



AIRCRAFT MAINTENANCE MANUAL

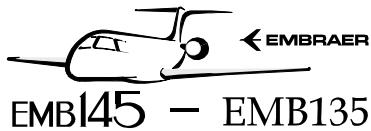
ENGINE BLEED VALVE - REMOVAL/INSTALLATION

EFFECTIVITY: ALL

1. General

- A. This section gives the procedures to remove and install the engine bleed valve.
- 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
36-11-05-000-801-A	ENGINE BLEED VALVE - REMOVAL	ALL
36-11-05-400-801-A	ENGINE BLEED VALVE - INSTALLATION	ALL
36-11-05-000-802-A	FILTER - REMOVAL	FOR AIRCRAFT WITH ENGINE BLEED SHUT- OFF VALVE P/N 816601-1 OR 816607-1
36-11-05-400-802-A	FILTER - INSTALLATION	FOR AIRCRAFT WITH ENGINE BLEED SHUT- OFF VALVE P/N 816601-1 OR 816607-1
36-11-05-040-801-A	ENGINE BLEED VALVE - DEACTIVATION	ALL
36-11-05-440-801-A	ENGINE BLEED VALVE - REACTIVATION	ALL



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TASK 36-11-05-000-801-A

EFFECTIVITY: ALL

2. ENGINE BLEED VALVE - REMOVAL

A. General

- (1) This task gives the instructions to remove the engine bleed valve.
- (2) This task is applicable to the engine bleed valve of the LH/RH pylons.

B. References

REFERENCE	DESIGNATION
AMM MPP 06-43-00/100	- COMPONENT LOCATION
S.B.145-36-0048	-

C. Zones and Accesses

ZONE	PANEL/DOOR	LOCATION
414	414DB	LH pylon
424	424DB	RH pylon

D. Tools and Equipment

Not Applicable

E. Auxiliary Items

Not Applicable

F. Consumable Materials

Not Applicable

G. Expandable Parts

Not Applicable

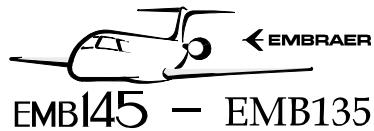
H. Persons Recommended

QTY	FUNCTION	PLACE
1	Does the task	LH/RH pylons

I. Preparation

SUBTASK 841-002-A

- (1) Remove access panels 414DB and 424DB ([AMM MPP 06-43-00/100](#)).
- (2) On the circuit breaker panel, open these circuit breakers and attach a DO-NOT-CLOSE tag to them.
 - EBV 1 (Location Tip: DC BUS 1/AIR COND/PNEU/EBV 1).
 - EBV 2 (Location Tip: DC BUS 2/PNEU/EBV 2).



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J. Removal ([Figure 401](#))

SUBTASK 020-002-A

EFFECTIVITY: AIRCRAFT PRE-MOD. S.B. 145-36-0028

WARNING: DO NOT TOUCH THE BLEED-AIR SYSTEM DUCTS OR COMPONENTS IMMEDIATELY AFTER THE ENGINE OR APU STOPS BECAUSE OF THE HIGH BLEED-AIR TEMPERATURE.

- (1) Disconnect the electrical connector (9).
- (2) (For A/C POST-MOD. [S.B.145-36-0048](#)) Remove the blankets from the Marman V-clamps (7) and (12).
- (3) Remove the nut (1), washers (2), (3), (5), and bolt (6) from the anti-rotation support (4).
- (4) Remove the Marman V-Clamps (7), (12) and clamps (11), (8).
- (5) Disconnect the engine bleed valve (10) from the engine bleed ducts.
- (6) Remove the engine bleed valve (10).
- (7) Install protective plastic plugs to the ducts.

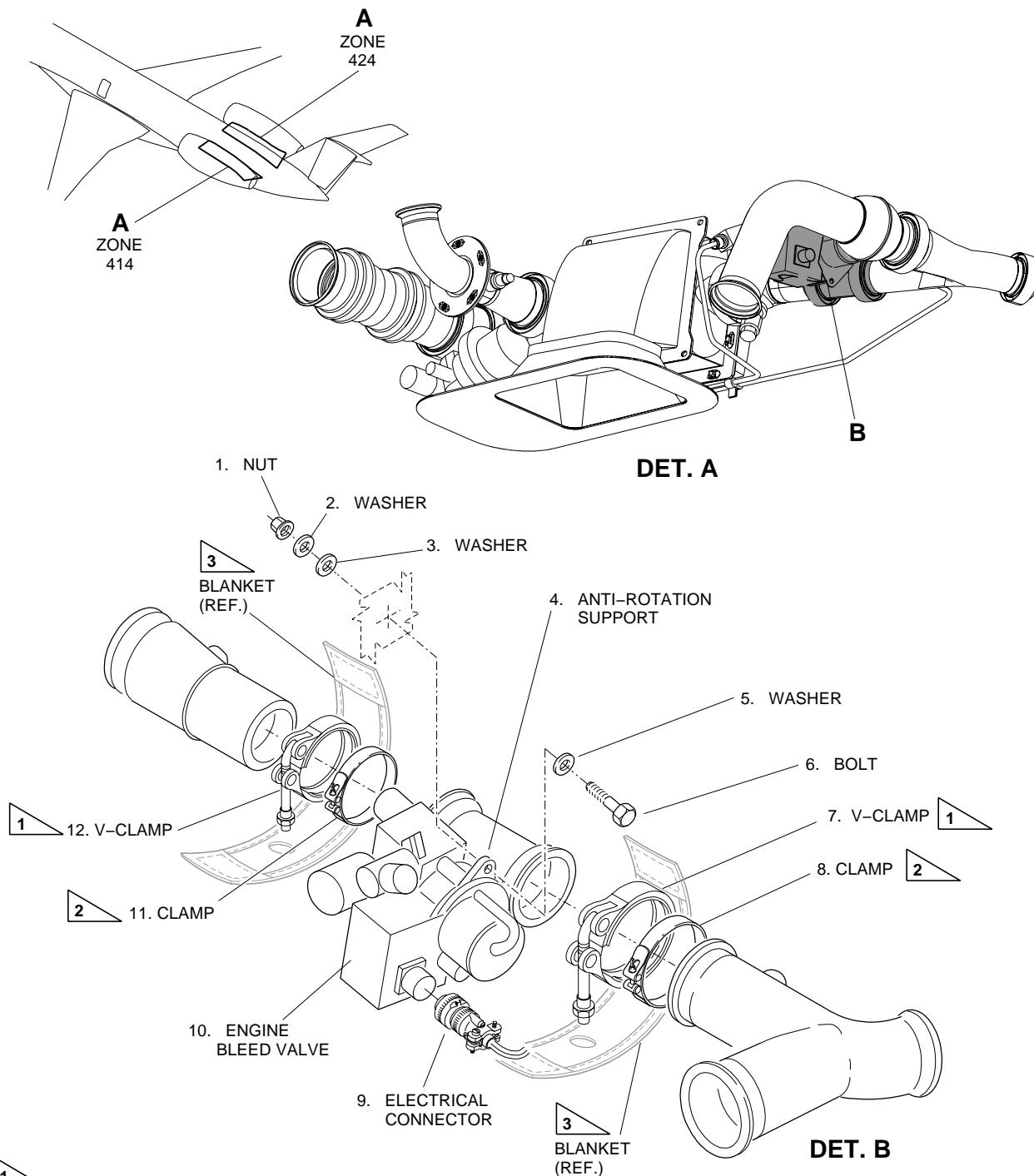
K. Removal ([Figure 402](#))

SUBTASK 020-003-A

EFFECTIVITY: AIRCRAFT POST-MOD. S.B. 145-36-0028

WARNING: DO NOT TOUCH THE BLEED-AIR SYSTEM DUCTS OR COMPONENTS IMMEDIATELY AFTER THE ENGINE OR APU STOPS BECAUSE OF THE HIGH BLEED-AIR TEMPERATURE.

- (1) Disconnect the electrical connector (4).
- (2) Remove the bolt (9) and washer (10) from the anti-rotation support (1).
- (3) Remove the tube (8) from the T -Connection (REF.).
- (4) Install the protective plastic plug to the T -Connection (REF.).
- (5) (For A/C POST-MOD. [S.B.145-36-0048](#)) Remove the blankets (REF.) from the Marman V-Clamps (6) and (2).
- (6) Remove the Marman V-Clamps (2) and (6) and disconnect the engine bleed valve (5) from the ducts.
- (7) Remove the Clamps (7) and (3) from the engine bleed valve (5) and the ducts.
- (8) Remove the engine bleed valve (5).
- (9) Install the protective plastic plugs to the ducts.
- (10) Install protective plastic plugs to the tube (8) and to the engine bleed valve (5).

EFFECTIVITY: AIRCRAFT PRE-MOD. SB 145-36-0028
Engine Bleed Valve - Removal/Installation
Figure 401


1 TORQUE: 4.5 – 5.7 Nm (40 – 50 lb.in).

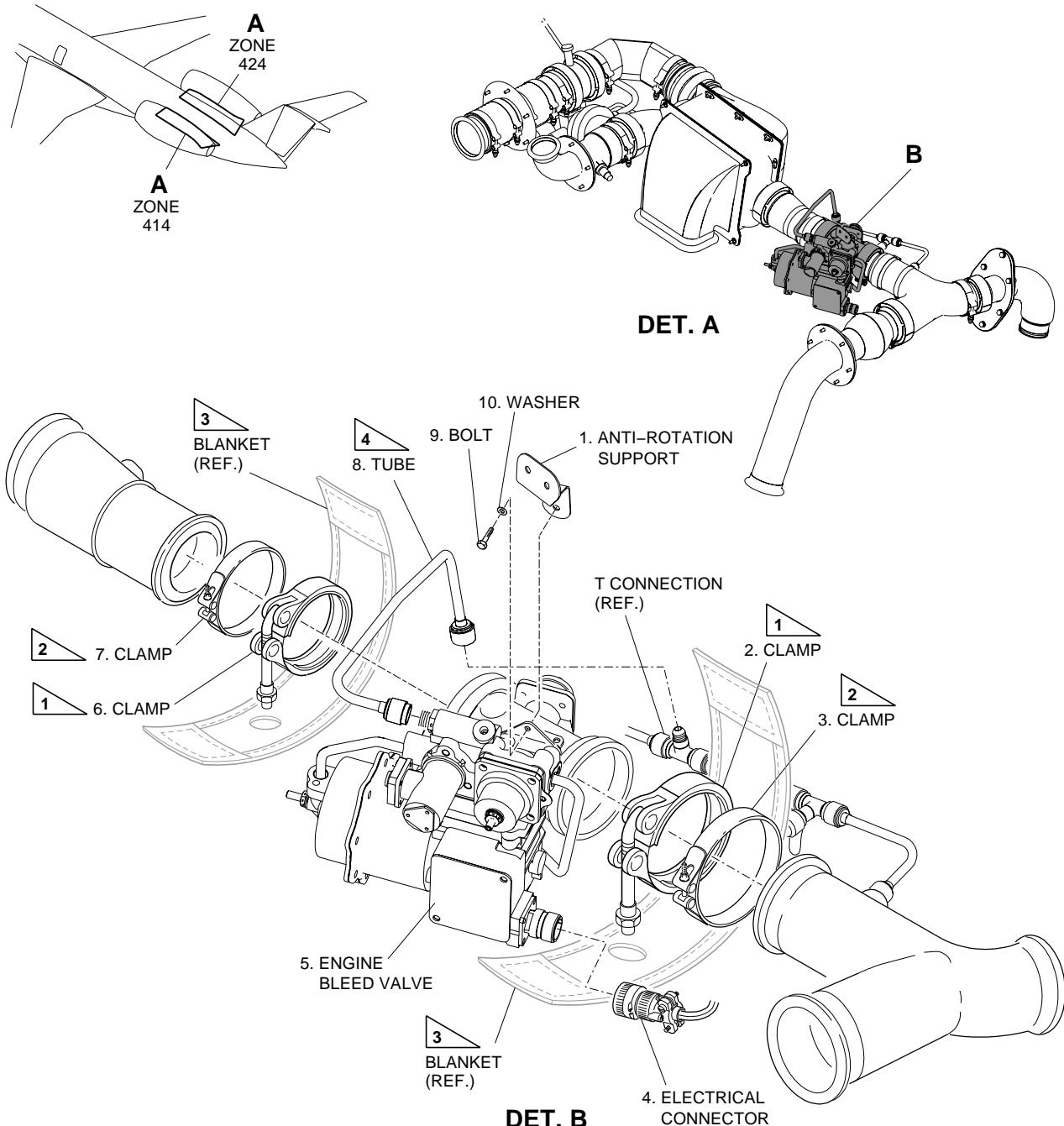
REFER TO TASK 20-10-10-910-801-A FOR CORRECT INSTALLATION OF V-CLAMP.

2 TORQUE: 2.26 – 2.82 Nm (20 – 25 lb.in).

3 FOR AIRCRAFT POST-MOD. SB 145-36-0048.

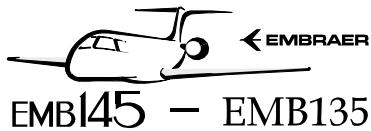
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EFFECTIVITY: AIRCRAFT POST-MOD. SB 145-36-0028
Engine Bleed Valve - Removal/Installation
Figure 402



- 1** TORQUE: 4.5 – 5.7 N.m (40 – 50 lb.in)
REFER TO TASK 20-10-10-910-801-A FOR CORRECT INSTALLATION OF V-CLAMP.
- 2** TORQUE: 2.26 – 2.82 Nm (20 – 25 lb.in)
- 3** FOR A/C POST-MOD. S.B. 145-36-0048.
- 4** TORQUE: 15.2 – 16.9 Nm (135 – 150 lb.in)

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TASK 36-11-05-400-801-A

EFFECTIVITY: ALL

3. ENGINE BLEED VALVE - INSTALLATION

A. General

- (1) This task gives the instructions to install the engine bleed valve.
- (2) This task is applicable to the engine bleed valve of the LH/RH pylons.

B. References

REFERENCE	DESIGNATION
AMM MPP 06-43-00/100	- COMPONENT LOCATION
AMM TASK 20-10-10-910-801-A/200	V-BAND CLAMPS - INSTALLATION
AMM TASK 36-00-00-700-803-A/500	AIR BLEED SYSTEM - OPERATIONAL TEST
S.B.145-36-0048	-

C. Zones and Accesses

ZONE	PANEL/DOOR	LOCATION
414	414DB	LH pylon
424	424DB	RH pylon

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	LH/RH pylons

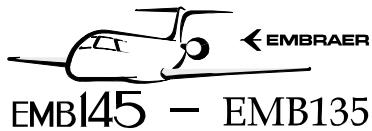
I. Installation (Figure 401)

SUBTASK 420-002-A

EFFECTIVITY: AIRCRAFT PRE-MOD. S.B. 145-36-0028

- (1) Remove the protective plastic plugs from the ducts.

CAUTION: BEFORE YOU INSTALL THE ENGINE BLEED VALVE, MAKE SURE THAT IT IS NOT LOCKED IN THE CLOSED POSITION.



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- (2) Put the engine bleed valve (10) in position, with the arrow in the bleed-air-flow direction.

CAUTION: REFER TO AMM TASK 20-10-10-910-801-A/200 FOR CORRECT INSTALLATION OF MARMAN V-CLAMPS.

- (3) Connect the engine bleed valve ducts with the Marman clamps (7), (10) and clamps (11), (8).
- (4) Tighten the Marman clamps (7) and (10) and apply the torque shown in (Figure 401).
- (5) Install the bolt (6), washers (5), (3), (2) and the nut (1) to connect the anti-rotation support (4).
- (6) (For A/C POST-MOD. [S.B.145-36-0048](#)) Install the blankets to the Marman V-clamps (12) and (7).
- (7) Connect the electrical connector (9).

J. Installation (Figure 402)

SUBTASK 420-003-A

EFFECTIVITY: AIRCRAFT POST-MOD. S.B. 145-36-0028

- (1) Remove the protective plastic plugs from the tube (8) and from the engine bleed valve (5).
- (2) Put the engine bleed valve (5) in position with the arrow in the bleed-air-flow direction.
- (3) Install the tube (8) to the engine bleed valve (5).
- (4) Remove the protective plastic plug from the T - connection (REF.).
- (5) Install the tube (8) to the T - connection (REF.).

CAUTION: BEFORE YOU INSTALL THE ENGINE BLEED VALVE, MAKE SURE THAT IT IS NOT LOCKED IN THE CLOSED POSITION.

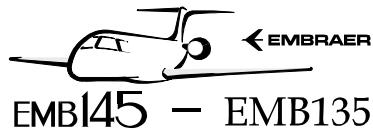
- (6) Install the engine bleed valve (5) to the anti-rotation support (1).
- (7) Install the bolt (9) and washer (10) to connect the anti-rotation support (1).
- (8) Connect the engine bleed-valve ducts with the Marman V-Clamps (2) and (6) and clamps (7) and (3) to the engine bleed valve (5).

CAUTION: REFER TO AMM TASK 20-10-10-910-801-A/200 FOR CORRECT INSTALLATION OF MARMAN V-CLAMPS.

- (9) Tighten the Marman clamps (2) and (6) and apply the torque shown in (Figure 402).
- (10) (For A/C POST-MOD. [S.B.145-36-0048](#)) Install the blankets (REF.) to the Marman V-Clamps (2) and (6).
- (11) Connect the electrical connector (4).

K. Follow-on

SUBTASK 842-002-A



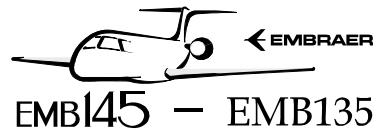
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- (1) Do the operational test of the Air Bleed System ([AMM TASK 36-00-00-700-803-A/500](#)).

CAUTION: DO NOT INSTALL THE ACCESS PANELS BEFORE YOU DO THE OPERATIONAL TEST. A POSSIBLE LEAK CAN CAUSE STRUCTURAL DAMAGE TO THE PYLON.

- (2) Install access panels 414DB and 424DB ([AMM MPP 06-43-00/100](#)).
- (3) On the circuit breaker panel, close these circuit breakers and remove the DO-NOT-CLOSE tag from them.
 - EBV 1 (Location Tip: DC BUS 1/AIR COND/PNEU/EBV 1).
 - EBV 2 (Location Tip: DC BUS 2/PNEU/EBV 2).



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TASK 36-11-05-000-802-A

EFFECTIVITY: FOR AIRCRAFT WITH ENGINE BLEED SHUT-OFF VALVE P/N 816601-1 OR
816607-1

4. FILTER - REMOVAL

A. General

- (1) This task gives the instructions to remove the filter of the engine bleed valve.
- (2) This task is applicable to the engine bleed valve of the LH/RH pylons.

B. References

REFERENCE	DESIGNATION
AMM MPP 06-43-00/100	- COMPONENT LOCATION

C. Zones and Accesses

ZONE	PANEL/DOOR	LOCATION
414	414DB	LH pylon
424	424DB	RH pylon

D. Tools and Equipment

Not Applicable

E. Auxiliary Items

Not Applicable

F. Consumable Materials

Not Applicable

G. Expandable Parts

Not Applicable

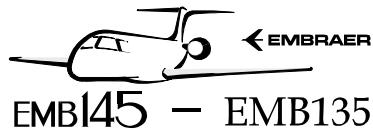
H. Persons Recommended

QTY	FUNCTION	PLACE
1	Does the task	LH/RH pylons

I. Preparation

SUBTASK 841-003-A

- (1) Remove access panels 414DB and 424DB ([AMM MPP 06-43-00/100](#)).
- (2) On the circuit breaker panel, open one of these circuit breakers, as applicable, and attach a DO-NOT-CLOSE tag to them.
 - EBV 1 (Location Tip: DC BUS 1/AIR COND/PNEU/EBV 1).
 - EBV 2 (Location Tip: DC BUS 2/PNEU/EBV 2).



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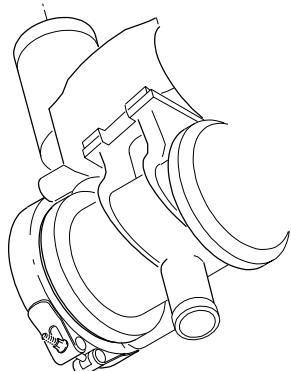
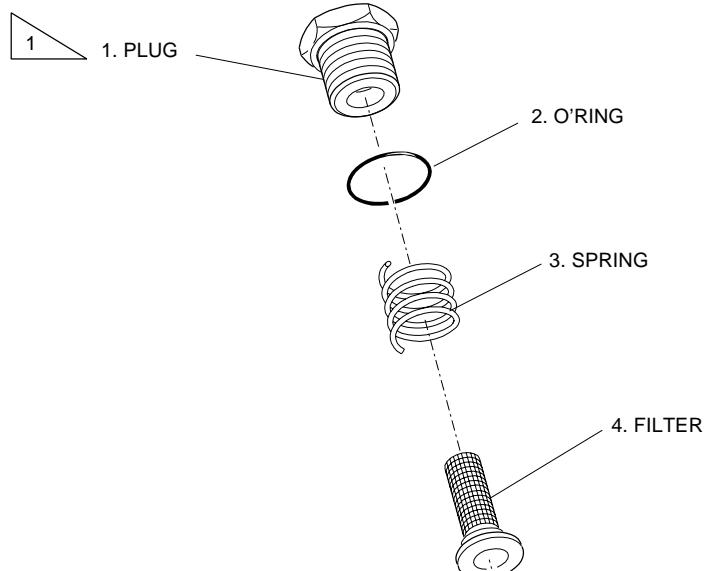
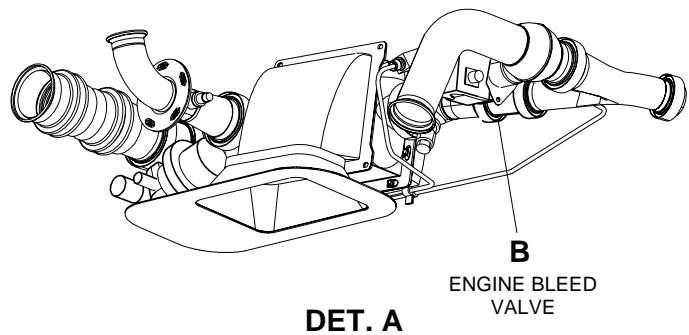
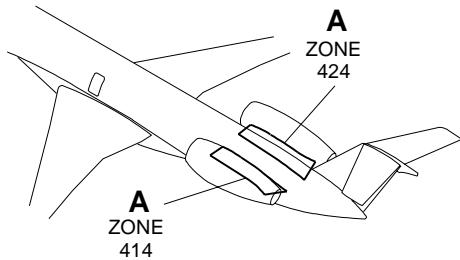
J. Removal ([Figure 403](#))

SUBTASK 020-004-A

WARNING: DO NOT TOUCH THE BLEED-AIR SYSTEM DUCTS OR COMPONENTS IMMEDIATELY AFTER THE ENGINE OR APU STOPS BECAUSE OF THE HIGH BLEED-AIR TEMPERATURE.

- (1) Remove the plug (1) from the engine bleed valve.
- (2) Remove the O-ring (2) and spring (3) from the filter (4).
- (3) Remove the filter (4) from the engine bleed valve.
- (4) Install the plug (1) to the engine bleed valve.

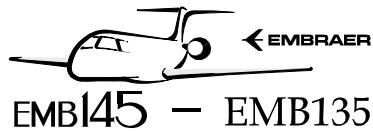
EFFECTIVITY: FOR AIRCRAFT WITH ENGINE BLEED SHUT-OFF VALVE P/N 816601-1 OR 816607-1
 Filter - Removal/Installation
 Figure 403



DET. B

1 TORQUE: 4.0 – 4.5 N.m (35 – 40 lb.in)

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TASK 36-11-05-400-802-A

EFFECTIVITY: FOR AIRCRAFT WITH ENGINE BLEED SHUT-OFF VALVE P/N 816601-1 OR
816607-1

5. FILTER - INSTALLATION

A. General

- (1) This task gives the instructions to install the filter in the engine bleed valve.
- (2) This task is applicable to the engine bleed valve of the LH/RH pylons.

B. References

REFERENCE	DESIGNATION
AMM MPP 06-43-00/100	- COMPONENT LOCATION

C. Zones and Accesses

ZONE	PANEL/DOOR	LOCATION
414	414DB	LH pylon
424	424DB	RH pylon

D. Tools and Equipment

ITEM	DESCRIPTION	PURPOSE	QTY
Commercially available	Torque wrench (Range: 0 - 75 lb.in)	To tighten the plug	

E. Auxiliary Items

Not Applicable

F. Consumable Materials

SPECIFICATION (BRAND)	DESCRIPTION	QTY
MS20995C20	Lockwire	AR
SAE-AS8660	Silicone Compound (Dow Corning 4 or Dow Corning 44)	AR
	Lubricant Mo-Lith No.2	AR

G. Expandable Parts

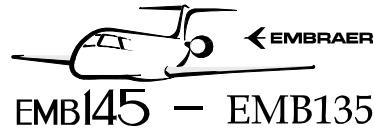
Not Applicable

H. Persons Recommended

QTY	FUNCTION	PLACE
1	Does the task	LH/RH pylons

I. Installation (Figure 403)

SUBTASK 420-004-A



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- (1) Remove the plug (1) from the engine bleed valve.

CAUTION: REFER TO FIGURE 403 FOR THE CORRECT INSTALLATION POSITION OF THE FILTER IN THE ENGINE BLEED VALVE.

- (2) Install the filter (4) and spring (3) in the hole of the actuator housing in the engine bleed valve (Ref.).

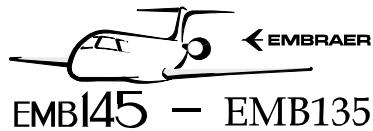
WARNING: WEAR GLOVES WHEN YOU USE SILICONE COMPOUND (DC 4 or DC 44) AND DO NOT LET IT TOUCH YOUR SKIN OR EYES. IF YOU TOUCH THIS GREASE, EMBRAER RECOMMENDS YOU TO DO THE USUAL HYGIENE PROCEDURES (FULLY WASH YOUR HANDS AND THE OTHER EXPOSED REGIONS OF THE SKIN).

- (3) Lubricate the O-ring (3) with grease silicone compound.
- (4) Lubricate the threads of the plug and actuator housing with thread lubricant (Mo-lith n°2).
- (5) Install the O-ring (2) and plug (1) in the hole actuator housing of the engine bleed valve (Ref.).
- (6) Tighten the plug (1) to the specified torque. Refer to (Figure 403).

J. Follow-on

SUBTASK 842-003-A

- (1) Install the access panels 414DB and 424DB ([AMM MPP 06-43-00/100](#)).
- (2) On the circuit breaker panel, close these circuit breakers and remove the DO-NOT-CLOSE tag from them.
 - EBV 1 (Location Tip: DC BUS 1/AIR COND/PNEU/EBV 1).
 - EBV 2 (Location Tip: DC BUS 2/PNEU/EBV 2).



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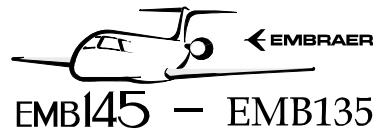
TASK 36-11-05-040-801-A

EFFECTIVITY: ALL

6. ENGINE BLEED VALVE - DEACTIVATION

A. General

- (1) This task gives the procedure to deactivate the engine bleed valve.
- (2) It is permitted to dispatch the aircraft with the left engine bleed valve closed if:
 - (a) When the APU air bleed system operates correctly and supplies bleed air:
 1. the engine bleed valve is secured closed.
 2. the cross bleed valve is closed.
 3. the aircraft is not operated in known or forecast icing conditions.
 - (b) When the APU air bleed system does not operate:
 1. the engine bleed valve is secured closed.
 2. flight is at or below FL 250.
 3. aircraft is not operated in known or forecast icing conditions.
- (3) It is permitted to dispatch the aircraft with the right engine bleed valve closed if:
 1. the engine bleed valve is secured closed.
 2. flight is at or below FL 250.
 3. aircraft is not operated in known or forecast icing conditions.
- (4) It is permitted to dispatch the aircraft with the two engine bleed valves closed if:
 - (a) When the APU bleed system operates correctly and supplies bleed air
 1. the engine bleed valve is secured closed.
 2. flight is at or below 18000 ft. MSL.
 3. aircraft is not operated in known or forecast icing conditions.
 - (b) When APU bleed does not operate:
 1. the engine bleed valve is secured closed.
 2. flight is at or below 10000 ft. MSL.
 3. flight is in unpressurized configuration.
 4. aircraft is not in known or forecast icing conditions.
 5. ambient temperature on the ground is below ISA + 21 °C.



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B. References

REFERENCE	DESIGNATION
AMM MPP 06-43-00/100	- COMPONENT LOCATION

C. Zones and Accesses

ZONE	PANEL/DOOR	LOCATION
414	414DB	LH pylon
424	424DB	RH pylon

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	LH/RH pylons

I. Preparation

SUBTASK 841-004-A

- (1) Remove access panels 414DB and 424DB ([AMM MPP 06-43-00/100](#)).

J. Engine Bleed Valve - Deactivation Procedure (Figure 401)

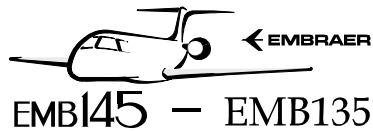
SUBTASK 040-002-A

EFFECTIVITY: AIRCRAFT PRE-MOD. S.B. 145-36-0028

- (1) Disconnect, insulate, and stow the electrical connector.
- (2) Remove the locking screw from the actuator housing. It has a retaining cable.
- (3) Turn the valve to the closed position. The locking crank has a hex head. You can put a wrench on it to turn the valve.
- (4) Install the locking screw in the hole in the actuator housing that is nearest to the locking crank.

K. Engine Bleed Valve - Deactivation Procedure (Figure 402)

SUBTASK 040-003-A



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EFFECTIVITY: AIRCRAFT POST-MOD. S.B. 145-36-0028

- (1) Engine-bleed pressure regulator and shutoff valve closed
- (2) Make sure that the pneumatic system is depressurized and that the solenoid is deenergized.
- (3) Loosen the position-indicator locking screw.
- (4) Slide the lock into the recess of the cover plate.
- (5) **NOTE:** A rotation of the screw can be necessary to center the lock in the recess of the cover plate.

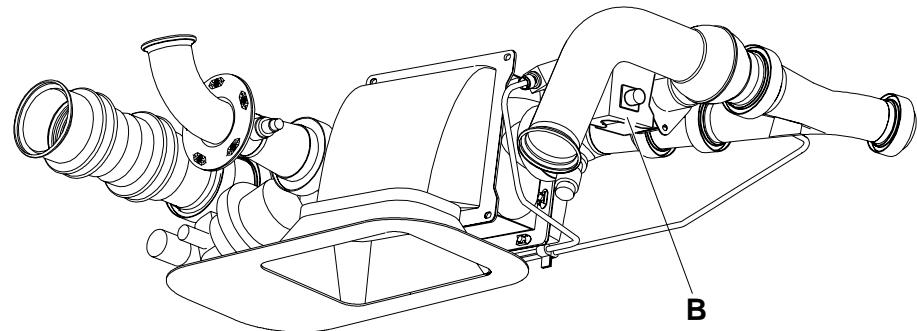
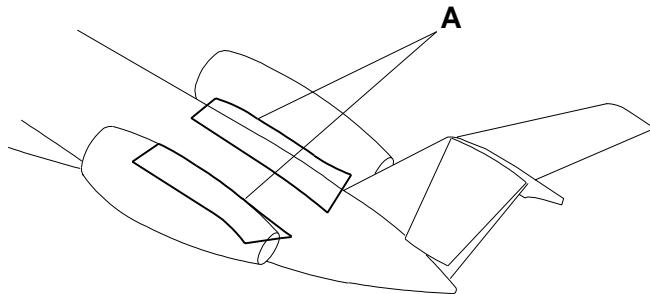
Torque the position-indicator lock screw to 11 to 13 lb-in.

L. Follow-On

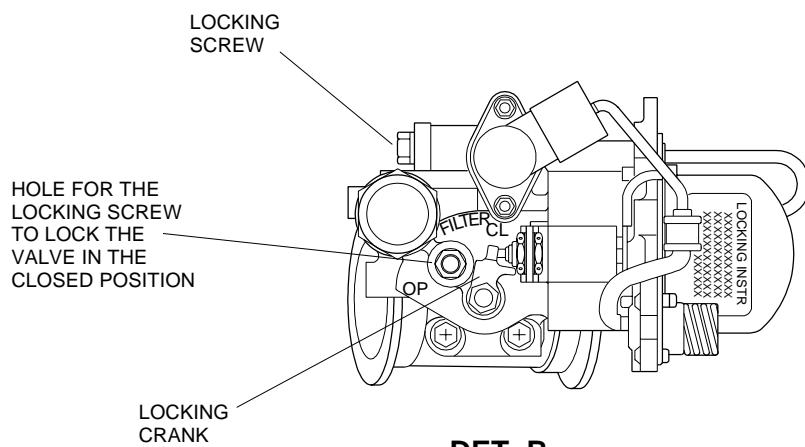
SUBTASK 842-004-A

- (1) Install access panels 414DB and 424DB ([AMM MPP 06-43-00/100](#)).

EFFECTIVITY: AIRCRAFT PRE-MOD. SB 145-36-0028
Engine Bleed Valve - Deactivation
Figure 404



DET. A



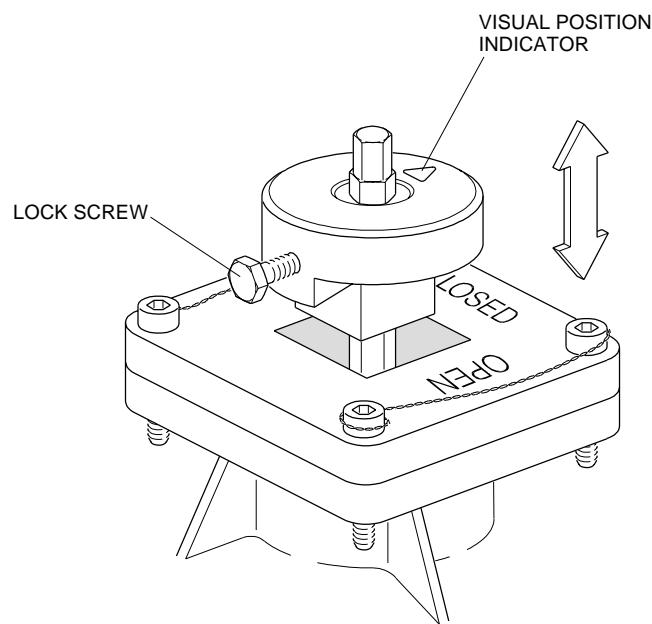
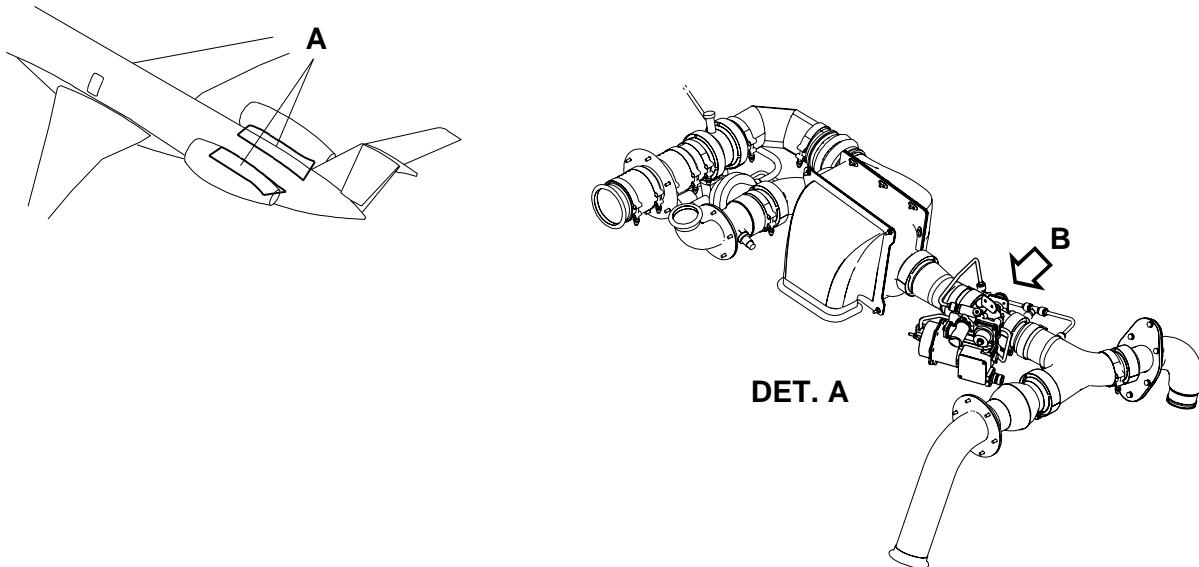
DET. B

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EFFECTIVITY: AIRCRAFT POST-MOD. SB 145-36-0028

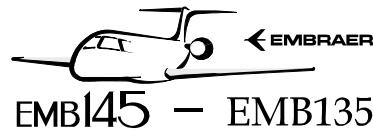
Engine Bleed Valve - Deactivation

Figure 405



DET. B

145RMM360021.MCE



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TASK 36-11-05-440-801-A

EFFECTIVITY: ALL

7. ENGINE BLEED VALVE - REACTIVATION

A. General

- (1) This task gives the instructions to reactivate the engine bleed valve.
- (2) This task is applicable to the engine bleed valve of the LH/RH pylons.

B. References

REFERENCE	DESIGNATION
AMM MPP 06-43-00/100	- COMPONENT LOCATION

C. Zones and Accesses

ZONE	PANEL/DOOR	LOCATION
414	414DB	LH pylon
424	424DB	RH pylon

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	LH/RH pylons

I. Preparation

SUBTASK 420-005-A

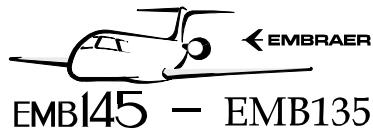
- (1) Remove access panels 414DB and 424DB ([AMM MPP 06-43-00/100](#)).

J. Engine Bleed Valve - Reactivation Procedure (Figure 401)

SUBTASK 440-002-A

EFFECTIVITY: AIRCRAFT PRE-MOD. S.B. 145-36-0028

- (1) Remove the locking screw from the hole in the actuator housing that is nearest to the locking crank.
- (2) Turn the valve to the OPEN position.



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NOTE: The locking crank has a hex head. You can put a wrench on it to turn the valve.

- (3) Install the locking screw in the actuator housing. It has a retaining cable.
- (4) Connect the electrical connector.

K. Engine Bleed Valve - Reactivation Procedure (Figure 402)

SUBTASK 440-003-A

EFFECTIVITY: AIRCRAFT POST-MOD. S.B. 145-36-0028

CAUTION: • MAKE SURE THAT THE PNEUMATIC SYSTEM IS DEPRESSURIZED AND THAT THE SOLENOID IS DEENERGIZED.

- A ROTATION OF THE SCREW MAY BE NECESSARY TO CENTER THE LOCK IN THE RECESS OF THE COVER PLATE.

- (1) Loosen the lock screw from the lock assembly.
- (2) Turn the position indicator to the OPEN position.
- (3) Slide the lock into the recess of the cover plate.
- (4) Torque the position indicator lock screw to 11 to 13 lb-in.

L. Follow-on

SUBTASK 842-005-A

- (1) Install access panels 414DB and 424DB ([AMM MPP 06-43-00/100](#)).