AIR CONDITIONING - MAINTENANCE PRACTICES

EFFECTIVITY: ALL

1. General

A. This section gives these procedures:

– Operation of the cooling packs.

– Connection/disconnection of an external conditioned air source.

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*
21-00-00-860-801-A	PROCEDURE TO TURN THE COOLING PACKS ON	ALL
21-00-00-860-802-A	PROCEDURE TO TURN THE COOLING PACKS OFF	ALL
21-00-00-860-803-A	CONNECTION/DISCONNECTION OF AN EXTERNAL CONDITIONED-AIR SOURCE	ALL
21-00-00-860-804-A	PROCEDURE TO TURN THE COOLING PACKS ON UNDER COLD SOAK CONDITIONS	ALL

TASK 21-00-00-860-801-A
EFFECTIVITY: ALL

2. PROCEDURE TO TURN THE COOLING PACKS ON

A. General

(1) This task gives the procedure to turn the cooling packs ON.

B. References

REFERENCE	*DESIGNATION*
AMM TASK 36-00-00-860-801-A/200	PNEUMATIC ENERGY - AIR BLEED THROUGH ONE OF THE ENGINES
AMM TASK 36-00-00-860-802-A/200	PNEUMATIC ENERGY - AIR BLEED THROUGH THE APU

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) Supply the pneumatic energy (AMM TASK 36-00-00-860-801-A/200) or (AMM TASK 36-00-00-860-802-A/200).

J. Procedure to Turn the Cooling Packs ON (Figure 201)

SUBTASK 861-002-A

CAUTION: MAKE SURE THAT THE EXTERNAL CONDITIONED-AIR SOURCE IS NOT CONNECTED TO THE AIRCRAFT. THE COOLING PACKS CANNOT CONTROL THE AIR TEMPERATURE IF YOU ALSO OPERATE THE EXTERNAL CONDITIONED-AIR SOURCE, AND DAMAGE TO EQUIPMENT CAN OCCUR.

(1) Set the pushbuttons below as follows:

– PACK 1 - ON.

– PACK 2 - ON.

– GASPER - ON.

– RECIRC - ON.

(2) Set the CKPT temperature selector:

– AUTO (to control the cockpit temperature in the automatic mode).

– MAN (to control the cockpit temperature in the manual mode).

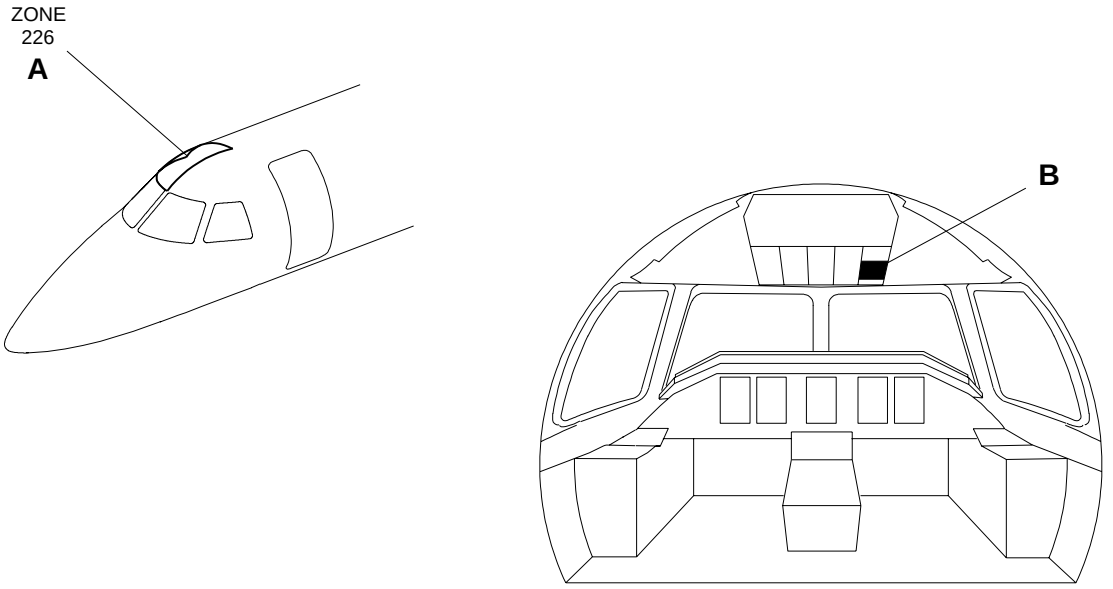
(3) Set the PASS CABIN temperature selector:

– AUTO (to control the passenger cabin temperature in the automatic mode).

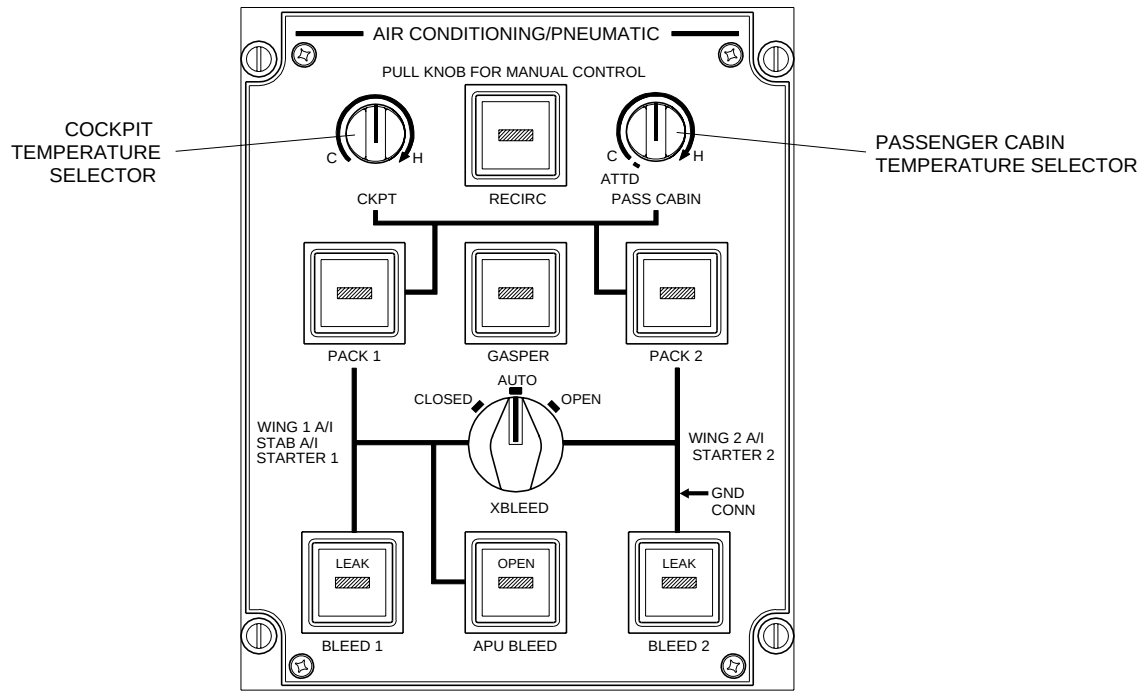
– MAN (to control the passenger cabin temperature in the manual mode).

NOTE: The control of the passenger cabin temperature moves to the attendant's panel in the automatic mode only.

EFFECTIVITY: ALL
Cooling Pack Operation
Figure 201



DET. A



DET. B

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TASK 21-00-00-860-802-A
EFFECTIVITY: ALL

3. PROCEDURE TO TURN THE COOLING PACKS OFF

A. General

(1) This task gives the procedure to turn the cooling packs OFF.

B. References

REFERENCE	*DESIGNATION*
AMM TASK 36-00-00-860-801-A/200	PNEUMATIC ENERGY - AIR BLEED THROUGH ONE OF THE ENGINES
AMM TASK 36-00-00-860-802-A/200	PNEUMATIC ENERGY - AIR BLEED THROUGH THE APU

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. Procedure to Turn the Cooling Packs OFF (Figure 201)

SUBTASK 861-003-A

(1) Set the pushbuttons and selectors below as follows:

- PACK 1 - OFF.
- PACK 2 - OFF.
- GASPER - OFF.
- RECIRC - OFF.
- CKPT temperature selector - AUTO.
- PASS CABIN temperature selector - AUTO.

J. Follow-on

SUBTASK 842-002-A

(1) Stop the pneumatic energy supply (AMM TASK 36-00-00-860-801-A/200) or (AMM TASK 36-00-00-860-802-A/200).

TASK 21-00-00-860-803-A
EFFECTIVITY: ALL

4. CONNECTION/DISCONNECTION OF AN EXTERNAL CONDITIONED-AIR SOURCE

A. General

(1) This task gives the procedure for the connection/disconnection of an external conditioned-air source to/from the aircraft.

B. References

REFERENCE	*DESIGNATION*
AMM MPP 06-41-01/100	-

C. Zones and Accesses

ZONE	*PANEL/DOOR*	*LOCATION*
191	191AR	Wing-to-fuselage fairing

D. Tools and Equipment

ITEM	*DESCRIPTION*	*PURPOSE*	*QTY*
GSE 413	External conditioned-air source (electric)	To supply conditioned air to the aircraft	
GSE 414	External conditioned-air source (diesel-electric)	To supply conditioned air to the aircraft	
GSE 330	Coupling - Ground Connection	To connect external conditioned-air source	
GSE 420	Hose, Flexible	To connect external conditioned-air source	

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	Outside the aircraft

I. Preparation

SUBTASK 841-003-A

(1) On the overhead panel, on the AIR CONDITIONING/PNEUMATIC control panel, set PACK 1 and PACK 2 switches to OFF.

(2) Open access panel 191AR (AMM MPP 06-41-01/100).

J. External Conditioned-Air Source - Connection Procedure (Figure 202) (Figure 203) (Figure 204)

SUBTASK 861-004-A

CAUTION: MAKE SURE TO NOT OPERATE THE COOLING PACKS AND THE EXTERNAL CONDITIONED-AIR SOURCE AT THE SAME TIME. THE COOLING PACKS CANNOT CONTROL THE AIR TEMPERATURE IF YOU ALSO OPERATE THE EXTERNAL CONDITIONED-AIR SOURCE, AND DAMAGE TO EQUIPMENT CAN OCCUR.

(1) Connect the external conditioned-air source (GSE 330, GSE 420, and GSE 413 or GSE 414) (Figure 202).

CAUTION: THE MAXIMUM PERMITTED PRESSURE VALUE FOR THE AIRFLOW TO THE AIRCRAFT IS 127 mm H_2O (5 in H_2O) WITH THE MAIN DOOR OPEN.

(2) Turn and lock the coupling.

(3) Start the conditioned air supply to the aircraft.

K. External Conditioned-Air Source - Disconnection Procedure

SUBTASK 861-005-A

(1) Stop the conditioned air supply to the aircraft.

(2) Unlock and remove the external conditioned-air source coupling.

(3) On the overhead panel, on the AIR CONDITIONING/PNEUMATIC control panel, set PACK 1 and PACK 2 switches back their original position.

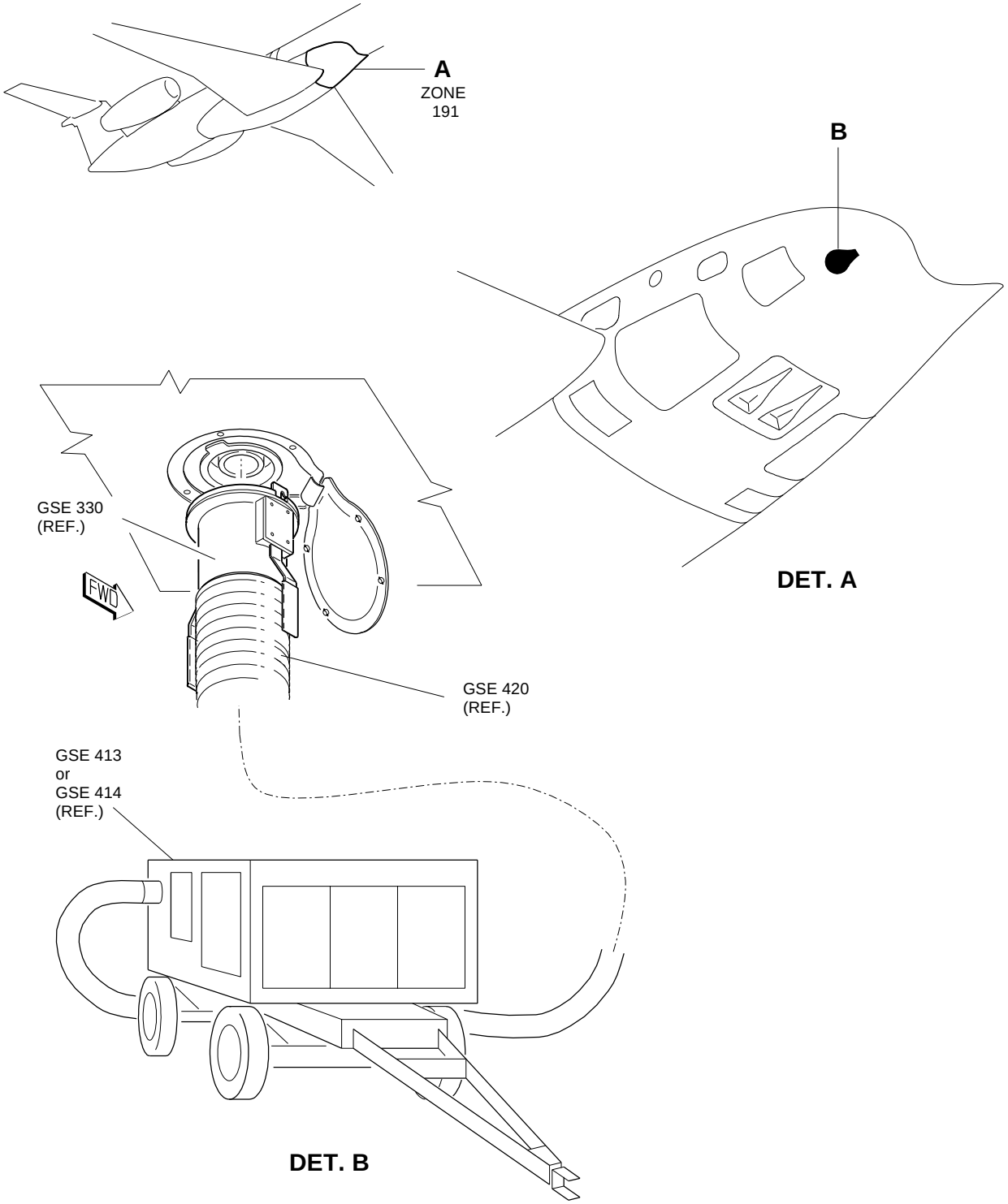
L. Follow-on

SUBTASK 842-003-A

(1) Close access panel 191AR (AMM MPP 06-41-01/100).

EFFECTIVITY: ALL

External Conditioned-Air Source Connection
Figure 202



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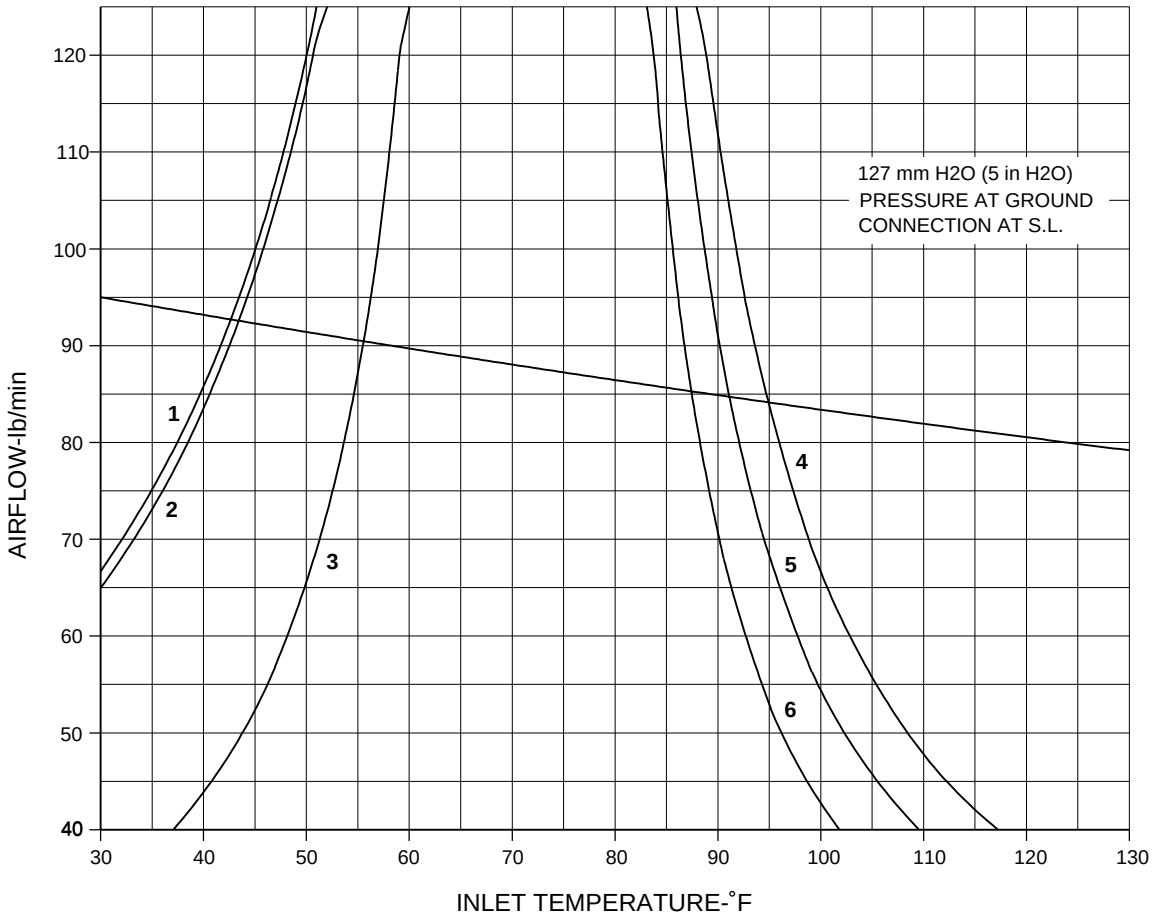
EFFECTIVITY: EMB-145( ) MODELS
Pre-Conditioning Airflow Requirements
Figure 203

PRE-CONDITIONED AIRFLOW REQUIREMENTS



CONDITIONS	AMBIENT TEMP		SOLAR LOAD (BTU/h)	ELECTRICAL LOAD (BTU/h)	OCCUPANTS	CABIN TEMP	
	(˚C)	(˚F)				(˚C)	(˚F)
1	39	103	14400	10600	54	24	75
2	39	103	14400	10600	54	27	80
3	39	103	0	10600	4	21	70
4	-40	-40	0	0	4	24	75
5	-29	-20	0	0	4	24	75
6	-18	0	0	0	4	24	75

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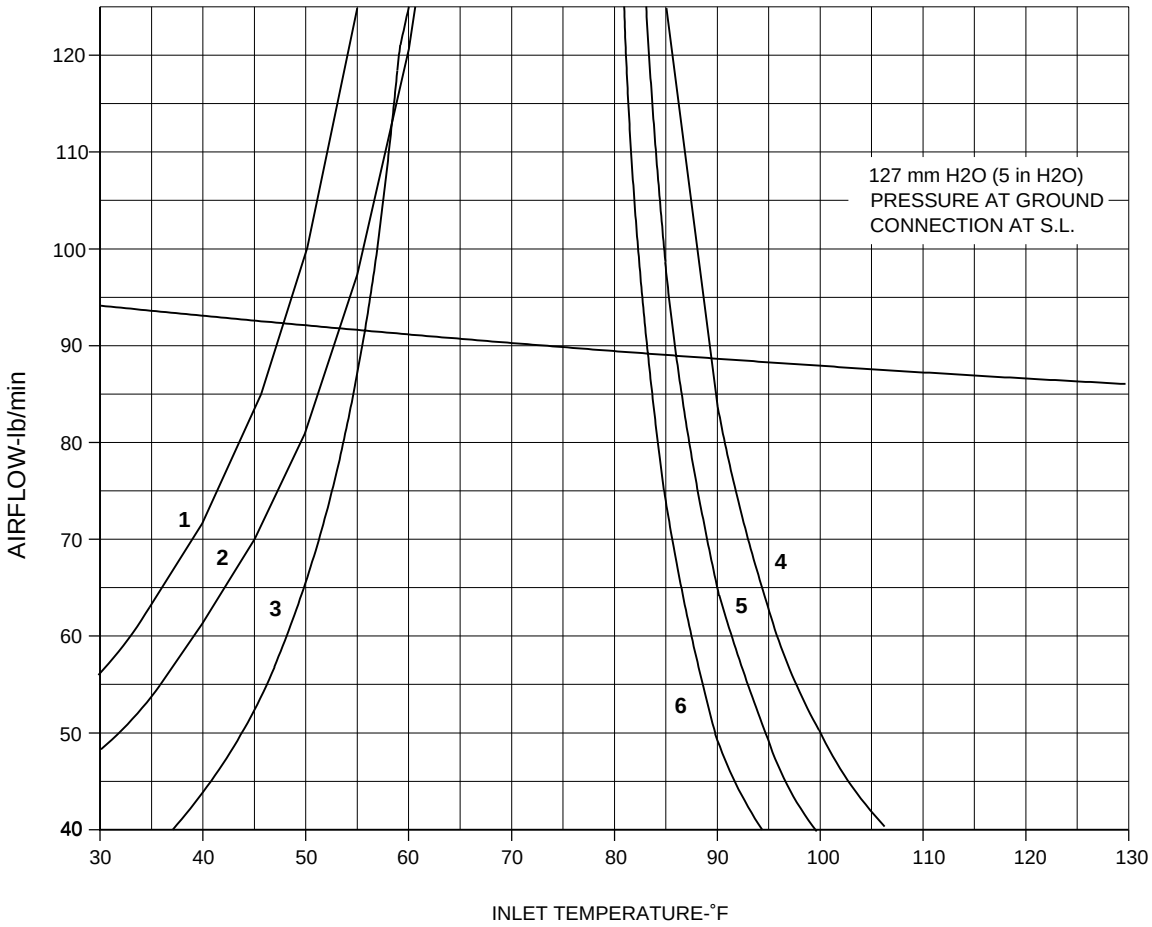
EFFECTIVITY: EMB-135( ) MODELS
Pre-Conditioning Airflow Requirements
Figure 204

PRE-CONDITIONED AIRFLOW REQUIREMENTS



CONDITIONS	AMBIENT TEMP		SOLAR LOAD (BTU/h)	ELECTRICAL LOAD (BTU/h)	OCCUPANTS	CABIN TEMP	
	(˚C)	(˚F)				(˚C)	(˚F)
1	39	103	7950	10150	42	24	75
2	39	103	7950	10150	42	27	80
3	39	103	0	10150	4	21	70
4	-40	-40	0	0	4	24	75
5	-29	-20	0	0	4	24	75
6	-18	0	0	0	4	24	75

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TASK 21-00-00-860-804-A
EFFECTIVITY: ALL

5. PROCEDURE TO TURN THE COOLING PACKS ON UNDER COLD SOAK CONDITIONS

A. General

(1) This task gives the procedure to prevent problems when the aircraft is cold-soaked.

B. References

REFERENCE	*DESIGNATION*
AMM TASK 36-00-00-860-801-A/200	PNEUMATIC ENERGY - AIR BLEED THROUGH ONE OF THE ENGINES
AMM TASK 36-00-00-860-802-A/200	PNEUMATIC ENERGY - AIR BLEED THROUGH THE APU

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 841-004-A

(1) Supply the pneumatic energy (AMM TASK 36-00-00-860-801-A/200) or (AMM TASK 36-00-00-860-802-A/200).

CAUTION: MAKE SURE THAT THE EXTERNAL CONDITIONED-AIR SOURCE IS NOT CONNECTED TO THE AIRCRAFT. THE COOLING PACKS CANNOT CONTROL THE AIR TEMPERATURE IF YOU ALSO OPERATE THE EXTERNAL CONDITIONED-AIR SOURCE, AND DAMAGE TO EQUIPMENT CAN OCCUR.

(2) Set the pushbuttons below as follows:

– PACK 1 - ON.

– PACK 2 - ON.

– GASPER - ON.

– RECIRC - ON.

J. Procedure to Turn the Cooling Packs On under Cold Soak Conditions (Figure 201)

SUBTASK 861-006-A

CAUTION: DO NOT SET THE TEMPERATURE CONTROLLER KNOB IN FULL HOT POSITION DURING THIS PROCEDURE. A THERMAL SHOCK CAN CAUSE DAMAGE TO THE INTERIOR FINISHING.

(1) When the outside air temperature is below 8°C:

NOTE: 1. A difference in the temperature indication of the cockpit and that of the passenger cabin can occur because of the sensor position. If it occurs, use the cockpit temperature indication as a reference for this task.

2. The procedures described below are mainly applicable to pack 2 (passenger cabin temperature controller), but this can also be applicable to pack 1 (cockpit temperature controller) at the operator's discretion.

3. To turn both packs (1 and 2) on, do this procedure for pack 1 first.

(a) Pull the controller knob to select the Manual Control (Refer to (Figure 201).

(b) Set the controller knob to the 9 o'clock position and wait 3 minutes at this position.

(c) Push the controller knob to select the automatic control.

(d) Keep the controller knob at the 9 o'clock position for 2 minutes.

(e) Select the desired temperature using the controller knob.

(2) When the outside air temperature is between 8°C and 15°C:

(a) With the automatic controller selected, set the controller knob at the full, cold position and wait 3 minutes at this position.

(b) Select the desired temperature using the controller knob.