



EMB145 - EMB135

AIRCRAFT
MAINTENANCE MANUAL

UPPER COWLING - REMOVAL/INSTALLATION

EFFECTIVITY: ALL

1. General

- A. This section gives the procedures to remove/install the engine upper cowling.
- B. These procedures are applicable to the LH and RH engines.
- C. 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
71-11-01-000-801-A	ENGINE UPPER COWLING - REMOVAL	ALL
71-11-01-400-801-A	ENGINE UPPER COWLING - INSTALLATION	ALL



AIRCRAFT MAINTENANCE MANUAL

TASK 71-11-01-000-801-A

EFFECTIVITY: ALL

2. ENGINE UPPER COWLING - REMOVAL

A. General

- (1) Obey the instructions below to remove the engine upper cowling.

B. References

REFERENCE	DESIGNATION
AMM TASK 71-12-01-000-802-A/400	ENGINE LOWER COWLING - REMOVAL

C. Zones and Accesses

Not Applicable

D. Tools and Equipment

ITEM	DESCRIPTION	PURPOSE	QTY
GSE 151	LH/RH Upper and Lower Sling	To remove the upper cowling	

E. Auxiliary Items

ITEM	DESCRIPTION	PURPOSE	QTY
Commercially available	Workstand	To get access to the work area	1
Commercially available	Hoist	To hoist the cowling	1

F. Consumable Materials

Not Applicable

G. Expandable Parts

Not Applicable

H. Persons Recommended

QTY	FUNCTION	PLACE
2	Do the task	Engine upper cowling

I. Preparation

SUBTASK 841-002-A

- (1) Put the workstand in position, and get access to the engine nacelle.
- (2) Remove the engine lower cowling ([AMM TASK 71-12-01-000-802-A/400](#)).



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

SUBTASK 020-002-A

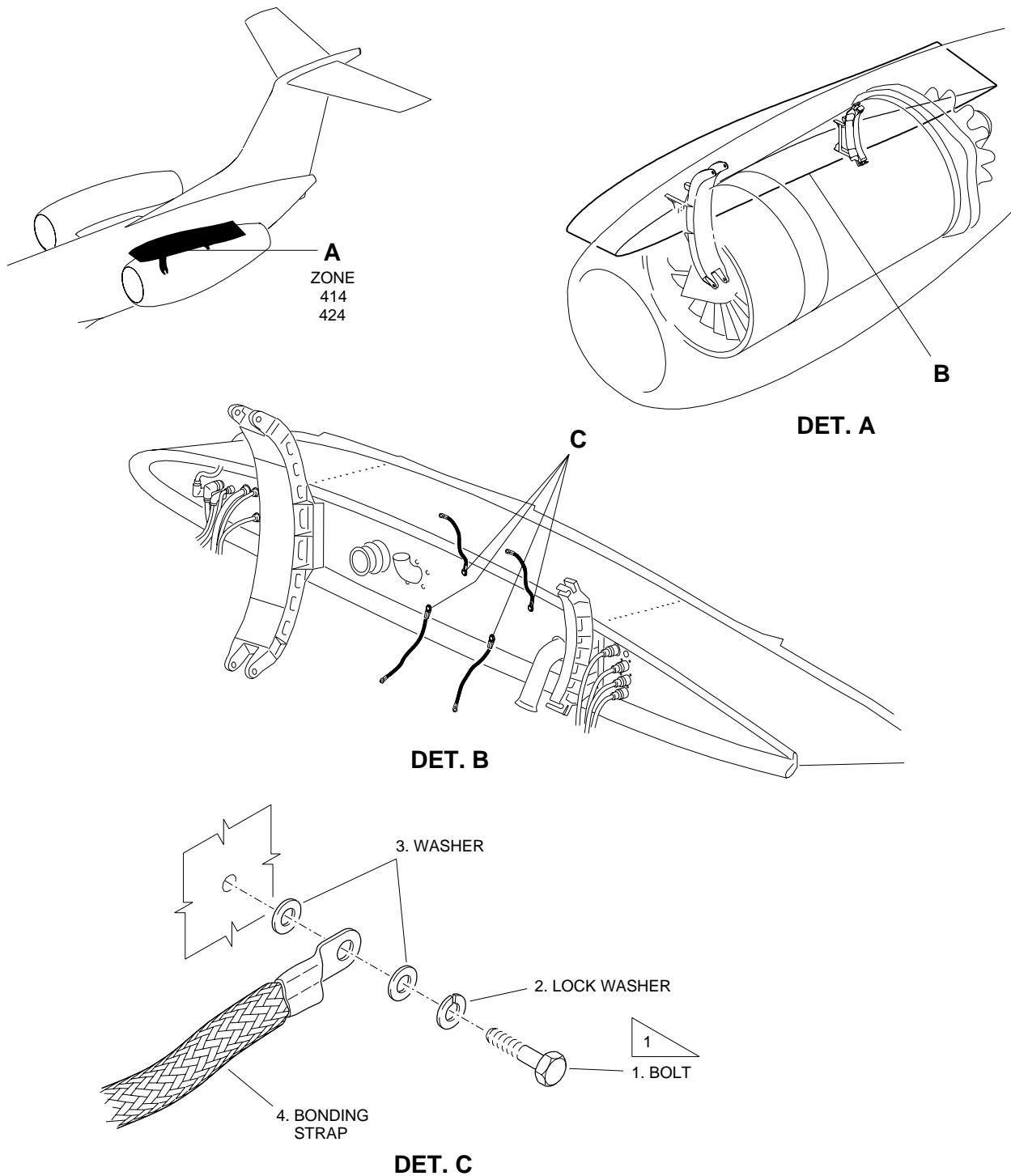
WARNING: DO NOT TOUCH THE ENGINE COMPONENTS UNTIL THEY ARE COOL.
TEMPERATURE CAN STAY HOT AFTER THE ENGINE STOPS.

- (1) Remove the protective screws (6) from the hoisting points (front and rear) at the 12 o'clock position, at the engine upper cowling (5). Install the LH/RH Upper and Lower Sling (GSE 151) in these hoisting points. Connect the hoist to the LH/RH Upper and Lower Sling and adjust the height of the hoist.
- (2) Remove the bolts (1), lock washers (2), and washers (3) to release the two upper cowling bonding straps (4) from the pylon.
- (3) Remove the front cowling attachment screws (7).
- (4) Remove all pip pins (12) from the tie rod brackets (13) in the nacelle apron (14).
- (5) Remove the pip pin (8), in the rear part of the upper cowling, that attaches the exhaust duct.
- (6) Remove the upper cowling (5) and put it on a cradle.
- (7) Remove the LH/RH Upper and Lower Sling from the upper cowling, and reinstall the protective screws (6) in the front and rear hoisting points.

EFFECTIVITY: ALL

Engine Upper Cowling - Removal/Installation

Figure 401 - Sheet 1



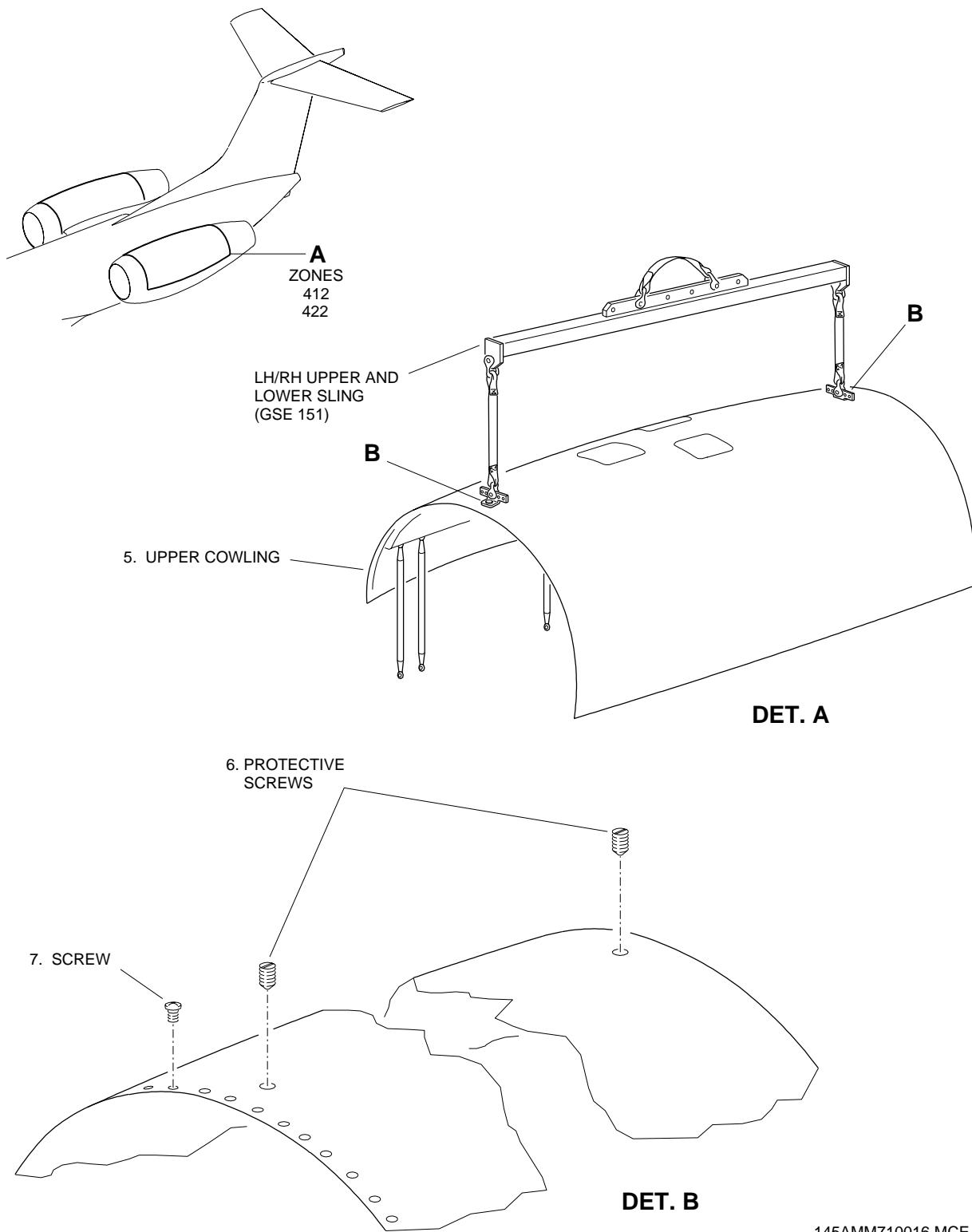
TORQUE : 2.3-2.8 N.m (20-25 lb.in)

145AMM710101.MCE B

EFFECTIVITY: ALL

Engine Upper Cowling - Removal/Installation

Figure 401 - Sheet 2

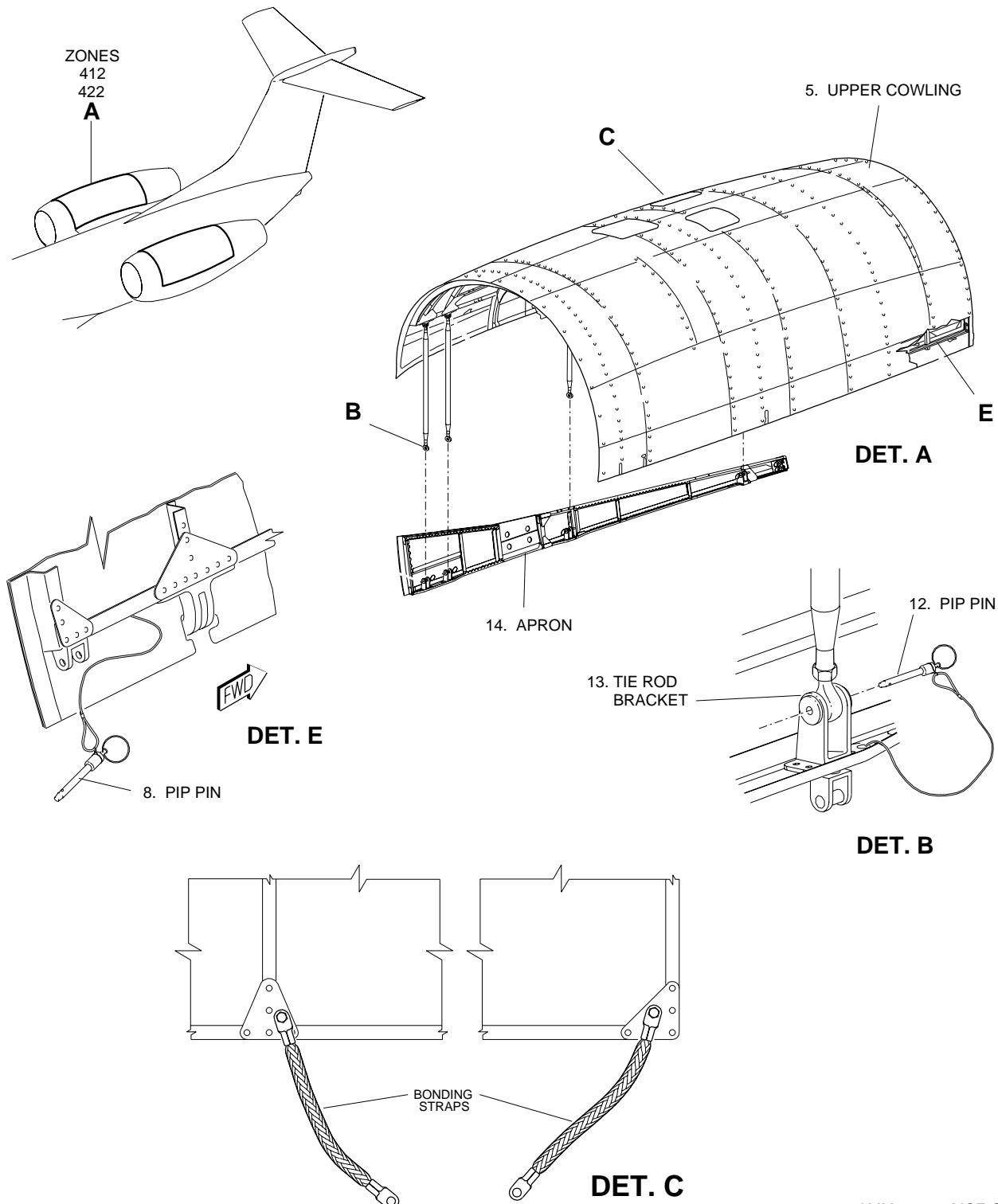


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EFFECTIVITY: ALL

Engine Upper Cowling - Removal/Installation

Figure 401 - Sheet 3



145AMM710017.MCE C



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TASK 71-11-01-400-801-A

EFFECTIVITY: ALL

3. ENGINE UPPER COWLING - INSTALLATION

A. General

(1) Obey the instructions below to install the engine upper cowling.

B. References

REFERENCE	DESIGNATION
AMM TASK 71-12-01-400-802-A/400	ENGINE LOWER COWLING - INSTALLATION

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
GSE 151	LH/RH Upper and Lower Sling	To install the upper cowling	

E. Auxiliary Items

ITEM	DESCRIPTION	PURPOSE	QTY
Commercially available	Workstand	To get access to the work area	1
Commercially Available	Hoist	To hoist the cowling	1

F. Consumable Materials

Not Applicable

G. Expandable Parts

Not Applicable

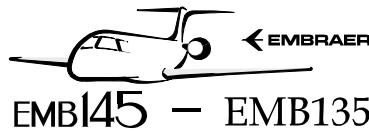
H. Persons Recommended

QTY	FUNCTION	PLACE
2	Do the task	Engine upper cowling

I. Installation (Figure 401)

SUBTASK 420-002-A

NOTE: Make sure that the 12 o'clock position front guide pin is in the correct position, when you install the upper cowling at engine nacelle.



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- (1) Remove the protective screws (6) from the hoisting points (front and rear) at the 12 o'clock position, in the engine upper cowling (5). Install the LH/RH Upper and Lower Sling in these hoisting points. Connect the hoist to the LH/RH Upper and Lower Sling.
- (2) Lift the upper cowling, and install it on the engine nacelle.
NOTE: Be careful not to hit the upper cowling tips on the upper surface skin of the thrust reverser beam.
- (3) Install the pip pin (8) in the rear part of the upper cowling (5).
- (4) Install all pip pins (12) to the tie rod brackets (13) in the nacelle apron (14).
- (5) Install the front cowling attachment screws (7).
- (6) Remove the hoist and LH/RH Upper and Lower Sling from the upper cowling. Install the protective screws (6) in the front and rear hoisting points.
- (7) Install the two bonding straps (4) to the pylon, with washers (3), lock washers (2), and bolts (1).

J. Follow-on

SUBTASK 842-002-A

- (1) Install the lower cowling ([AMM TASK 71-12-01-400-802-A/400](#)).
NOTE: Make sure that the latches are aligned with the skin.
- (2) Remove the workstand from the work area.