



## STARTER CONTROL VALVE - REMOVAL/INSTALLATION

EFFECTIVITY: ALL

### 1. General

- A. This section gives the procedures to remove/install the SCV (Starter Control Valve) and the SCV Filter.
- 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
80-10-02-000-801-A	STARTER CONTROL VALVE - REMOVAL	ALL
80-10-02-400-801-A	STARTER CONTROL VALVE - INSTALLA- TION	ALL
80-10-02-000-802-A	STARTER CONTROL-VALVE FILTER - REMOVAL	ALL
80-10-02-400-802-A	STARTER CONTROL-VALVE FILTER - IN- STALLATION	ALL



EMB145 - EMB135

AIRCRAFT  
MAINTENANCE MANUAL

TASK 80-10-02-000-801-A

EFFECTIVITY: ALL

2. STARTER CONTROL VALVE - REMOVAL

A. General

- (1) This procedure is applicable to the LH and RH engines.

B. References

REFERENCE	DESIGNATION
AMM MPP 71-00-00/200	- MAINTENANCE PRACTICES
AMM TASK 71-12-01-000-801-A/400	ENGINE LOWER COWLING - OPENING

C. Zones and Accesses

ZONE	PANEL/DOOR	LOCATION
413	Lower cowling	LH engine
423	Lower cowling	RH engine

D. Tools and Equipment

Not Applicable

E. Auxiliary Items

ITEM	DESCRIPTION	PURPOSE	QTY
Commercially available	Ladder	Access to the engine	1

F. Consumable Materials

Not Applicable

G. Expandable Parts

Not Applicable

H. Persons Recommended

QTY	FUNCTION	PLACE
1	Does the task	Engine

I. Preparation

SUBTASK 841-002-A

**WARNING: BEFORE YOU DO THE TASK, OBEY THE SAFETY PRECAUTIONS GIVEN IN AMM MPP 71-00-00/200 TO PREVENT INJURY TO PERSONS AND DAMAGE TO THE MATERIAL.**

- (1) On the circuit breaker panel, open these circuit breakers and attach a DO-NOT-CLOSE tag to them:
- START 1/2.



- (2) Put a ladder in the work area.
- (3) Open the lower cowling ( [AMM TASK 71-12-01-000-801-A/400](#)) to get access to the engine.
- (4) On the air conditioning/pneumatic panel (on the overhead panel), close all the bleed valves and wait 3 (three) minutes minimum to make sure that the residual pressure in the duct is released.

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

SUBTASK 020-002-A

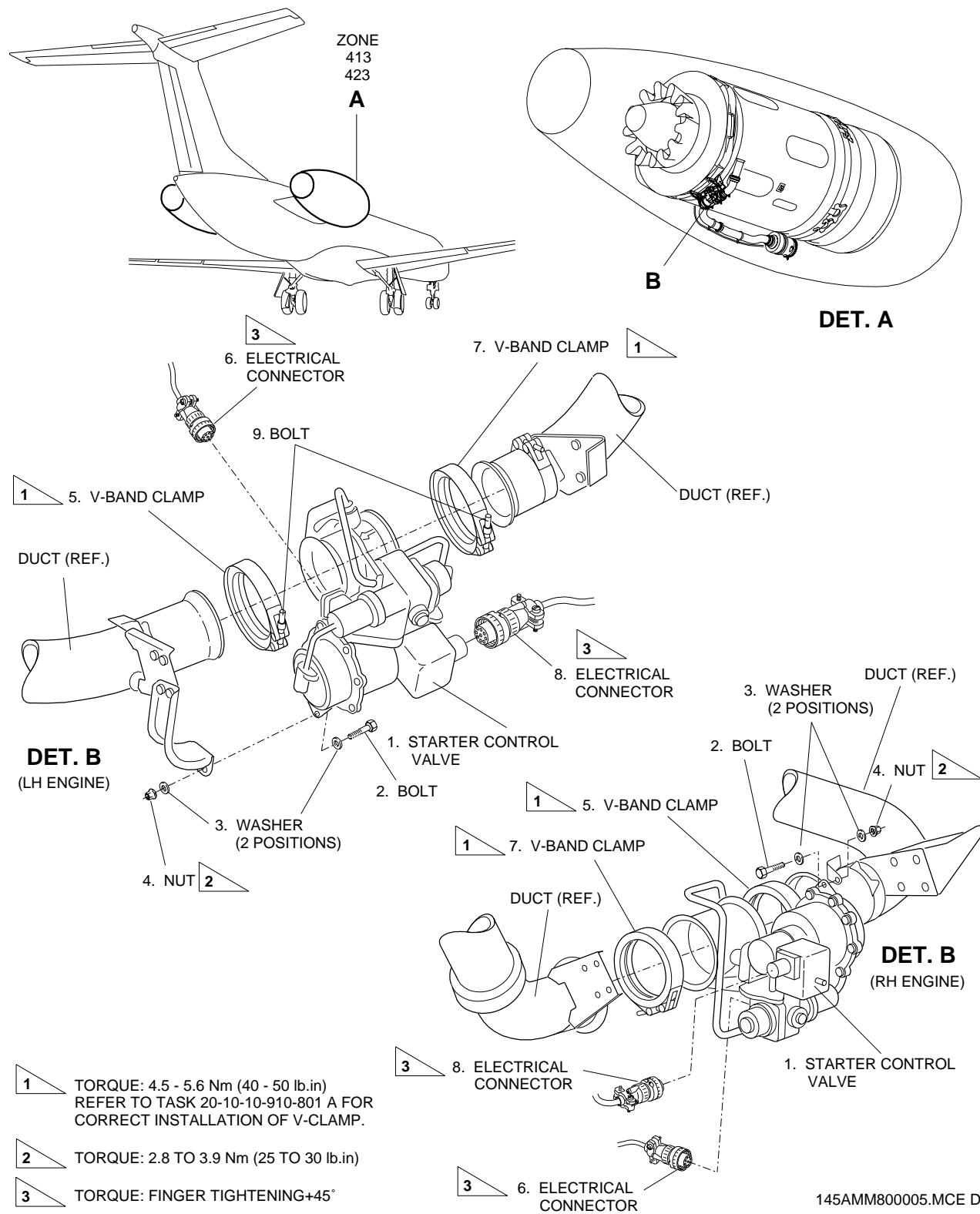
**WARNING: INJURY TO PERSONS CAN OCCUR IF THE REMAINING PRESSURE IN THE DUCT IS NOT RELEASED BEFORE THE STARTER CONTROL VALVE IS REMOVED.**

- (1) Disconnect the electrical connectors (6) and (8) from the SCV.
- (2) Release the V-band clamps (5) and (7).
- (3) Remove the bolt (2), washer (3), and nut (4) which attach the SCV to the engine support.
- (4) Remove the SCV.
- (5) Install protection caps to the electrical connectors (6) and (8).
- (6) Install caps to the ports of the starter air ducts.

**EFFECTIVITY: ALL**

Starter Control Valve - Removal/Installation

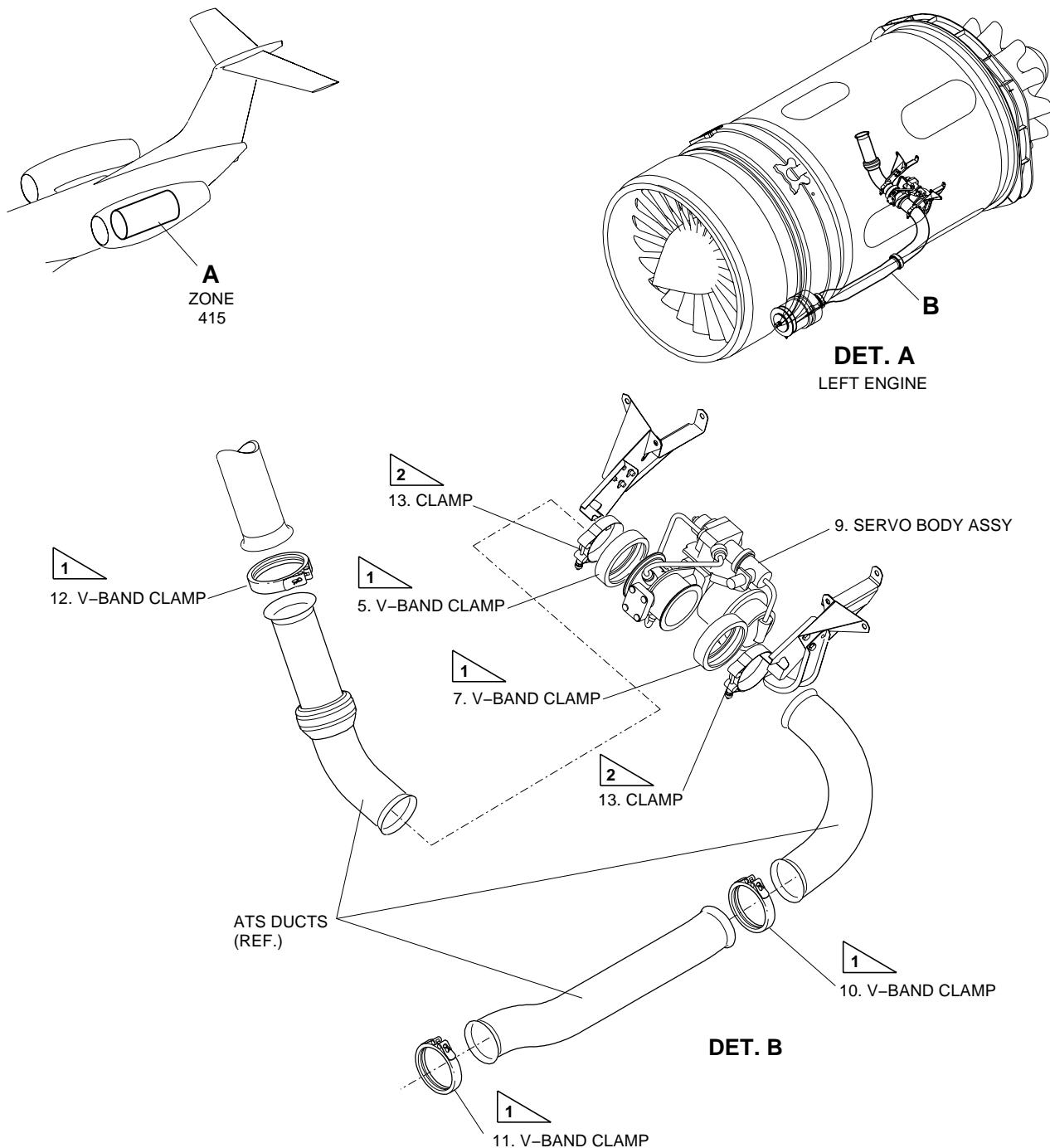
Figure 401 - Sheet 1



**EFFECTIVITY: ALL**

Starter Control Valve - Removal/Installation

Figure 401 - Sheet 2





EMB145 - EMB135

AIRCRAFT  
MAINTENANCE MANUAL

TASK 80-10-02-400-801-A

EFFECTIVITY: ALL

3. STARTER CONTROL VALVE - INSTALLATION

A. General

(1) This procedure is applicable to the LH and RH engines.

B. References

REFERENCE	DESIGNATION
AMM MPP 71-00-00/200	- MAINTENANCE PRACTICES
AMM TASK 71-12-01-400-801-A/400	ENGINE LOWER COWLING - CLOSING

C. Zones and Accesses

ZONE	PANEL/DOOR	LOCATION
413	Lower cowling	LH engine
423	Lower cowling	RH engine

D. Tools and Equipment

ITEM	DESCRIPTION	PURPOSE	QTY
Commercially available	Torque wrench	To apply torque	

E. Auxiliary Items

ITEM	DESCRIPTION	PURPOSE	QTY
Commercially available	Ladder	Access to the engine	1

F. Consumable Materials

Not Applicable

G. Expandable Parts

Not Applicable

H. Persons Recommended

QTY	FUNCTION	PLACE
1	Does the task	Engine

I. Installation (Figure 401)

SUBTASK 420-002-A

**WARNING:** • BEFORE YOU DO THE TASK, OBEY THE SAFETY PRECAUTIONS GIVEN IN **AMM MPP 71-00-00/200** TO PREVENT INJURY TO PERSONS AND DAMAGE TO MATERIAL.

• INJURY TO PERSONS CAN OCCUR IF THE REMAINING PRESSURE IN THE DUCT IS NOT RELEASED BEFORE THE STARTER CONTROL VALVE IS REMOVED.

- (1) Remove the caps from the ports of the starter air ducts.
- (2) Remove the protection caps from the electrical connectors.

**CAUTION:** • THE INCORRECT ALIGNMENT OF THE DUCTS WILL MAKE IT NECESSARY TO APPLY TOO MUCH TORQUE AND CAUSE AN UNWANTED PRELOAD.

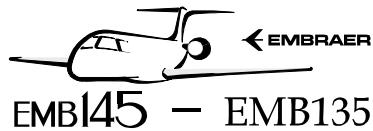
- WHILE YOU TIGHTEN THE V-BAND CLAMP, HAVE THE DUCT WEIGHT MANUALLY HELD.
- MAKE SURE THAT THERE IS A MINIMUM GAP OF 0.1 in (2.54 mm) BETWEEN THE V-BAND CLAMP (5) AND THE AIR-COOLED OIL COOLER LINE TO PREVENT A POSSIBLE CHAFING AND OIL LEAKAGE.
- MAKE SURE THAT THE CLAMP BOLT (9) IS NOT ASSEMBLED VERTICALLY TO PREVENT CHAFING AND POSSIBLE DAMAGE TO THE LOWER ENGINE COWLING.

- (3) Put the SCV at the air-duct starter lines and attach it with the V-band clamps (5) and (7). Tighten the clamps to the torque shown in (Figure 401).

**NOTE:** To get the minimum gap of 0.1 in (2.54 mm), if necessary, loosen the clamps and/or the support bolts of the ATS duct. Then adjust the gap and tighten the assembly again.

**CAUTION:** DURING THE LH ENGINE ASSEMBLY, MAKE SURE THAT THERE IS A MAXIMUM GAP OF 3.0 mm BETWEEN THE SCV-SERVO BODY ASSEMBLY (9) AND THE ENGINE REAR MOUNTING RING TO PREVENT CHAFING WITH THE LOWER ENGINE COWLING.

- (4) Install the bolt (2), washers (3), and nut (4). Tighten the bolts to the torque shown in (Figure 401).
- (5) If necessary, loosen the V-band clamps (10), (11), and (12), and the clamps (13).
- (6) Tighten the V-band clamps (5) and (7) to the torque shown in (Figure 401).
- (7) Connect the electrical connectors (6) and (8) to the SCV.



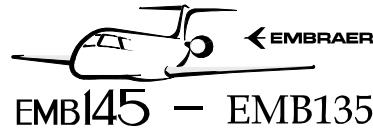
EMB145 - EMB135

AIRCRAFT  
MAINTENANCE MANUAL

J. Follow-on

SUBTASK 842-002-A

- (1) Close the lower cowling ( [AMM TASK 71-12-01-400-801-A/400](#)).
- (2) Remove the ladder.
- (3) On the circuit breaker panel, close these circuit breakers and remove the DO-NOT-CLOSE tag from them:
  - START 1/2.



EMB145 - EMB135

AIRCRAFT  
MAINTENANCE MANUAL

TASK 80-10-02-000-802-A

EFFECTIVITY: ALL

4. STARTER CONTROL-VALVE FILTER - REMOVAL

## A. General

- (1) This procedure is applicable to the LH and RH engines.

## B. References

REFERENCE	DESIGNATION
AMM MPP 71-00-00/200	- MAINTENANCE PRACTICES
AMM TASK 71-12-01-000-801-A/400	ENGINE LOWER COWLING - OPENING

## C. Zones and Accesses

ZONE	PANEL/DOOR	LOCATION
413	Lower cowling	LH engine
423	Lower cowling	RH engine

## D. Tools and Equipment

Not Applicable

## E. Auxiliary Items

ITEM	DESCRIPTION	PURPOSE	QTY
Commercially available	Ladder	Access to the engine	1

## F. Consumable Materials

Not Applicable

## G. Expandable Parts

Not Applicable

## H. Persons Recommended

QTY	FUNCTION	PLACE
1	Does the task	Engine

## I. Preparation

SUBTASK 841-003-A

**WARNING: BEFORE YOU DO THE TASK, OBEY THE SAFETY PRECAUTIONS GIVEN IN AMM MPP 71-00-00/200 TO PREVENT INJURY TO PERSONS AND DAMAGE TO THE MATERIAL.**

- (1) On the circuit breaker panel, open these circuit breakers and attach a DO-NOT-CLOSE tag to them:
- START 1/2.



EMB145 – EMB135

AIRCRAFT  
MAINTENANCE MANUAL

- (2) Put the ladder in the work area.
- (3) Open the lower cowling ( [AMM TASK 71-12-01-000-801-A/400](#)) to get access to the engine.
- (4) On the air conditioning/pneumatic panel (on the overhead panel), close all the bleed valves and wait 3 (three) minutes minimum to make sure that the residual pressure in the duct is released.

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

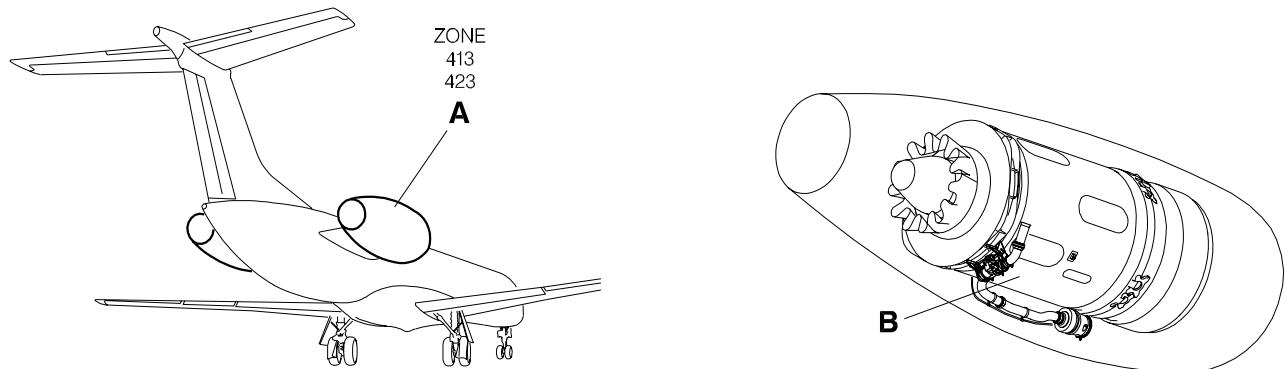
SUBTASK 020-003-A

- (1) Remove the tube assembly (1).
- (2) Remove the filter (2).

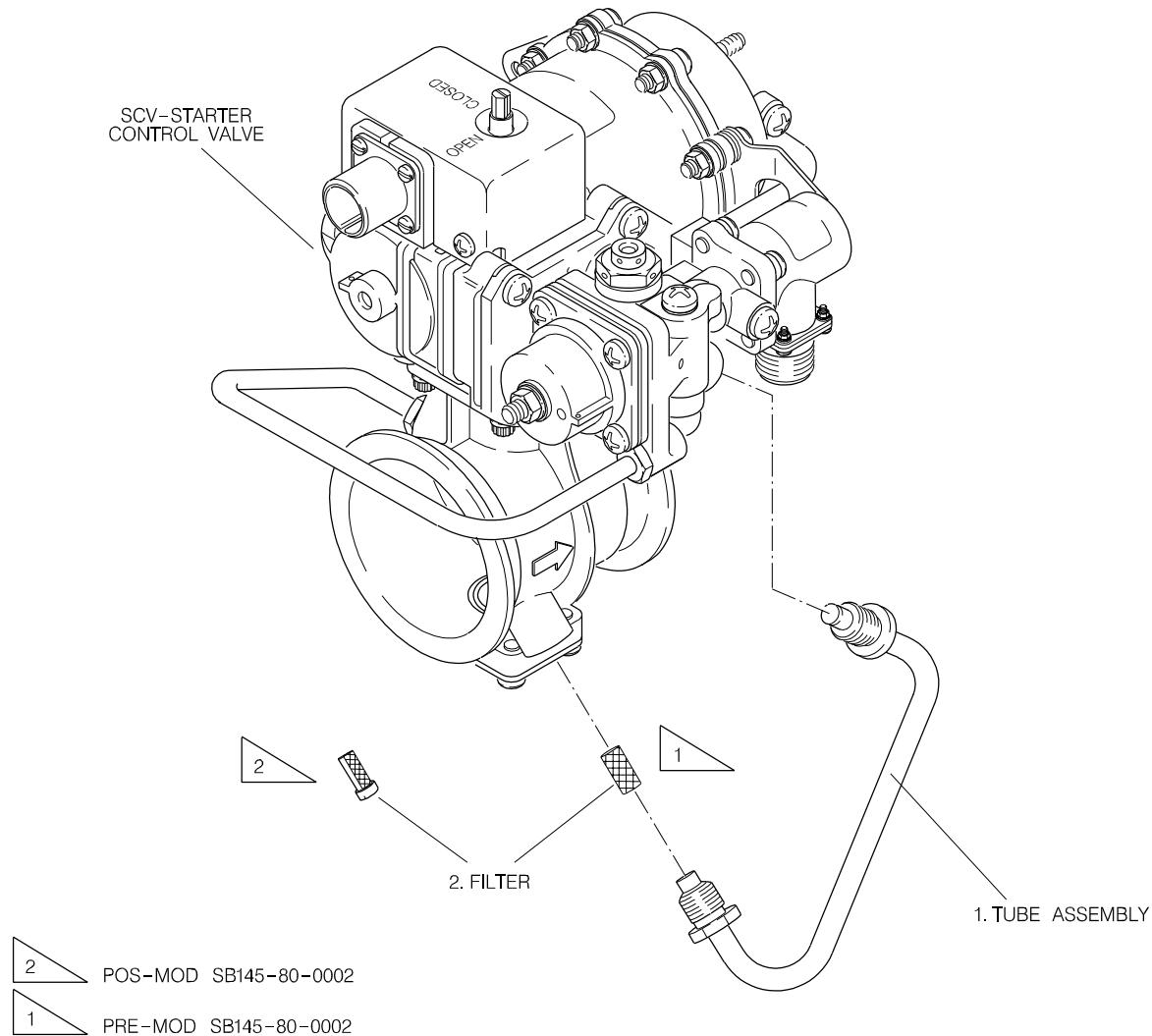
**EFFECTIVITY: ALL**

Starter Control-Valve Filter - Removal/Installation

Figure 402



**DET. A**



2 POS-MOD SB145-80-0002

1 PRE-MOD SB145-80-0002

AMM800015.MCE A



EMB145 - EMB135

AIRCRAFT  
MAINTENANCE MANUAL

TASK 80-10-02-400-802-A

EFFECTIVITY: ALL

5. STARTER CONTROL-VALVE FILTER - INSTALLATION

A. General

- (1) This procedure is applicable to the LH and RH engines.

B. References

REFERENCE	DESIGNATION
AMM MPP 71-00-00/200	- MAINTENANCE PRACTICES
AMM TASK 71-12-01-400-801-A/400	ENGINE LOWER COWLING - CLOSING
S.B.145-80-0002	-

C. Zones and Accesses

ZONE	PANEL/DOOR	LOCATION
413	Lower cowling	LH engine
423	Lower cowling	RH engine

D. Tools and Equipment

Not Applicable

E. Auxiliary Items

ITEM	DESCRIPTION	PURPOSE	QTY
Commercially available	Ladder	Access to the engine	1

F. Consumable Materials

Not Applicable

G. Expandable Parts

Not Applicable

H. Persons Recommended

QTY	FUNCTION	PLACE
1	Does the task	Engine

I. Installation (Figure 402)

**SUBTASK 420-003-A**

**WARNING: BEFORE YOU DO THE TASK, OBEY THE SAFETY PRECAUTIONS GIVEN IN AMM MPP 71-00-00/200 TO PREVENT INJURY TO PERSONS AND DAMAGE TO THE MATERIAL.**

- (1) (For aircraft PRE-MOD. S.B.145-80-0002) Install the filter (2).



EMB145 – EMB135

AIRCRAFT  
MAINTENANCE MANUAL

- (2) (For aircraft POST-MOD. [S.B.145-80-0002](#)) Install the filter assembly with the filter (2) turned downstream. After installation, the shield must be visible (filter assembly hidden) from the inlet port.

- (3) Install the tube assembly (1).

J. Follow-on

SUBTASK 842-003-A

- (1) Close the lower cowling ([AMM TASK 71-12-01-400-801-A/400](#)).
- (2) Remove the ladder.
- (3) On the circuit breaker panel, close these circuit breakers and remove the DO-NOT-CLOSE tag from them:
  - START 1/2.

