



AIRCRAFT MAINTENANCE MANUAL

STALL PROTECTION SYSTEM - MAINTENANCE PRACTICES

EFFECTIVITY: ALL

1. General

- A. This section gives the procedures to diagnose and monitor the Stall Protection System and also to download data from the Stall Protection Computer.
- B. This procedure is an option to complement the troubleshooting of the Stall Protection System.
- C. 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 |
|--------------------|---|-------------|
| 27-36-00-970-801-A | STALL PROTECTION SYSTEM - DIAGNOSING AND MONITORING | ALL |
| 27-36-00-970-802-A | STALL PROTECTION COMPUTER - DOWNLOAD | ALL |



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TASK 27-36-00-970-801-A

EFFECTIVITY: ALL

2. STALL PROTECTION SYSTEM - DIAGNOSING AND MONITORING

A. General

- (1) This task gives the procedures to diagnose and monitor the Stall Protection System through the Stall Protection Computer.

B. References

| REFERENCE | DESIGNATION |
|---------------------------------|--|
| AMM MPP 06-41-01/100 | - |
| AMM TASK 20-40-01-860-801-A/200 | ENERGIZATION OF THE AIRCRAFT WITH AN EXTERNAL POWER SOURCE |
| ITEM GSE 078 | KIT - STALL WARNING |

C. Zones and Accesses

| ZONE | PANEL/DOOR | LOCATION |
|------|------------|------------------------------|
| 123 | 123BL | Area below the cockpit floor |

D. Tools and Equipment

| ITEM | DESCRIPTION | PURPOSE | QTY |
|---------|---------------------|---|-----|
| GSE 078 | Kit - Stall warning | To diagnose the stall protection system | |
| GSE 130 | Laptop Computer | To use the Kit - Stall warning | |

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 ([Figure 201](#))

SUBTASK 841-002-A

- (1) If it is not installed, install the WATCHSPC program in your notebook as shown in the User's Guide Manual ([ITEM GSE 078](#)).
- (2) Energize the aircraft ([AMM TASK 20-40-01-860-801-A/200](#)).

- (3) On the overhead Circuit Breaker Panel, open these circuit breakers:
 - STALL PROT CHANNEL 1.
 - STALL PROT CHANNEL 2.
 - STALL PROT SHAKER 1.
 - STALL PROT SHAKER 2.
 - PUSHER CLUTCH.
 - AIR/GROUND A, B, C, D.
- (4) Remove door 123BL (AMM MPP 06-41-01/100).
- (5) Install the SPC Toolkit Cable as shown in the User's Guide Manual ([ITEM GSE 078](#)).
- (6) Put the RS422/RS232 Converter Unit in the MONITOR MODE FOR CH1(CH2) position. Refer to the User's Guide Manual ([ITEM GSE 078](#)).
- (7) On the overhead Circuit Breaker Panel, close all the circuit breakers that you opened.
- (8) Put the RS422/RS232 Converter Unit POWER switch in the CH1(CH2) position.

NOTE: For fault type SPS 1 INOP, you must select these options:

- Converter Unit in the MONITOR MODE FOR CH1 position.
- Converter Unit POWER switch in the CH1 position.

For fault type SPS 2 INOP, you must select these options:

- Converter Unit in the MONITOR MODE FOR CH2 position.
- Converter Unit POWER switch in the CH2 position.

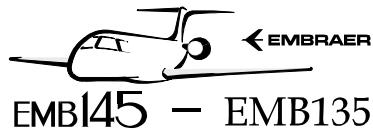
J. Stall Protection System - Diagnosing and Monitoring

SUBTASK 970-002-A

- (1) Turn on the notebook.
- (2) Start the WATCHSPC program and set as follows:
 - (a) With key F1 or F2, select the COM to which you are connected.
 - (b) Push the Page-Down key - 50 Line Mode.
 - (c) With the arrow keys, select option 2.
 - (d) Push the S key to save this configuration.

NOTE: Do this step only the first time that you use this program. In the future, when you start up the SPC, these settings will be the default.

- (3) Push the ENTER key and make sure that the SPC operates. You will see a page equal to that shown in the User's Guide Manual ([ITEM GSE 078](#)).
- (4) Push the X key and go back to the main menu.



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- (5) Refer to User's Guide Manual 00061-2486 ([ITEM GSE 078](#)) and set the key to the options shown to monitor and diagnose parameters from the system:
- 2 - PC-Mon, Basic.
 - 3 - PC-Mon, Errors Summary.
 - 4 - PC-Mon, Bit Errors.
 - 5 - PC-Mon, Inp/Pup/Ptt Errors.
 - If you will make monitored data available for subsequent examination, set the key to option 8 - PC-Mon, SnapShot.

NOTE: The function PC-Mon (PC Monitor) tool permits the operator to set different types of SPC cross data to monitor and also to get a SnapShot of the monitored data for subsequent examination.

- If you do not feel sure about how to analyze the parameter from the system shown on the monitor, get in touch with TECHNICAL SUPPORT ENGINEERING of EMBRAER.

K. Follow-on

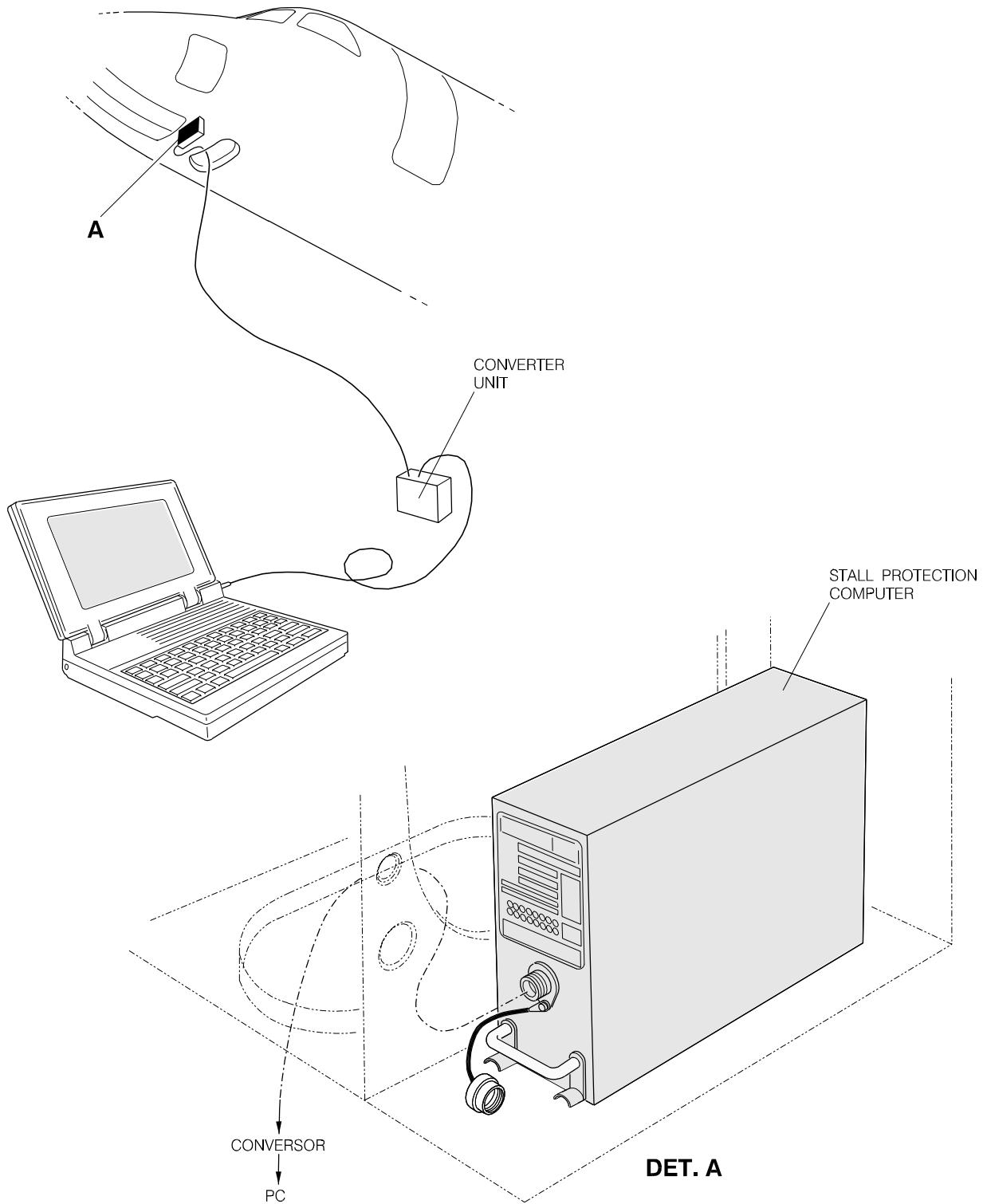
SUBTASK 842-002-A

- (1) On the overhead Circuit Breaker Panel, open these circuit breakers:
 - STALL PROT CHANNEL 1.
 - STALL PROT CHANNEL 2.
 - STALL PROT SHAKER 1.
 - STALL PROT SHAKER 2.
 - PUSHER CLUTCH.
 - AIR/GROUND A, B, C, D.
- (2) Disconnect the SPC Toolkit Cable.
- (3) On the overhead Circuit Breaker Panel, close all the circuit breakers that you opened.
- (4) Close door 123BL (AMM MPP 06-41-01/100).
- (5) Deenergize the aircraft ([AMM TASK 20-40-01-860-801-A/200](#)).

EFFECTIVITY: ALL

Stall Protection Computer - Location

Figure 201



AMM270575.MCE



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TASK 27-36-00-970-802-A

EFFECTIVITY: ALL

3. STALL PROTECTION COMPUTER - DOWNLOAD

A. General

- (1) This task gives the procedures to download data from the Stall Protection Computer.

B. References

| REFERENCE | DESIGNATION |
|---------------------------------|--|
| AMM MPP 06-41-01/100 | - |
| AMM TASK 20-40-01-860-801-A/200 | ENERGIZATION OF THE AIRCRAFT WITH AN EXTERNAL POWER SOURCE |
| ITEM GSE 078 | KIT - STALL WARNING |

C. Zones and Accesses

| ZONE | PANEL/DOOR | LOCATION |
|------|------------|------------------------------|
| 123 | 123BL | Area below the cockpit floor |

D. Tools and Equipment

| ITEM | DESCRIPTION | PURPOSE | QTY |
|---------|---------------------|---|-----|
| GSE 078 | Kit - Stall warning | To diagnose the stall protection system | |
| GSE 130 | Laptop Computer | To use the Kit - Stall warning | |

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 (Figure 201)

SUBTASK 841-003-A

- (1) If it is not installed, install the WATCHSPC program in your notebook as shown in the User's Guide Manual ([ITEM GSE 078](#)).
- (2) Energize the aircraft ([AMM TASK 20-40-01-860-801-A/200](#)).
- (3) On the overhead Circuit Breaker Panel, open these circuit breakers:

- STALL PROT CHANNEL 1.
 - STALL PROT CHANNEL 2.
 - STALL PROT SHAKER 1.
 - STALL PROT SHAKER 2.
 - PUSHER CLUTCH.
 - AIR/GROUND A, B, C, D.
- (4) Remove door 123BL (AMM MPP 06-41-01/100).
- (5) Install the SPC Toolkit Cable as shown in the User's Guide Manual ([ITEM GSE 078](#)).
- (6) Put the RS422/RS232 Converter Unit in the MONITOR MODE FOR CH1 position. Refer to the User's Guide Manual ([ITEM GSE 078](#)).
- (7) On the overhead Circuit Breaker Panel, close all the circuit breakers that you opened.
- (8) Put the RS422/RS232 Converter Unit POWER switch in the CH1 position.

J. Stall Protection Computer - Download

SUBTASK 970-003-A

- (1) Turn on the notebook.
- (2) Start the WATCHSPC program and set as follows:
 - (a) With key F1 or F2, select the COM to which you are connected.
 - (b) Push the Page-Down key - 50 Line Mode.
 - (c) With the arrow keys, select option 2.
 - (d) Push the S key to save this configuration.

NOTE: Do this step only the first time that you use this program. In the future, when you start up the SPC, these settings will be the default.
- (3) Push the ENTER key and make sure that the SPC operates. You will see a page equal to that shown in the User's Guide Manual ([ITEM GSE 078](#)).
- (4) Push the X key and go back to the main menu.
- (5) With the arrow keys, set the option 1 - PC Diag and push the ENTER key. You will see on the screen a page equal to that shown in the User's Guide Manual ([ITEM GSE 078](#)). The bottom portion of this screen is orange, and white characters scroll on it.
- (6) Put the RS422/RS232 Converter Unit in the DIAGNOSTIC MODE FOR CH1 position. Refer to the User's Guide Manual ([ITEM GSE 078](#)).
- (7) At the prompt, write "run diag.run" and push the ENTER key. The message "Reset the SPC" will come into view on the screen.
- (8) To reset, let the STALL PROT CHANNEL1 circuit breaker stay open on the overhead panel for NO MORE than 15 (FIFTEEN) seconds after the message "Reset the SPC"

comes into view on the screen. Then close it NO LESS than 5 (five) seconds after you opened it. After that, the bottom portion of this screen must become green. It shows that the SPC boot procedure initialized. Wait until the prompt goes back and only the two last lines of the green portion become orange.

NOTE: If it does not occur, possibly you did a step incorrectly and there was not the download. Do the procedures again from step 6.

- (9) At the prompt, write rdnvm "filename".txt command and push the ENTER key. The SPC will start to record in the "filename".txt file the failure messages stored on the NVM. If the scrolling of the messages stops, push the Q key.

NOTE: In the "filename" location, write the name that you gave to your file.

- (10) At the prompt, type "exit" and go back to the Main Menu.

- (11) Put the RS422/RS232 Converter Unit in the MONITOR MODE FOR CH1 position. Refer to the User's Guide Manual ([ITEM GSE 078](#)).

- (12) To reset the STALL PROT CHANNEL1 circuit breaker, open it and close after a few seconds.

- (13) Select option 2 - PC Mon Basic to make sure that the SPC operates correctly or push the X key and go out from the WATCHSPC program.

The file "Filename".txt is saved in the same directory from the WATCHSPC program in your notebook. Please send it to TECHNICAL SUPPORT ENGINEERING of EMBRAER for analysis.

K. Follow-on

SUBTASK 842-003-A

- (1) On the overhead Circuit Breaker Panel, open these circuit breakers:
 - STALL PROT CHANNEL 1.
 - STALL PROT CHANNEL 2.
 - STALL PROT SHAKER 1.
 - STALL PROT SHAKER 2.
 - PUSHER CLUTCH.
 - AIR/GROUND A, B, C, D.
- (2) Disconnect the SPC Toolkit Cable.
- (3) On the overhead Circuit Breaker Panel, close all the circuit breakers that you opened.
- (4) Close door 123BL (AMM MPP 06-41-01/100).
- (5) Deenergize the aircraft ([AMM TASK 20-40-01-860-801-A/200](#)).