CHAPTER - 30 HIGHLIGHTS
(Summary of Changes)

Revision No. TR30-8 Mar 04/20

TO: HOLDERS OF THE AIRCRAFT MAINTENANCE MANUAL (06-117751)

Pages that have been added or revised are summarized below. Remove and insert the affected pages as listed, and enter the above revision number with issue date into the Record of Revisions sheet.

This Temporary Revision incorporates and supersedes previously released temporary revisions for the chapters listed below.

Do not remove this page. Keep it in place as a record of previous changes.

CH/SE/SU Page Block No.	Description of Change
30-40-00 PgBlk 501 (A)	Procedure replaced with procedure from revision 19 (non PPG windshields) with updates from the source document.
30-40-00 PgBlk 501 (B)	Removed unnecessary steps and corrected per source document.

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WINDSHIELD HEAT SYSTEM - ADJUSTMENT/TEST

AMM-30-40-00-071-A-801

1. General

A. This task gives procedures to test the windshield anti-ice system.

2. Job Set Up

SUBTASK AMM-30-40-00-071-A-921-001

A. Make aircraft safe for maintenance. Refer to AMM-20-00-01-051-801 – Make Safe For Maintenance .

B. Required Test Equipment

- Fluke 65 or Extech IR Thermometer 470 or equivalent
- Stop Watch

3. Procedure

SUBTASK AMM-30-40-00-071-A-701-001

A. Prepare the aircraft for test as follows:

(1) Remove all the windshield protection material before starting this test.

(2) Connect external power. Refer to AMM-24-40-00-051-801 – External Power - Maintenance Practices .

(3) On the Instrument Panel Left (IPL), set START BAT, BUS TIE, and SYS BAT to ON.

(4) On the MFD ICE synoptic page, press the L WSHLD and R WSHLD softkey to select OFF.

NOTE: The CAS message WINDSHIELD HEAT OFF is shown on the MFD.

(5) Make sure that the aircraft has been powered off for fifteen minutes, or the windshield heat has been off for fifteen minutes.

(6) Use a Multi-Meter with IR Thermometer to measure and record the current ambient temperature of test location.

- Make sure that the left and right windshield temperatures shown on the MFD ICE page reads within 5°C of the ambient temperature.

B. Check the right windshield heat operation.

(1) On the MFD ICE synoptic page, press the R WSHLD softkey to select NORMAL.

- Make sure that the right windshield as shown on the MFD ICE synoptic page is displayed in a green outline.
- Make sure that the right windshield temperature as shown on the MFD ICE synoptic page cycles between 53 +/- 2°C and 60 +/- 2° C.

(2) With the Stop Watch, record the windshield cycle time. Record at least 2 cycles.

NOTE: A cycle starts when the ECB - R WINDSHIELD HEAT (R AFT Bus) is shown as AUTO-ON (green) and ends when the ECB - R WINDSHIELD HEAT (R AFT Bus) is shown as AUTO-OFF (grey) on the MFD ECB synoptic page.

(3) Make sure that the windshield cycle time is within 16 +/- 4 seconds.

(4) Make sure that no windshield heat CAS messages are present.

(5) On the MFD ICE synoptic page, press the R WSHLD softkey to select HI.

- Make sure that the right windshield as shown on the MFD ICE synoptic page is displayed in a green outline.
- Make sure that the right windshield temperature as shown on the MFD ICE synoptic page cycles between 53 +/- 2°C and 60 +/- 2° C.

(6) With the Stop Watch, record the windshield cycle time. Record at least 2 cycles.

(7) Make sure that the windshield cycle time is within 10 +/- 4 seconds.

(8) Make sure that no windshield heat CAS messages are present.

(9) On the MFD ICE synoptic page, press the R WSHLD softkey to select OFF.

- Make sure that the right windshield temperature as shown on the MFD ICE synoptic page decreases below 53°C and the green outline changes to white.

C. Check the left windshield heat operation.

(1) On the MFD ICE synoptic page, press the L WSHLD softkey to select NORMAL.

- Make sure that the left windshield as shown on the MFD ICE synoptic page is displayed in a green outline.
- Make sure that the left windshield temperature as shown on the MFD ICE synoptic page cycles between 53 +/- 2°C and 60 +/- 2°C.

(2) With the Stop Watch, record the windshield cycle time. Record at least 2 cycles.

NOTE: A cycle starts when the ECB - L WINDSHIELD HEAT (L AFT Bus) is shown as AUTO-ON (green) and ends when the ECB - L WINDSHIELD HEAT (L AFT Bus) is shown as AUTO-OFF (grey) on the MFD ECB synoptic page.

(3) Make sure that the windshield cycle time is within 16 +/- 4 seconds.

(4) Make sure that no windshield heat CAS messages are present.

(5) On the MFD ICE synoptic page, press the L WSHLD softkey to select HI.

- Make sure that the left windshield as shown on the MFD ICE synoptic page is displayed in a green outline.
- Make sure that the left windshield temperature as shown on the MFD ICE synoptic page cycles between 53 +/- 2°C and 60 +/- 2° C.

(6) With the Stop Watch, record the windshield cycle time. Record at least 2 cycles.

(7) Make sure that the windshield cycle time is within 10 +/- 4 seconds.

(8) Make sure that no windshield heat CAS messages are present.

(9) On the MFD ICE synoptic page, press the L WSHLD softkey to select OFF.

- Make sure that the left windshield temperature as shown on the MFD ICE synoptic page decreases below 53°C and the green outline changes to white.

D. Check Avio™ Processing Center (APC) failure operation.

(1) On Instrument Panel, Left (IPL), set MECHANICAL CIRCUIT BREAKER - INSTRUMENT PANEL, LEFT: L ACS circuit breaker to OFF.

(2) On MFD, go to ECB synoptic page and pull ECB - L AIRCRAFT COMPUTER (R FWD Bus) ECB.

NOTE: With the ACS disabled and the L WSHLD and R WSHLD softkeys selected to OFF, the L WSHLD HEAT FAULT CAS and R WSHLD HEAT FAULT CAS messages will not show.

(3) Make sure that the L WSHLD HEAT FAULT CAS and R WSHLD HEAT FAULT CAS messages are shown when the L WSHLD and R WSHLD softkeys are selected to NORMAL or HI.

(4) On the MFD, go to ICE synoptic page, press the L WSHLD softkey to select HI.

- Make sure that the left windshield as shown on the MFD ICE synoptic page is displayed in a green outline.
- Make sure that the left windshield temperature as shown on the MFD ICE synoptic page cycles to 60 +/- 2°C.
- Make sure that the L WSHLD HEAT FAULT CAS message is present and L WSHLD FAIL CAS message is not present.

(5) On the MFD, go to ICE synoptic page, press the L WSHLD softkey to select OFF.

- Make sure that the left windshield temperature as shown on the MFD ICE synoptic page decreases below 53°C.
- Make sure that the green outline changes to white.
- Make sure that the L WSHLD HEAT FAULT CAS message is not present.

(6) On the MFD, go to ICE synoptic page, press the R WSHLD softkey to select HI.

- Make sure that the right windshield as shown on the MFD ICE synoptic page is displayed in a green outline.
- Make sure that the right windshield temperature as shown on the MFD ICE synoptic page cycles to 60 +/- 2°C .
- Make sure that the R WSHLD HEAT FAULT CAS message is shown and R WSHLD FAIL CAS message is not present.

(7) On the MFD, go to ICE synoptic page, press the R WSHLD softkey to select OFF.

- Make sure that the right windshield as shown on the MFD ICE synoptic page decreases below 53°C.
- Make sure that the green outline changes to white.
- Make sure that the R WSHLD HEAT FAULT CAS message is not present.

(8) Turn on the Left ACS by resetting the following circuit breaker/ECB:

- MECHANICAL CIRCUIT BREAKER - INSTRUMENT PANEL, LEFT: L ACS
- MFD ECB synoptic page - ECB - L AIRCRAFT COMPUTER (R FWD Bus)

(9) Turn off the Right ACS by pulling the following ECBs:

- MFD ECB synoptic page - ECB - R AIRCRAFT COMPUTER (R FWD Bus)
- MFD ECB synoptic page - ECB - R AIRCRAFT COMPUTER (L FWD Bus)

NOTE: With the ACS disabled and the L WSHLD and R WSHLD softkeys selected to OFF, the L WSHLD HEAT FAULT CAS and R WSHLD HEAT FAULT CAS messages will not show.

(10) On the MFD ICE synoptic page, press the L WSHLD softkey to select HI.

- Make sure that the left windshield as shown on the MFD ICE synoptic page is displayed in a green outline.
- Make sure that the left windshield temperature as shown on the MFD ICE synoptic page cycles to 60 +/- 2°C.
- Make sure that the L WSHLD HEAT FAULT CAS message is present and L WSHLD FAIL CAS message is not present.

(11) On the MFD ICE synoptic page, press the L WSHLD softkey to select OFF.

- Make sure that the left windshield as shown on the MFD ICE synoptic page decreases below 53°C.
- Make sure that the green outline changes to white.
- Make sure that the L WSHLD HEAT FAULT CAS message is not present.

(12) On the MFD ICE synoptic page, press the R WSHLD softkey to select HI.

- Make sure that the right windshield as shown on the MFD ICE synoptic page is displayed in a green outline.
- Make sure that the right windshield temperature as shown on the MFD ICE synoptic page cycles to 60 +/- 2°C.
- Make sure that the R WSHLD HEAT FAULT CAS message is present and R WSHLD FAIL CAS message is not present.

(13) On the MFD ICE synoptic page, press the R WSHLD softkey to select OFF.

- Make sure that the right windshield as shown on the MFD ICE synoptic page decreases below 53°C.
- Make sure that the green outline changes to white.
- Make sure that the R WSHLD HEAT FAULT CAS message is not shown.

(14) Turn on the Right ACS by resetting the following ECBs:

- MFD ECB synoptic page - ECB - R AIRCRAFT COMPUTER (R FWD Bus)
- MFD ECB synoptic page - ECB - R AIRCRAFT COMPUTER (L FWD Bus)

E. On the IPL, turn SYS BAT, START BAT, and BUS TIE to OFF.

F. If necessary, install windshield protection on the aircraft.

4. Job Close Up

SUBTASK AMM-30-40-00-071-A-921-002

A. Remove all tools, equipment, and unwanted material from work area.

B. Disconnect the external power. Refer to AMM-24-40-00-051-801 – External Power - Maintenance Practices .

C. If all other maintenance is complete, return aircraft to service. Refer to AMM-20-00-02-051-801 – Return To Service (After Maintenance) .

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WINDSHIELD HEAT SYSTEM - ADJUSTMENT/TEST

AMM-30-40-00-071-B-801

1. General

A. This task gives a procedure to test the windshield heat system.

2. Job Set Up

SUBTASK AMM-30-40-00-071-B-921-001

A. Make aircraft safe for maintenance. Refer to AMM-20-00-01-051-801 – Make Safe For Maintenance.

B. Required Test Equipment

- Fluke 65 or Extech IR Thermometer 470 or equivalent
- Stop Watch

3. Procedure

SUBTASK AMM-30-40-00-071-B-701-001

A. Prepare the aircraft for test as follows:

(1) If protection material is present, remove the windshield protection material before starting this test.

(2) Connect external power. Refer to AMM-24-40-00-051-801 – External Power - Maintenance Practices.

(3) On the Instrument Panel Left (IPL), set START BAT, BUS TIE, and SYS BAT to ON.

(4) On the MFD ICE synoptic page, press the L WSHLD and R WSHLD Line Select Key (LSK) to select OFF.

NOTE: The CAS message WINDSHIELD HEAT OFF is shown on the MFD.

(5) Make sure that the aircraft has been powered off for fifteen minutes, or the windshield heat has been off for fifteen minutes.

(6) Use a Multi-Meter with IR Thermometer to measure and record the current ambient temperature.

- Make sure that the left and right windshield temperatures shown on the MFD ICE page reads within 5°C of the ambient temperature.

B. Check the right windshield heat operation.

(1) On the MFD ICE synoptic page, press the R WSHLD LSK to select NORMAL.

- Make sure that the right windshield as shown on the MFD ICE synoptic page is displayed in a green outline.
- Make sure that the right windshield temperature as shown on the MFD ICE synoptic page cycles between 41 +/- 2°C and 46 +/- 2°C .

- Make sure that no windshield heat CAS messages are present.

(2) Monitor the R WINDSHIELD HEAT ECB on the ECB synoptic page. When the windshield is heating, the ECB is displayed in green. When the windshield is cooling, the ECB is displayed in gray.

(3) With a stop watch, measure the time that the windshield takes to heat from 41°C to 46°C, two times. Do not measure the first cycle.

(4) Make sure that the windshield cycle time is between 16 and 28 seconds.

(5) Make sure that no windshield heat CAS messages are present.

(6) On the MFD ICE synoptic page, press the R WSHLD LSK to select HI.

- Make sure that the right windshield as shown on the MFD ICE synoptic page is displayed in a green outline.
- Make sure that the right windshield temperature as shown on the MFD ICE synoptic page cycles between 41 +/- 2°C (106 +/- 4°F) and 46 +/- 2°C (115 +/- 4°F).
- Make sure that no windshield heat CAS messages are present.

(7) Monitor the R WINDSHIELD HEAT ECB on the ECB synoptic page. When the windshield is heating, the ECB is displayed in green. When the windshield is cooling, the ECB is displayed in gray.

(8) With a stop watch, measure the time that the windshield takes to heat from 41°C to 46°C, two times. Do not measure the first cycle.

(9) Make sure that the windshield cycle time is between 7 and 15 seconds.

(10) Make sure that no windshield heat CAS messages are present.

(11) On the MFD ICE synoptic page, press the R WSHLD LSK to select OFF.

- Make sure that the right windshield temperature as shown on the MFD ICE synoptic page decreases below 41°C and the green outline changes to white.

C. Check the left windshield heat operation.

(1) On the MFD ICE synoptic page, press the L WSHLD LSK to select NORMAL.

- Make sure that the left windshield as shown on the MFD ICE synoptic page is displayed in a green outline.
- Make sure that the left windshield temperature as shown on the MFD ICE synoptic page cycles between 41 +/- 2°C and 46 +/- 2°C .
- Make sure that no windshield heat CAS messages are present.

(2) Monitor the L WINDSHIELD HEAT ECB on the ECB synoptic page. When the windshield is heating, the ECB is displayed in green. When the windshield is cooling, the ECB is displayed in gray.

(3) With a stop watch, measure the time that the windshield takes to heat from 41°C to 46°C, two times. Do not measure the first cycle.

(4) Make sure that the windshield cycle time is between 16 and 28 seconds.

(5) Make sure that no windshield heat CAS messages are present.

(6) On the MFD ICE synoptic page, press the L WSHLD LSK to select HI.

- Make sure that the left windshield as shown on the MFD ICE synoptic page is displayed in a green outline.
- Make sure that the left windshield temperature as shown on the MFD ICE synoptic page cycles between 41 +/- 2°C and 46 +/- 2°C .
- Make sure that no windshield heat CAS messages are present.

(7) Monitor the L WINDSHIELD HEAT ECB on the ECB synoptic page. When the windshield is heating, the ECB is displayed in green. When the windshield is cooling, the ECB is displayed in gray.

(8) With a stop watch, measure the time that the windshield takes to heat from 41°C to 46°C, two times. Do not measure the first cycle.

(9) Make sure that the windshield cycle time is between 7 and 15 seconds.

(10) Make sure that no windshield heat CAS messages are present.

(11) On the MFD ICE synoptic page, press the L WSHLD LSK to select OFF.

- Make sure that the left windshield temperature as shown on the MFD ICE synoptic page decreases below 41°C and the green outline changes to white.

D. Check Avio™ Processing Center (APC) failure operation.

(1) On Instrument Panel, Left (IPL), set MECHANICAL CIRCUIT BREAKER - INSTRUMENT PANEL, LEFT: L ACS circuit breaker to OFF.

(2) On MFD, go to ECB synoptic page and pull ECB - L AIRCRAFT COMPUTER (R FWD Bus) ECB.

(3) On the MFD, go to ICE synoptic page, press the L WSHLD LSK to select HI.

- Make sure that the left windshield as shown on the MFD ICE synoptic page is displayed in a green outline.
- Make sure that the left windshield temperature as shown on the MFD ICE synoptic page cycles between 41 +/- 2°C to 46 +/- 2°C.
- Make sure that no windshield heat CAS messages are present except for L WSHLD HEAT FAULT.

(4) On the MFD, go to ICE synoptic page, press the L WSHLD LSK to select OFF.

- Make sure that the left windshield temperature as shown on the MFD ICE synoptic page decreases below 41°C and the green outline changes to white.

(5) On the MFD, go to ICE synoptic page, press the R WSHLD LSK to select HI.

- Make sure that the right windshield as shown on the MFD ICE synoptic page is displayed in a green outline.
- Make sure that the right windshield temperature as shown on the MFD ICE synoptic page cycles between 41 +/- 2°C to 46 +/- 2°C.
- Make sure that no windshield heat CAS messages are present except for R WSHLD HEAT FAULT.

(6) On the MFD, go to ICE synoptic page, press the R WSHLD LSK to select OFF.

- Make sure that the right windshield temperature as shown on the MFD ICE synoptic page decreases below 41°C and the green outline changes to white.

(7) Turn on the Left ACS by resetting the following circuit breaker/ECB:

- MECHANICAL CIRCUIT BREAKER - INSTRUMENT PANEL, LEFT: L ACS
- MFD ECB synoptic page - ECB - L AIRCRAFT COMPUTER (R FWD Bus)

(8) Turn off the Right ACS by pulling the following ECBs:

- MFD ECB synoptic page - ECB - R AIRCRAFT COMPUTER (R FWD Bus)
- MFD ECB synoptic page - ECB - R AIRCRAFT COMPUTER (L FWD Bus)

(9) On the MFD, go to ICE synoptic page, press the L WSHLD LSK to select HI.

- Make sure that the left windshield as shown on the MFD ICE synoptic page is displayed in a green outline.
- Make sure that the left windshield temperature as shown on the MFD ICE synoptic page cycles between 41 +/- 2°C to 46 +/- 2°C.
- Make sure that no windshield heat CAS messages are present except for L WSHLD HEAT FAULT.

(10) On the MFD, go to ICE synoptic page, press the L WSHLD LSK to select OFF.

- Make sure that the left windshield temperature as shown on the MFD ICE synoptic page decreases below 41°C and the green outline changes to white.

(11) On the MFD, go to ICE synoptic page, press the R WSHLD LSK to select HI.

- Make sure that the right windshield as shown on the MFD ICE synoptic page is displayed in a green outline.
- Make sure that the right windshield temperature as shown on the MFD ICE synoptic page cycles between 41 +/- 2°C to 46 +/- 2°C.
- Make sure that no windshield heat CAS messages are present except for R WSHLD HEAT FAULT.

(12) On the MFD, go to ICE synoptic page, press the R WSHLD LSK to select OFF.

- Make sure that the right windshield temperature as shown on the MFD ICE synoptic page decreases below 41°C and the green outline changes to white.

(13) Turn on the Right ACS by resetting the following ECBs:

- MFD ECB synoptic page - ECB - R AIRCRAFT COMPUTER (R FWD Bus)
- MFD ECB synoptic page - ECB - R AIRCRAFT COMPUTER (L FWD Bus)

E. On the IPL, turn SYS BAT, START BAT, and BUS TIE to OFF.

F. If necessary, reinstall windshield protection on the aircraft.

4. Job Close Up

SUBTASK AMM-30-40-00-071-B-921-002

A. Remove all tools, equipment, and unwanted material from work area.

B. Disconnect the external power. Refer to AMM-24-40-00-051-801 – External Power - Maintenance Practices.

C. If all other maintenance is complete, return aircraft to service. Refer to AMM-20-00-02-051-801 – Return To Service (After Maintenance).

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