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## FAC - SÍMILE

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**To:** Docket Management Facility  
U.S. Department of Transportation  
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Washington DC, USA

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**From:** Sérgio Augusto Viana de Carvalho  
Certification Manager

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**Subject:** Docket No. FAA-2007-0083 (revised)  
EMB-145 Engine Anti-Ice Valve Inspection/Replacement

**Copies:** N/A

Dear Sir:

Please find below EMBRAER comments to the NPRM.

- Paragraph (f)(1)(i)

Instead of:

"... If any engine anti-ice system valve with P/N C146009-2 is found, no further action is required by paragraph (f)(1) of this AD. ..."

We propose:

"...For engine anti-ice system valves with P/N C146009-2, no further action is required by paragraph (f)(1) of this AD ..."

*Comment: This minor change to the wording will avoid the possibility of an engine anti-ice system (EAIS) not being inspected due to the existence of a -2 valve on the opposite EAIS .*

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- Paragraph (f)(1)(ii)

Instead of:

"... If any anti-ice system valve with P/N C146009-3 is found, before further flight: Remove it and carry out a detailed inspection ..."

We propose:

"... For anti-ice system valves with P/N C146009-3, before further flight: Remove it and carry out a detailed inspection ..."

*Comment: This minor change to the wording will avoid the possibility of an engine anti-ice system (EAIS) not being inspected due to the existence of a -3 valve on the other EAIS.*

- Paragraph (f)(1)(iii)

Instead of:

"... If any engine anti-ice system valve with P/N C146009-4 is found, no further action is required by paragraph (f)(1) of this AD. ..."

We propose:

"... For engine anti-ice system valves with P/N C146009-4, no further action is required by paragraph (f)(1) of this AD. ..."

*Comment: This minor change to the wording will avoid the possibility of an engine anti-ice system (EAIS) not being inspected due to the existence of a -4 valve on the other EAIS.*

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- Paragraph (f)(1)(ii)(A)

Instead of:

"... (A) If the valve is damaged or the tube is obstructed, before further flight: Replace the valve with a serviceable or new valve bearing P/N C146009-2, C146009-3, or C146009-4; or remove the obstruction; as applicable; ..."

We propose:

"... (A) If the valve is damaged or the tube is obstructed, before further flight: Replace the valve with a serviceable or new valve bearing P/N C146009-2, C146009-3, or C146009-4; or remove all obstruction; as applicable; ..."

- Paragraph (f)(3)

Instead of:

"... (3) PART III - Any engine anti-ice system valve with P/N C146009-2 or C146009-3 that will be installed as a replacement as provided for in paragraph (f)(1) and (f)(2) of this AD, must undergo a detailed inspection for its integrity before installation, and any damage or obstruction repaired, according to the detailed instructions and procedures ..."

We propose:

"... (3) PART III - Any engine anti-ice system valve with P/N C146009-2 or C146009-3 that will be installed as a replacement as provided for in paragraph (f)(1) and (f)(2) of this AD, must undergo a detailed inspection for its integrity before installation, according to the detailed instructions and procedures ..."

*Comment: EMBRAER would like to clarify the applicable Service Bulletins do not provide instructions to repair the valves. Therefore, defective valves must be removed/replaced and not repaired. The elimination of a possible obstruction is applicable only to the tubes as detailed on paragraph (f)(4) below.*



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- Paragraph (f)(4)

Instead of:

"... Any engine anti-ice system tubes that will be installed on the airplane as a replacement as provided for in paragraph (f)(1) and (f)(2) of this AD, must undergo a special detailed inspection before installation, and any damage or obstruction repaired, according to the detailed ..."

We propose:

"... Any engine anti-ice system tubes that will be installed on the airplane as a replacement as provided for in paragraph (f)(1) and (f)(2) of this AD, must undergo a special detailed inspection before installation, and all obstructions removed, according to the detailed ..."

- Paragraph (f)(5)

Instead of:

"... If any engine anti-ice system valve with P/N C146009-4 has been found during the inspection required by paragraph (f)(1) of this AD, do paragraphs (f)(5)(i) or (f)(5)(ii) of this AD, as applicable, within the next 1,500 flight hours or 9 months after the effective date of this AD, whichever occurs first. ..."

We propose:

"... If any engine anti-ice system valve with P/N C146009-4 has been found during the inspection required by paragraph (f)(1) of this AD, do paragraphs (f)(5)(i) or (f)(5)(ii) of this AD, as applicable, within the next 500 flight hours or 06 months after the effective date of this AD, whichever occurs first. ..."

*Comment: When brazilian MCAI 2006-09-03 was issued (October 30, 2006) there were no reports of debris found in engine anti-ice system (EAIS) during removal of engine anti-ice valves (EAIV) PN C146009-4. As described on SNL 145-30-0022 (December 23, 2008) EMBRAER received from Hamilton Sundstrand six reports of debris found in the EAIS, during the removal of EAIV PN C146009-4 from aircraft. Therefore, EMBRAER is proposing a reduction on the compliance time for the paragraph (f)(5) as highlighted above.*

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- Paragraph (f)(6)

Instead of:

"... Before aircraft dispatch with one or two engine anti-ice system valves inoperative (Master Minimum Equipment List (MMEL) 30-21-01), carry out a detailed inspection for damage of the affected engine anti-ice system valves; and a special detailed inspection for obstruction of the corresponding engine anti-ice system tubes; and repair any damage or obstruction before further flight. Do all actions according to the detailed instructions and procedures ..."

We propose:

"... Before aircraft dispatch with one or two engine anti-ice system valves inoperative (Master Minimum Equipment List (MMEL) 30-21-01), carry out a detailed inspection for damage of the affected engine anti-ice system valves; and a special detailed inspection for obstruction of the corresponding engine anti-ice system tubes; **remove any defective valve from service and remove all obstructions from the tubes** before further flight. Do all actions according to the detailed instructions and procedures ..."

- Paragraph (f)(7) and Paragraph (f)(8)

*Comment: Since brazilian MCAI 2006-09-03 was issued on October 30<sup>th</sup>, 2006 EMBRAER would like to point out the compliance time foreseen to the replacement of P/N C146009-3 (12 months after the effective date) as well as the compliance time foreseen to the replacement of P/N C146009-2 (30 months after the effective date) are both expired. Therefore, EMBRAER recommends FAA to reduce the compliance time of paragraphs (f)(7) and (f)(8) in order to avoid the unsafe condition to remain for a period of time excessive higher than that foreseen on the brazilian MCAI. EMBRAER is working together with Hamilton Sundstrand on the definition of a new compliance time consistent with the current scenario of the US fleet and is available to support FAA on such matter.*

Best regards,

Sincerely,



Eduardo Sanches Cerdeira  
Certification Office

**Sérgio Augusto Viana de Carvalho**  
Certification Manager

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