE tag to it.
- (3) Make sure that the aircraft is in the ground configuration.
- (4) Get access to the TCAS Processor (AMM MPP 06-41-04/100).
- (5) Do a check of the current part number of the TCAS processor operational software, as follows:

**NOTE:** This check is necessary to make sure that you do not have problems with the interface between the notebook and the TCAS processor (1), and that you will be able to do the check of the part number of the TCAS processor operational software after you do the upload procedure.

- (a) Remove the cap (7) from the TCAS processor front connector (2).
- (b) Connect the TCAS processor RS-232 cable (3) to the TCAS processor front connector (2) and to the notebook.
- (c) On the circuit breakers panel, close the TCAS circuit breaker and remove the DO-NOT-CLOSE tag from it.
- (d) Apply power to the notebook and make sure that the "TCAS Software Part Number Tool" software is installed in it.
- (e) Execute the "TCAS Software Part Number Tool" software.

**NOTE:** The typical sequence is: "Start" → "Programs" → "TCAS SW PN TOOL" → "TCAS Part Number". If you installed the software with a different configuration or changed its location after the installation, this sequence can change.

Result:

- 1 The "TCAS Software Part Number Tool" software window (4) shows on the notebook screen.
- (f) On the "Get PN From" field, make sure that the "TCAS" option is selected.
- (g) Move the cursor to the "Get Part Number" button (5) and click on it.

Result:

- 1 On the "TCAS Software Part Number Tool" software window (4), the "Finding the connected COM port" message shows.
- 2 After some seconds, the "Finding the connected COM port" message goes off and the "Retrieving the information" message shows.

- 3 After some seconds, the "Retrieving the information" message goes off, and the part number of the TCAS processor operational software shows on the "TCAS Software Part Number" field (6).

**NOTE:** An "@" symbol may show on the "TCAS Software Part Number" field immediately after the end of the part number of the TCAS processor operational software.

- (h) Make sure that the part number of the current TCAS processor operational software shows on the "TCAS Software Part Number Tool" software window (4).
- (i) Shut down the notebook.
- (j) On the circuit breakers panel, open the TCAS circuit breaker and attach a DO-NOT-CLOSE tag to it.
- (k) Disconnect the TCAS processor RS-232 cable (3) from the TCAS processor front connector (2) and from the notebook.

#### J. Uploading Procedure ([Figure 201](#)) ([Figure 202](#))

##### SUBTASK 470-002-A

- (1) Do the upload of the TCAS processor operational software, as follows (refer to [Figure 202](#)):

- (a) Connect the ARINC-615 interface cable (1) to the TCAS processor front connector (2) and to the ARINC-615 portable data loader (6).
- (b) Turn on the ARINC-615 portable data loader (6).
- (c) On the circuit breakers panel, close the TCAS circuit breaker and remove the DO-NOT-CLOSE tag from it.
- (d) Put the floppy disk #1 (5) of the operational software in the ARINC-615 portable data-loader floppy-disk drive.

Result:

- 1 The upload procedure starts automatically.
- 2 The ARINC-615 portable data-loader display shows the Block counter (BL) and the file name. The BL decreases until 0 (zero).
- 3 After the BL goes to 0, the "Insert Disk #2" message shows on the ARINC-615 portable data-loader display.

- (e) When the "Insert Disk #2" message shows on the ARINC-615 portable dataloader display, put the floppy disk #2 (5) of the operational software in the floppydisk drive.

Result:

- 1 The upload procedure starts automatically.
- 2 The ARINC-615 portable data-loader display shows the Block counter (BL) and the file name. The BL decreases until 0 (zero).
- 3 After the BL goes to 0, the "Insert Disk #3" message shows on the ARINC-615 portable data-loader display.

- (f) When the "Insert Disk #3" message shows on the ARINC-615 portable dataloader display, put the floppy disk #3 (5) of the operational software in the floppydisk drive.

**Result:**

- 1 The upload procedure starts automatically.
  - 2 The ARINC-615 portable data-loader display shows the Block counter (BL) and the file name. The BL decreases until 0 (zero).
  - 3 After the BL goes to 0, the "LOAD COMPLETE" message shows on the ARINC-615 portable data-loader display.
  - (g) When the "LOAD COMPLETE" message shows on the ARINC-615 portable dataloader display, wait a minimum of 20 seconds before you continue.
  - (h) Remove the floppy disk (5) from the ARINC-615 portable data-loader floppy-disk drive.
  - (i) Turn off the ARINC-615 portable data-loader (6).
  - (j) On the circuit breakers panel, open the TCAS circuit breaker and attach a DO-NOT-CLOSE tag to it.
  - (k) Disconnect the ARINC-615 interface cable (1) from the TCAS processor front connector (2) and from the ARINC-615 portable data-loader (6).
- (2) Do a check of the part number of the TCAS processor operational software that was uploaded, as follows (refer to [Figure 201](#)):
    - (a) Connect the TCAS processor RS-232 cable (3) to the TCAS processor front connector (2) and to the notebook.
    - (b) On the circuit breakers panel, close the TCAS circuit breaker and remove the DO-NOT-CLOSE tag from it.
    - (c) Apply power to the notebook.
    - (d) Execute the "TCAS Software Part Number Tool" software.

**NOTE:** The typical sequence is: "Start" → "Programs" → "TCAS SW PN TOOL" → "TCAS Part Number". If you installed the software with a different configuration or changed its location after the installation, this sequence can change.

**Result:**

- 1 The "TCAS Software Part Number Tool" software window (4) shows on the computer screen.
- (e) On the "Get PN From" field, make sure that the "TCAS" option is selected.
- (f) Move the cursor to the "Get Part Number" button (5) and click on it.

**Result:**

- 1 On the "TCAS Software Part Number Tool" software window (4), the "Finding the connected COM port" message shows.
- 2 After some seconds, the "Finding the connected COM port" message goes off and the "Retrieving the information" message shows.
- 3 After some seconds, the "Retrieving the information" message goes off, and the part number of the TCAS processor operational software shows on the "TCAS Software Part Number" field (6).

**NOTE:** An "@" symbol may show on the "TCAS Software Part Number" field immediately after the end of the part number of the TCAS processor operational software.



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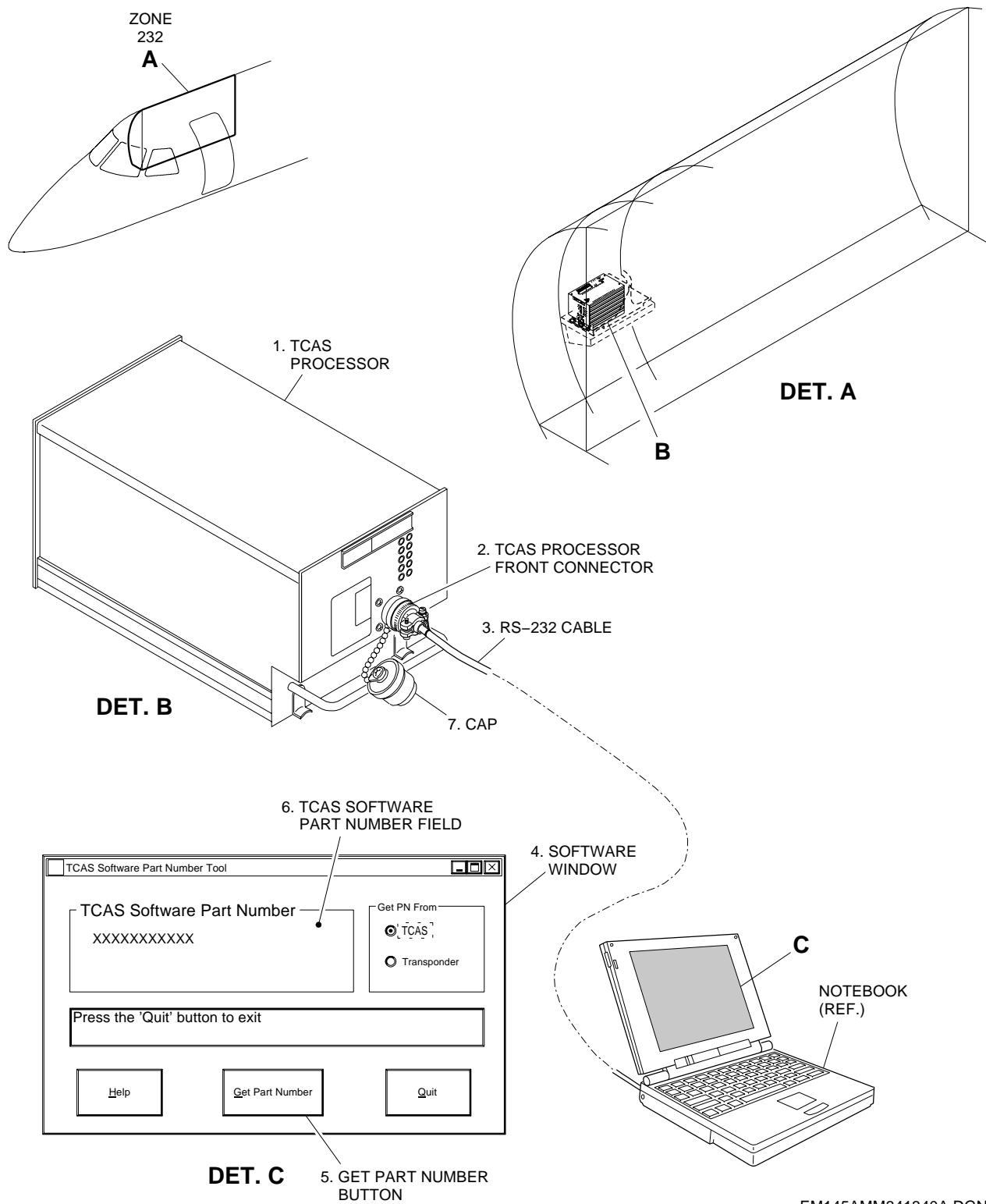
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- (g) Make sure that the part number of the TCAS processor operational software that shows on the "TCAS Software Part Number Tool" software window (4) is correct.
- (h) Shut down the notebook.
- (i) On the circuit breakers panel, open the TCAS circuit breaker and attach a DO-NOT-CLOSE tag to it.
- (j) Disconnect the TCAS processor RS-232 cable (3) from the TCAS processor front connector (2) and from the notebook.
- (k) Install the cap (7) to the TCAS processor front connector (2).

K. Follow-on

SUBTASK 842-002-A

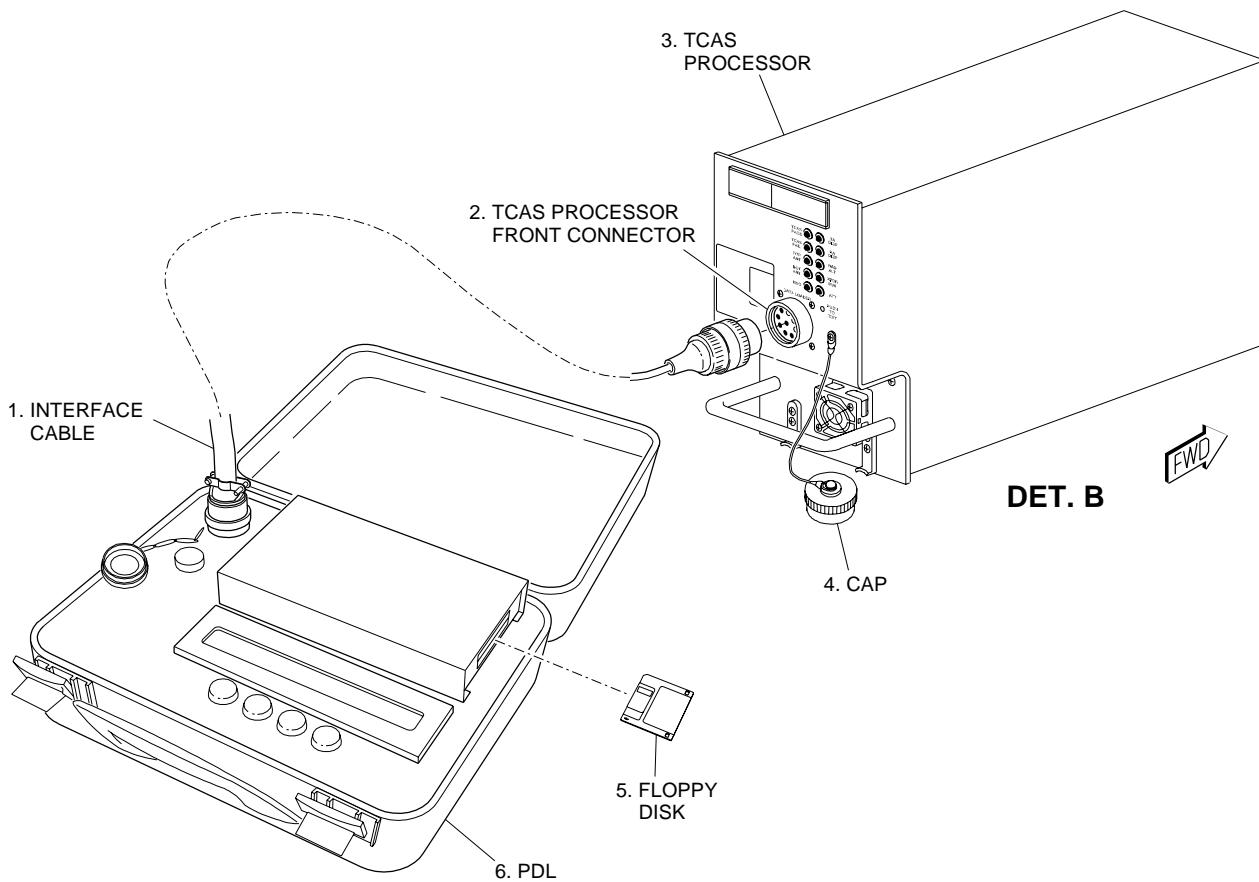
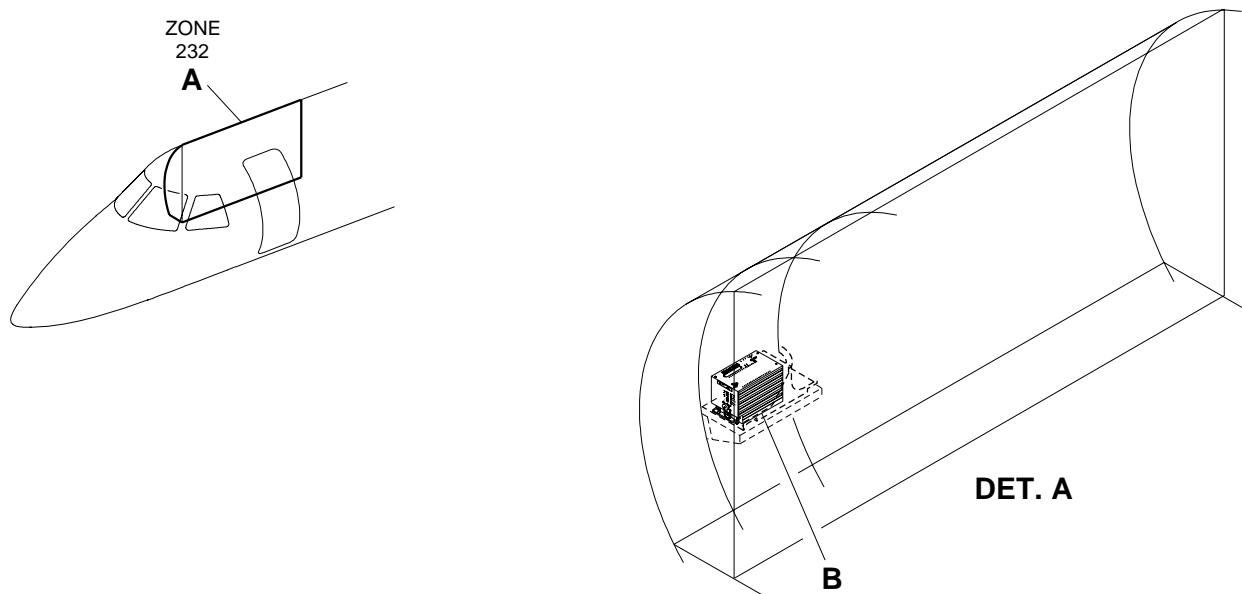
- (1) Do the reidentification of the TCAS processor software label as applicable.
- (2) On the circuit breakers panel, close the TCAS circuit breaker and remove the DO-NOT-CLOSE tag from it.
- (3) Do the operational test of the TCAS ( [AMM TASK 34-43-00-700-801-A/500](#) ).
- (4) Close the access to the TCAS Processor (AMM MPP 06-41-04/100).
- (5) De-energize the aircraft ( [AMM TASK 20-40-01-860-801-A/200](#) ).

**EFFECTIVITY: ALL**
**TCAS Processor Field-Loadable Software - Part Number Check**
**Figure 201**


**EFFECTIVITY: ALL**

TCAS Processor Field-Loadable Software - Upload

Figure 202



EM145AMM341341A.DGN