



EMB145 – EMB135

AIRCRAFT
MAINTENANCE MANUAL

PRESSURE PULSATION DAMPENER - REMOVAL/INSTALLATION

EFFECTIVITY: ALL

1. General

- A. This section gives the procedures to remove/install the pressure pulsation dampeners.
- B. The pressure pulsation dampeners are installed in the pressure and suction hydraulic lines of system 1 and system 2.
- C. The removal/installation procedures for the pressure pulsation dampener of system 1 and system 2 are equivalent.
- D. You can get access to the pressure pulsation dampener of LH engine (system 1) through lower cowling 413 (AMM MPP 06-30-00/100).
- E. You can get access to the pressure pulsation dampener of RH engine (system 2) through lower cowling 423 (AMM MPP 06-30-00/100).
- F. 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
29-10-20-000-801-A	PRESSURE PULSATION DAMPENER - REMOVAL	ALL
29-10-20-400-801-A	PRESSURE PULSATION DAMPENER - IN- STALLATION	ALL



EMB145 - EMB135

AIRCRAFT
MAINTENANCE MANUAL

TASK 29-10-20-000-801-A

EFFECTIVITY: ALL

2. PRESSURE PULSATION DAMPENER - REMOVAL

A. General

(1) This task gives the procedures to remove the pressure pulsation dampener.

B. References

REFERENCE	DESIGNATION
AMM TASK 29-10-00-860-802-A/200	HYDRAULIC SYSTEM - PRESSURIZATION WITH EMDP
AMM TASK 71-12-01-000-801-A/400	ENGINE LOWER COWLING - OPENING

C. Zones and Accesses

ZONE	PANEL/DOOR	LOCATION
413	413	LH Lower Cowling
423	423	RH Lower Cowling

D. Tools and Equipment

Not Applicable

E. Auxiliary Items

ITEM	DESCRIPTION	PURPOSE	QTY
Commercially available	Rubber Gloves, Resistant to Phosphate Ester-Base Fluid	Protection for the hands	1
Commercially available	Rubber Goggles, Resistant to Phosphate Ester-Base Fluid	Protection for the eyes	1
Commercially available	Drip Pan	To collect the hydraulic fluid when you remove the pressure pulsation dampener	1

F. Consumable Materials

Not Applicable

G. Expandable Parts

Not Applicable

H. Persons Recommended

QTY	FUNCTION	PLACE
2	Do the task	LH engine (system 1) and (or) RH engine (system 2)

I. Preparation

SUBTASK 841-002-A

- (1) On the circuit breaker panel, open the ELEC PUMP 1 and (or) ELEC PUMP 2 circuit breaker(s) and attach a DO-NOT-CLOSE tag to it (them).
- (2) Depressurize the related hydraulic system ([AMM TASK 29-10-00-860-802-A/200](#)).
- (3) Open the lower cowling ([AMM TASK 71-12-01-000-801-A/400](#)) to get access to the pressure pulsation dampener.

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

SUBTASK 020-002-A

WARNING: THE HYDRAULIC SYSTEM CONTAINS PHOSPHATE-ESTER HYDRAULIC FLUID. THE FLUID CAN CAUSE IRRITATION IN YOUR SKIN OR INJURY TO YOUR EYES. USE THE APPLICABLE GOGGLES AND RUBBER GLOVES. IF THE FLUID TOUCHES YOU, FLUSH YOUR SKIN WITH WATER. IF IT GETS IN YOUR EYES, FLUSH THEM WITH WATER AND GET MEDICAL HELP.

- (1) Remove the screws (2) and washers (3) to release the clamps (4) installed in the RH engine.
- (2) Remove the screws (5), washers (6), and nuts (7) to release the clamps (8) installed in the LH engine.

CAUTION: • DO NOT TWIST THE HYDRAULIC HOSE WHEN YOU LOOSEN THE CONNECTORS. THIS CAN CAUSE DAMAGE TO THE HOSE AND MAKE IT UNSERVICEABLE.
• USE TWO WRENCHES WHEN YOU REMOVE OR INSTALL THE HYDRAULIC HOSES. USE ONE WRENCH TO HOLD THE NIPPLE AND THE OTHER WRENCH TO LOOSEN OR TIGHTEN THE HYDRAULIC-HOSE COUPLING NUT. IF YOU DO NOT OBEY THIS PRECAUTION, DAMAGE TO THE HYDRAULIC HOSE CAN OCCUR.

- (3) Disconnect the hydraulic lines (pressure/suction) (1).

- (a) Move the pressure pulsation dampener (9) from the engine support.

NOTE: It is necessary to avoid the transfer of the loads to the engine support when you loose the hoses and prevent damage to the support.

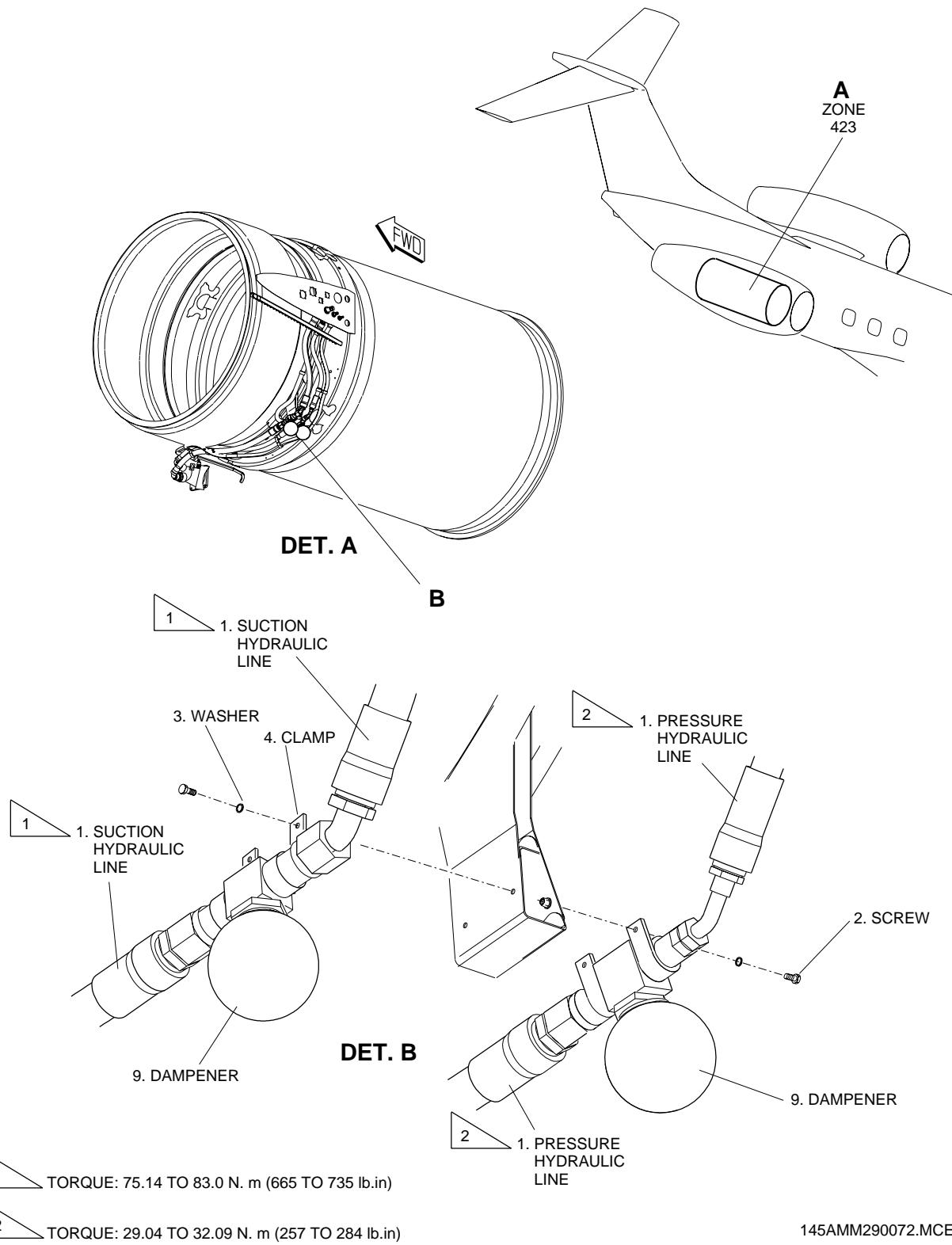
- (b) Use two wrenches when you remove the hydraulic hoses. Use one wrench to hold the nipple and the other wrench to loosen the hydraulic hose coupling nut.

- (4) Remove the pressure pulsation dampener (9).

EFFECTIVITY: ALL

Pressure Pulsation Dampener - Removal/Installation

Figure 401 - Sheet 1

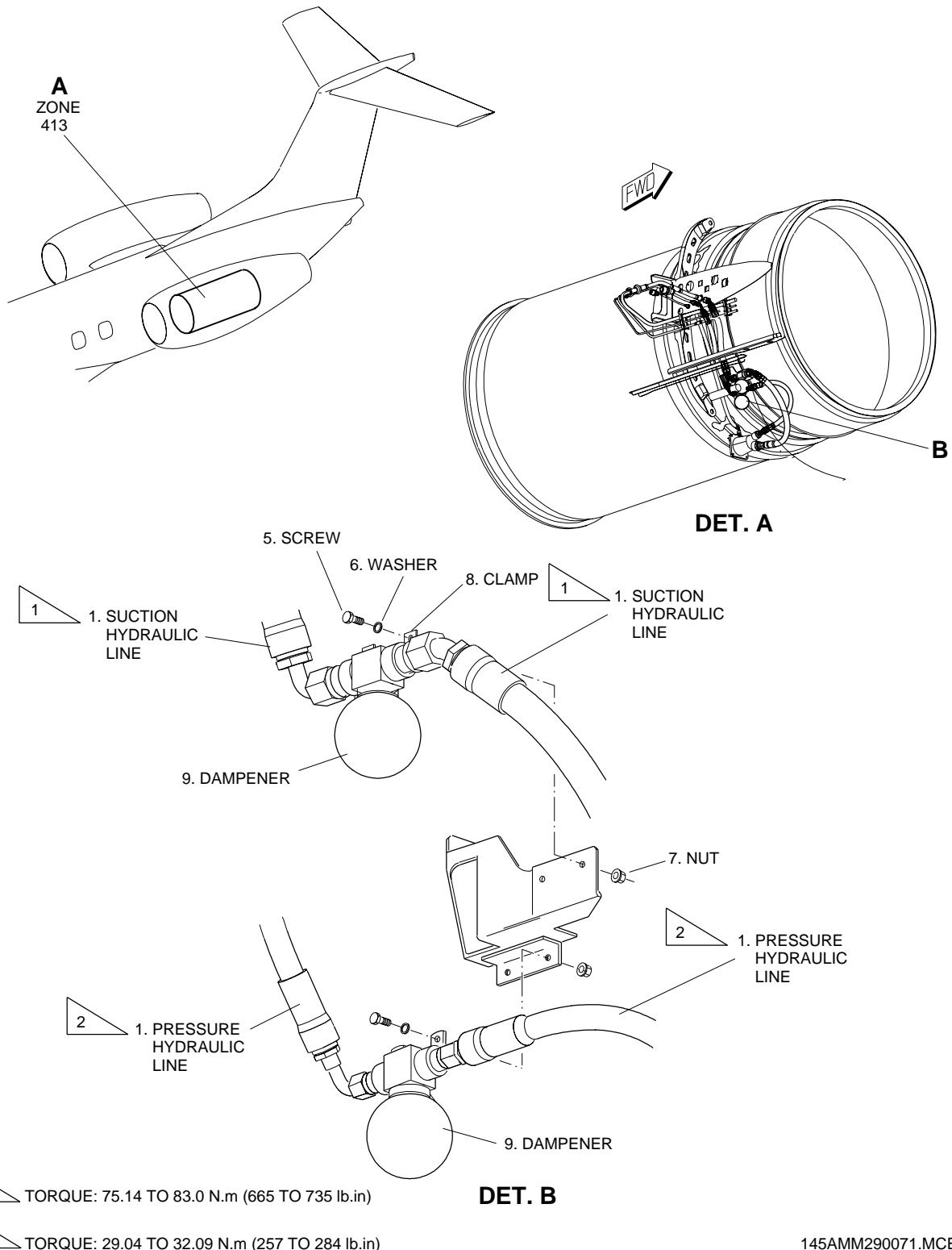


145AMM290072.MCE A

EFFECTIVITY: ALL

Pressure Pulsation Dampener - Removal/Installation

Figure 401 - Sheet 2



145AMM290071.MCE B



EMB145 - EMB135

AIRCRAFT
MAINTENANCE MANUAL

TASK 29-10-20-400-801-A

EFFECTIVITY: ALL

3. PRESSURE PULSATION DAMPENER - INSTALLATION

A. General

(1) This task gives the procedures to install the pressure pulsation dampener.

B. References

REFERENCE	DESIGNATION
AMM TASK 29-10-00-860-801-A/200	HYDRAULIC SYSTEM - PRESSURIZATION WITH HTS
AMM TASK 29-10-00-860-803-A/200	HYDRAULIC SYSTEM - BLEED OF AIR
AMM TASK 71-12-01-400-801-A/400	ENGINE LOWER COWLING - CLOSING

C. Zones and Accesses

ZONE	PANEL/DOOR	LOCATION
413	413	LH Lower Cowling
423	423	RH Lower Cowling

D. Tools and Equipment

ITEM	DESCRIPTION	PURPOSE	QTY
Commercially available	Torque wrench	To apply the torques	

E. Auxiliary Items

ITEM	DESCRIPTION	PURPOSE	QTY
Commercially available	Rubber Gloves, Resistant to Phosphate Ester-Base Fluid	Protection for the hands	1
Commercially available	Rubber Goggles, Resistant to Phosphate Ester-Base Fluid	Protection for the eyes	1

F. Consumable Materials

Not Applicable

G. Expandable Parts

Not Applicable

H. Persons Recommended

QTY	FUNCTION	PLACE
2	Do the task	LH engine (system 1) and (or) RH engine (system 2)



I. Installation (Figure 401)

SUBTASK 420-002-A

- (1) Fill the pressure pulsation dampener (9).
- (2) Connect the hydraulic lines (pressure/suction) (1) to the pressure pulsation dampener (9).

NOTE: The connection of the hydraulic lines must be done with the pressure pulsation dampener (9) out of engine support. It is necessary to avoid the transfer of the loads to the engine support when you torque the hoses and prevent damage to the support.

- (a) For the suction hydraulic line (1), it is necessary to bleed the air as follows:

- 1 On the circuit breaker panel, close the ELEC PUMP 1 and (or) ELEC PUMP 2 circuit breaker(s) and remove the DO-NOT-CLOSE tag from it (them).
- 2 Pressurize the related hydraulic system through the EMDP (Electrical Motor-Driven Pump). Bleed the air through the connection of the suction hydraulic line (1) of the pressure pulsation dampener (9).

CAUTION: • USE TWO WRENCHES WHEN YOU REMOVE OR INSTALL THE HYDRAULIC HOSES. USE ONE WRENCH TO HOLD THE NIPPLE AND THE OTHER WRENCH TO LOOSEN OR TIGHTEN THE HYDRAULIC-HOSE COUPLING NUT. IF YOU DO NOT OBEY THIS PRECAUTION, DAMAGE TO THE HYDRAULIC HOSE CAN OCCUR.
• DO NOT TWIST THE HYDRAULIC HOSE WHEN YOU TORQUE THE CONNECTORS. A TWIST IN THE HYDRAULIC HOSE CAN CAUSE DAMAGE AND MAKE THE HOSE UNSERVICEABLE.

- (b) With the pressure pulsation dampener (9) out of engine support, torque the connections of the hydraulic lines (pressure/suction) with a torque wrench. Refer to (Figure 401).

NOTE: Use one mechanic to hold the dampener with a wrench. And other mechanic to apply the torque to the hydraulic lines with a torque wrench.

- (3) Put the pressure pulsation dampener (9) of the RH engine in its installation position in the clamps (4).
- (4) Tighten the clamps (4) with the washers (3) and screws (2).
- (5) Put the pressure pulsation dampener (9) of the LH engine in its installation position in the clamp (8).
- (6) Tighten the clamp (8) with the nuts (7), washers (6), and screws (5).



EMB145 - EMB135

AIRCRAFT
MAINTENANCE MANUAL

J. Follow-on

SUBTASK 842-002-A

- (1) Pressurize the related hydraulic system ([AMM TASK 29-10-00-860-801-A/200](#)) and, with the engine in operation, make sure that there are no leaks in the pressure pulsation dampener (9).
- (2) Do the bleed of the air from the hydraulic system lines ([AMM TASK 29-10-00-860-803-A/200](#)).
- (3) Close the lower cowling ([AMM TASK 71-12-01-400-801-A/400](#)).