EMERGENCY SHUTDOWN - ADJUSTMENT/TEST

EFFECTIVITY: ALL

1. General

   A. This section gives the procedure to do the operational check of the emergency shutdown system.

   B. The operational check of the emergency shutdown system includes the fuel, hydraulic, bleed air, and anti-ice valves.

   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*
76-20-00-700-801-A ♦	EMERGENCY SHUTDOWN - OPERATIONAL CHECK	ALL

TASK 76-20-00-700-801-A
EFFECTIVITY: ALL

2. EMERGENCY SHUTDOWN - OPERATIONAL CHECK

A. General

(1) The operational check of the emergency shutdown system is done with the operation of the emergency shutdown handle.

(2) These procedures are applicable to the LH and RH engines.

B. References

REFERENCE	*DESIGNATION*
AMM MPP 06-41-01/100	-
AMM MPP 06-43-00/100	- COMPONENT LOCATION
AMM TASK 20-40-01-860-801-A/200	ENERGIZATION OF THE AIRCRAFT WITH AN EXTERNAL POWER SOURCE
AMM TASK 28-41-00-200-801-A/600	-
AMM TASK 32-00-01-910-801-A/200	LG SAFETY PIN - INSTALLATION AND REMOVAL
WM 30-20-50	-
WM 30-20-51	-
WM 36-11-50	-
WM 36-11-51	-

C. Zones and Accesses

ZONE	*PANEL/DOOR*	*LOCATION*
192	192AL	Wing stub (For EMB-145ER, EP, EU, MP, MK, MR and EMB-135ER, KE models)
192	192BR	Wing stub (For EMB-145ER, EP, EU, MP, MK, MR and EMB-135ER, KE models)
155	155DZ	Landing gear bay (For EMB-145LR, LU and EMB-135LR, KL models)
155	155EZ	Landing gear bay (For EMB-145LR, LU and EMB-135LR, KL models)
156	156DZ	Landing gear bay (For EMB-145LR, LU and EMB-135LR, KL models)
156	156EZ	Landing gear bay (For EMB-145LR, LU and EMB-135LR, KL models)
193	193JR	Aft lower fairing
193	193FL	Aft lower fairing
414	414DB	LH Pylon
424	424DB	RH Pylon
412	412AT	LH Upper cowling

(Continued)

ZONE	PANEL/DOOR	LOCATION
422	422AT	RH Upper cowling

D. Tools and Equipment

Not Applicable

E. Auxiliary Items

ITEM	DESCRIPTION	PURPOSE	QTY
Commercially available	Workstand	Access to the work area	1

F. Consumable Materials

Not Applicable

G. Expandable Parts

Not Applicable

H. Persons Recommended

QTY	FUNCTION	PLACE
1	Does the task	Airplane cockpit
1	Monitors the shutoff valves	Aft lower fairing/wing stub or landing gear bay

I. Preparation

SUBTASK 841-002-A

WARNING: BEFORE YOU OPEN THE N2 CIRCUIT BREAKERS AND TO PREVENT INJURY TO PERSONS AND DAMAGE TO THE MATERIAL, MAKE SURE THAT THE SENSORS PITOT 1 - TAT 1/AOA, PITOT 3, AND PITOT 2 - TAT 2/AOA 2, ON THE OVERHEAD PANEL, ARE SET TO OFF.

(1) On the circuit breaker panel, open these circuit breakers and attach DO-NOT-CLOSE tags to them:

– FIRE EXTG BTL A1/A2.

– FIRE EXTG BTL B1/B2.

– POWERPLANT N2 SIGNAL 1A/2A.

– POWERPLANT N2 SIGNAL 1B/2B.

(2) For EMB-145ER, EP, EU, MP, MK, MR and EMB-135ER, KE models:

(a) Remove fuel shutoff valve access panels 192AL/192BR (AMM MPP 06-41-01/100).

(3) For EMB-145LR, LU and EMB-135LR, KL models:

WARNING: MAKE SURE THAT THE LANDING GEAR SAFETY PINS ARE INSTALLED TO PREVENT INJURIES TO PERSONS AND DAMAGE TO MATERIAL (AMM TASK 32-00-01-910-801-A/200).

(a) Remove fuel shutoff valve access panels 155DZ/155EZ and/or 156DZ/156EZ (AMM MPP 06-41-01/100).

(4) Open hydraulic shutoff valve access panels 193JR and/or 193FL (AMM MPP 06-41-01/100).

(5) Remove engine bleed valve access panels 414DB and/or 424DB (AMM MPP 06-43-00/100).

(6) Remove the electrical connector from the engine bleed valve, and connect a 28 V DC lamp to pins (A) and (B) of the wire bundle connector (WM 36-11-50/WM 36-11-51).

(7) Remove engine anti-ice valve access panels 412AT and/or 422AT (AMM MPP 06-43-00/100).

(8) Remove the electrical connector from the engine anti-ice valve, and connect a 28 V DC lamp to pins (A) and (C) of the wire bundle connector (WM 30-20-50/WM 30-20-51).

J. Operationally Check Emergency Shutdown System (Figure 501) (Figure 502) (Figure 503) (Figure 504) (Figure 505)

SUBTASK 710-002-A

WARNING:
- **MAKE SURE THAT THE CIRCUIT BREAKERS OF THE FIRE EXTINGUISHING BOTTLE ARE OPEN. THIS WILL PREVENT AN ACCIDENTAL BOTTLE DISCHARGE.**
- **BEFORE YOU OPEN THE N2 CIRCUIT BREAKERS AND TO PREVENT INJURY TO PERSONS AND DAMAGE TO THE MATERIAL, MAKE SURE THAT THE SENSORS PITOT 1 - TAT 1/AOA, PITOT 3, AND PITOT 2 - TAT 2/AOA 2, ON THE OVERHEAD PANEL, ARE SET TO OFF.**

CAUTION: MAKE SURE THAT THE CIRCUIT BREAKERS RELATED TO THE POWERPLANT N2 SIGNAL ARE OPEN. THIS WILL REMOVE THE SIGNAL TO CLOSE THE ANTI-ICE VALVE WITH THE ENGINE STOPPED.

NOTE: This check is the same for the LH and RH engines. Set the engine anti-ice and engine bleed valves correctly (LH or RH) to the related system side to be examined.

(1) Energize the aircraft. Refer to AMM TASK 20-40-01-860-801-A/200.

(a) Set the ice detection OVERRIDE switch to the "ENG" position. Push ENG AIR INLET pushbuttons 1 or 2 to send the open signal to the engine anti-icing valve.

Result:

1 The striped bar at the pushbutton goes off.

2 The 28 V DC lamp, on the wire bundle connector of the engine anti-ice valve, goes off. This shows that a signal was sent to open the anti-ice valve.

(b) Push BLEED pushbuttons 1 or 2 to send the open signal to the engine bleed valve.

Result:

1 The striped bar at the pushbutton goes off.

2 The 28 V DC lamp, on the wire bundle connector of the engine bleed valve, will come on. This shows that a signal was sent to open the bleed valve.

(c) Pull the emergency shutdown handle and make sure that:

Result:

1 The advisory messages “E1(2) FUELSOV CLSD” and “E1(2) HYDSOV CLSD” are shown on the EICAS.

2 The 28 V DC lamp, on the wire bundle connector of the engine anti-ice valve, comes on. This shows that a signal was sent to close the anti-ice valve.

3 The 28 V DC lamp, on the wire bundle connector of the engine bleed valve, goes off. This shows that a signal was sent to close the bleed valve.

4 Make sure that the position indicator at the hydraulic shutoff valve and fuel shutoff valve shows “CLOSED” position.

(d) Move the emergency shutdown handle back to the usual position and examine that:

Result:

1 The advisory messages “E1(2) FUELSOV CLSD” and “E1(2) HYDSOV CLSD” go out of view from the EICAS display.

2 The 28 V DC lamp, on the wire bundle connector of the engine anti-ice valve, goes off. This shows that a signal was sent to open the anti-ice valve.

3 The 28 V DC lamp, on the wire bundle connector of the engine bleed valve, comes on. This shows that a signal was sent to open the bleed valve.

4 Make sure that the position indicator, at the hydraulic shutoff valve and the fuel shutoff valve, shows “OPEN” position.

(2) Set the ice detection OVERRIDE switch back to the AUTO position. Push the ENG AIR INLET and BLEED pushbuttons to set them back to off.

(3) Deenergize the aircraft (AMM TASK 20-40-01-860-801-A/200).

K. Follow-on

SUBTASK 842-002-A

(1) Disconnect the 28 V DC lamp from pins (A) and (C), on the wire bundle connector, and install the electrical connector to the engine anti-ice valve.

(2) Install engine anti-ice valve access panels 412AT and/or 422AT (AMM MPP 06-43-00/100).

(3) Disconnect the 28 V DC lamp from pins (A) and (B), on the wire bundle connector, and install the electrical connector to the engine bleed valve.

(4) Install engine bleed valve access panels 414DB and/or 424DB (AMM MPP 06-43-00/100).

(5) Close hydraulic shutoff valve access panels 193JR and/or 193FL (AMM MPP 06-41-01/100).

(6) Do an inspection on the fuel quantity indication harness (AMM TASK 28-41-00-200-801-A/600).

NOTE: The inspection of fuel quantity indication harness is a part of Critical Design Configuration Control Limitations (CDCCL) in the Airworthiness Limitations of the Maintenance Review Board Report (MRB).

(7) For EMB-145ER, EP, EU, MP, MK, MR and EMB-135ER, KE models:

(a) Install fuel shutoff valve access panels 192AL and/or 192BR (AMM MPP 06-41-01/100).

(8) For EMB-145LR, LU and EMB-135LR, KL models:

WARNING: MAKE SURE THAT THE LANDING GEAR SAFETY PINS ARE INSTALLED TO PREVENT INJURIES TO PERSONS AND DAMAGE TO MATERIAL (AMM TASK 32-00-01-910-801-A/200).

(a) Install fuel shutoff valve access panels 155DZ/155EZ and/or 156DZ/156EZ (AMM MPP 06-41-01/100).

(9) On the circuit breaker panel, close the circuit breakers below and remove the DO-NOT-CLOSE tags from them.

– FIRE EXTG BTL A1/A2.

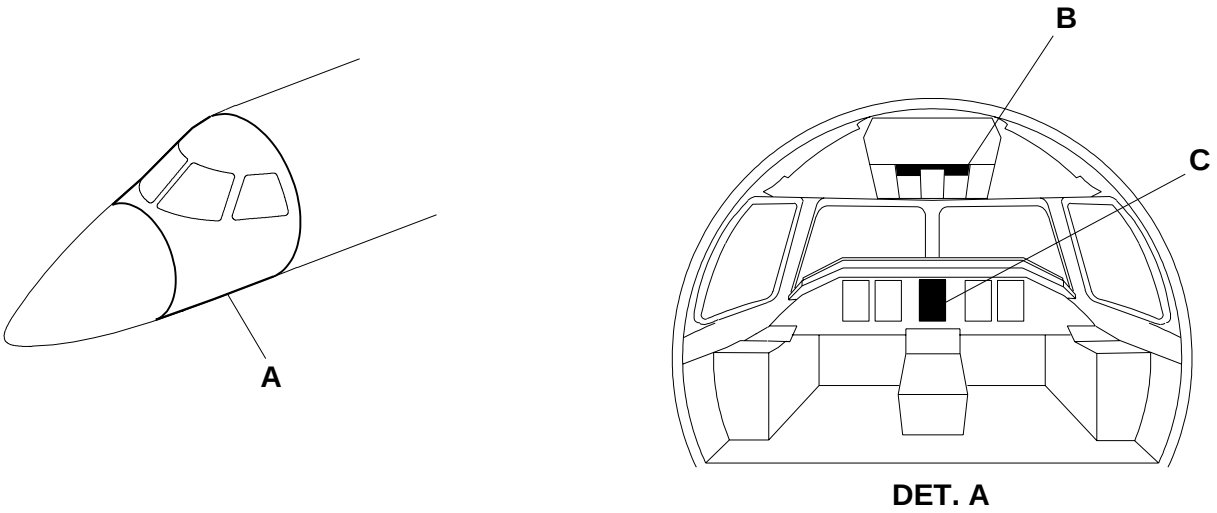
– FIRE EXTG BTL B1/B2.

– POWERPLANT N2 SIGNAL 1A/2A.

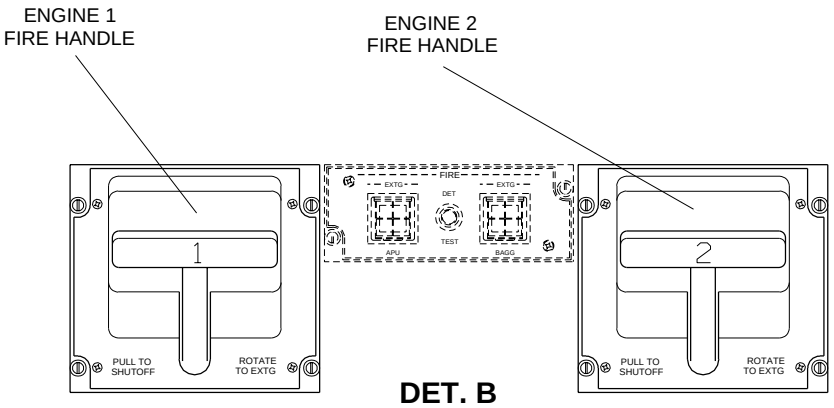
– POWERPLANT N2 SIGNAL 1B/2B.

EFFECTIVITY: ALL

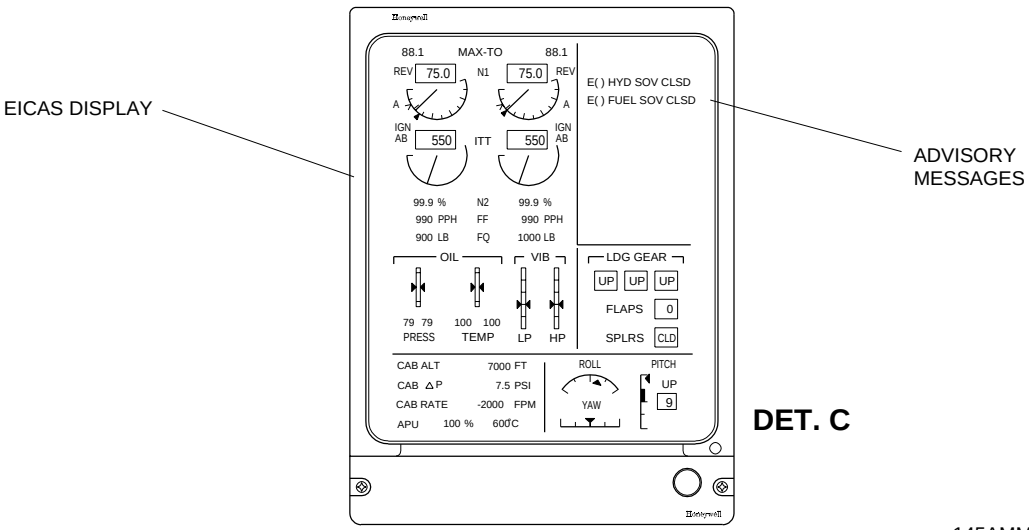
Emergency Shutdown System - Adjustment/Test
Figure 501



DET. A



DET. B

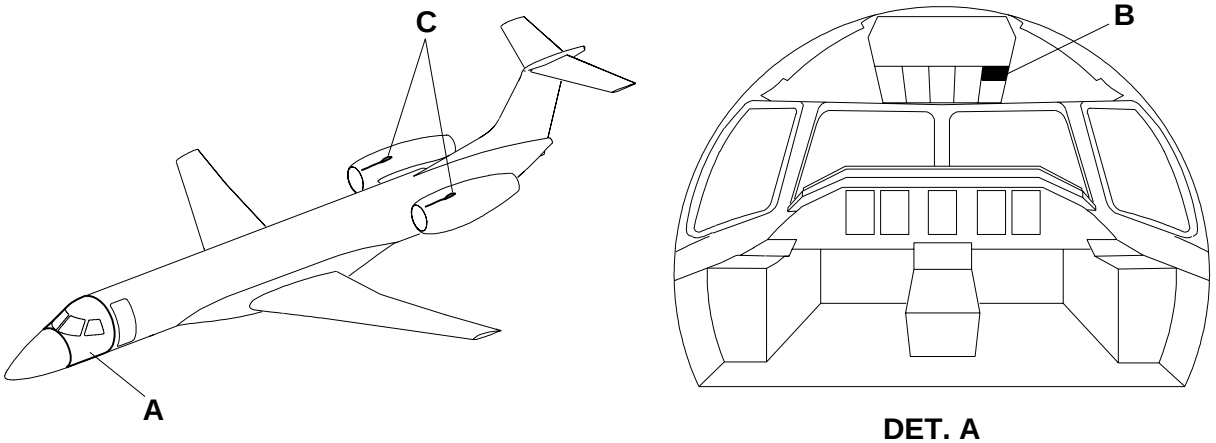


DET. C

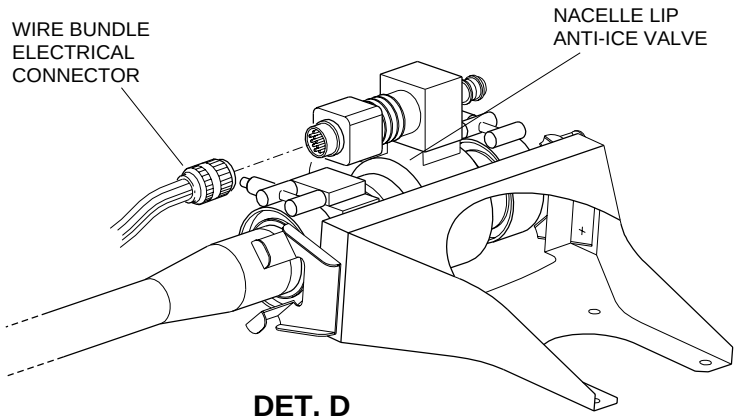
145AMM760034.MCE D

EFFECTIVITY: ALL

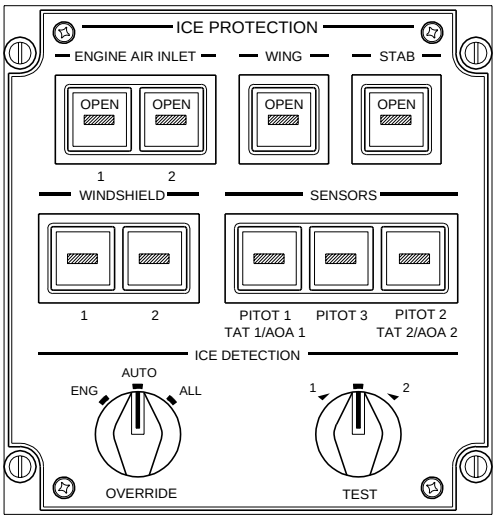
Emergency Shutdown System - Adjustment/Test
Figure 502 - Sheet 1



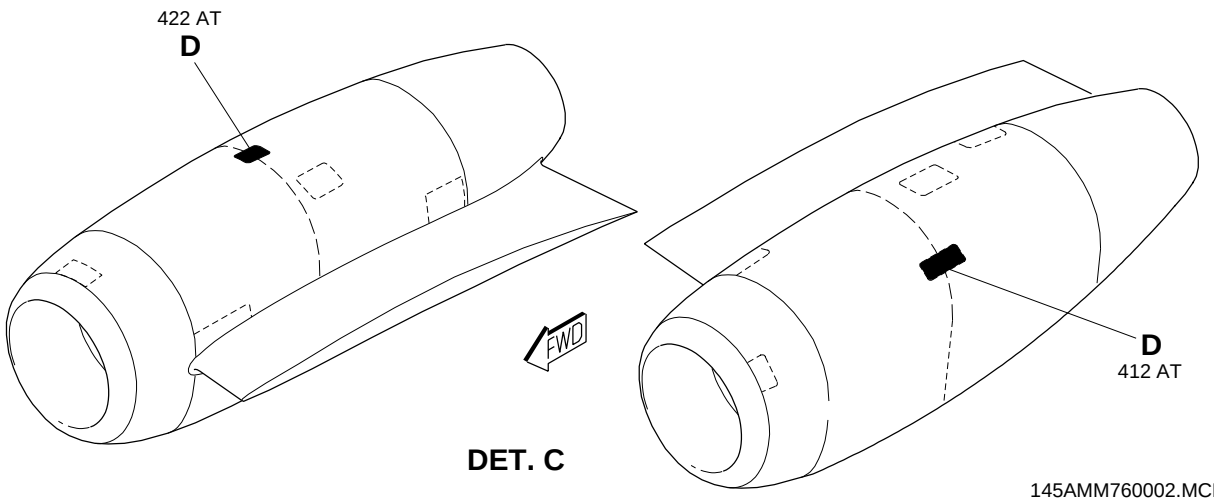
DET. A



DET. D



DET. B

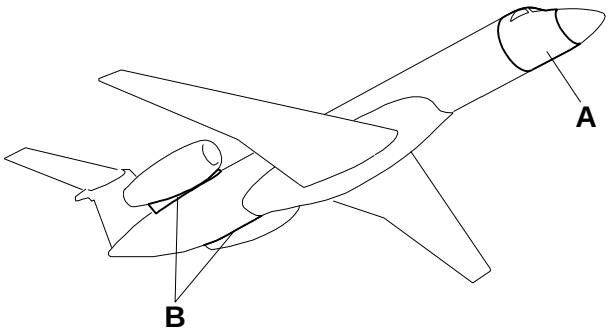


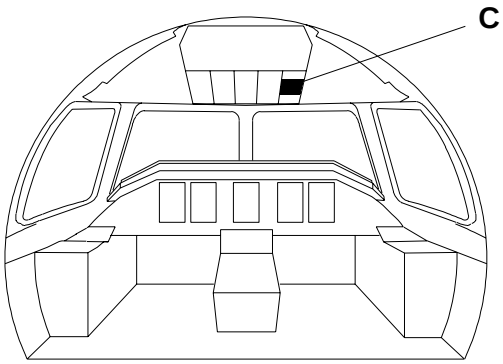
DET. C

145AMM760002.MCE C

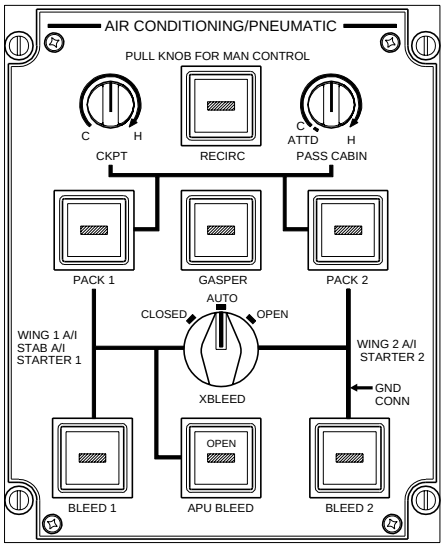
EFFECTIVITY: ALL

Emergency Shutdown System - Adjustment/Test
Figure 502 - Sheet 2

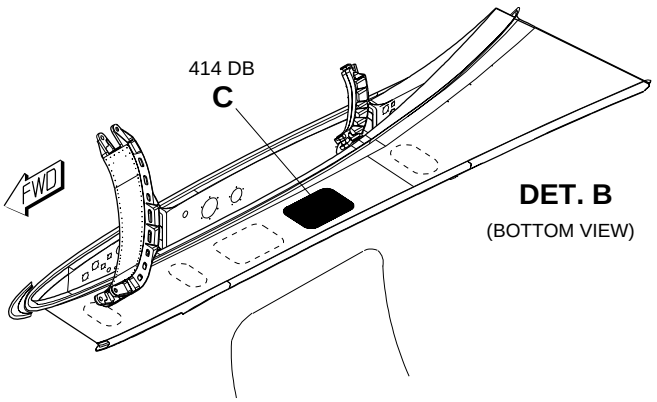




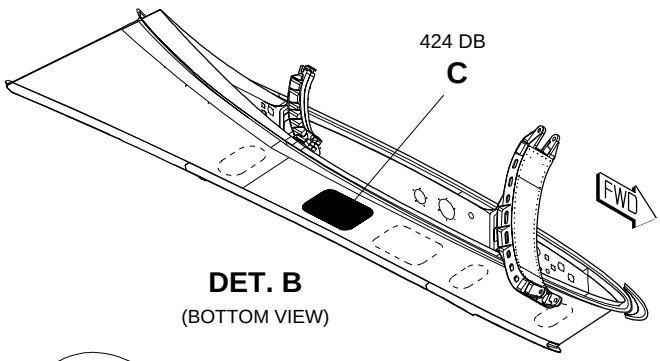
DET. A



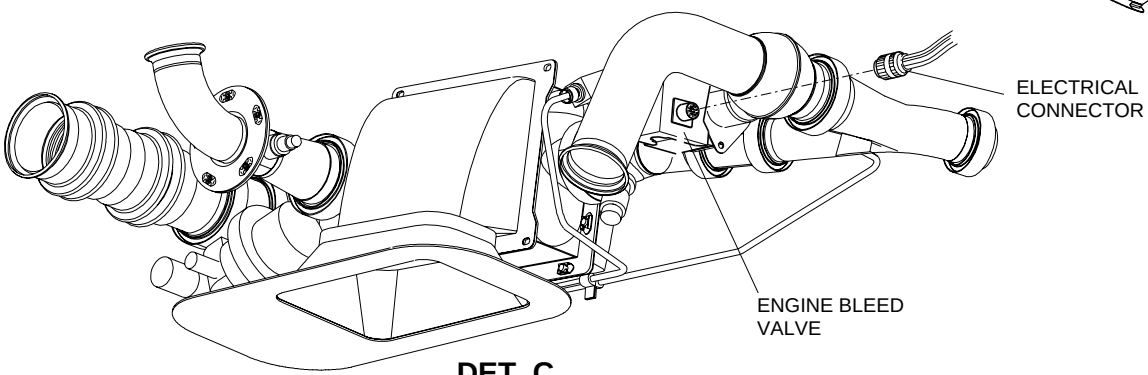
DET. D



DET. B
(BOTTOM VIEW)



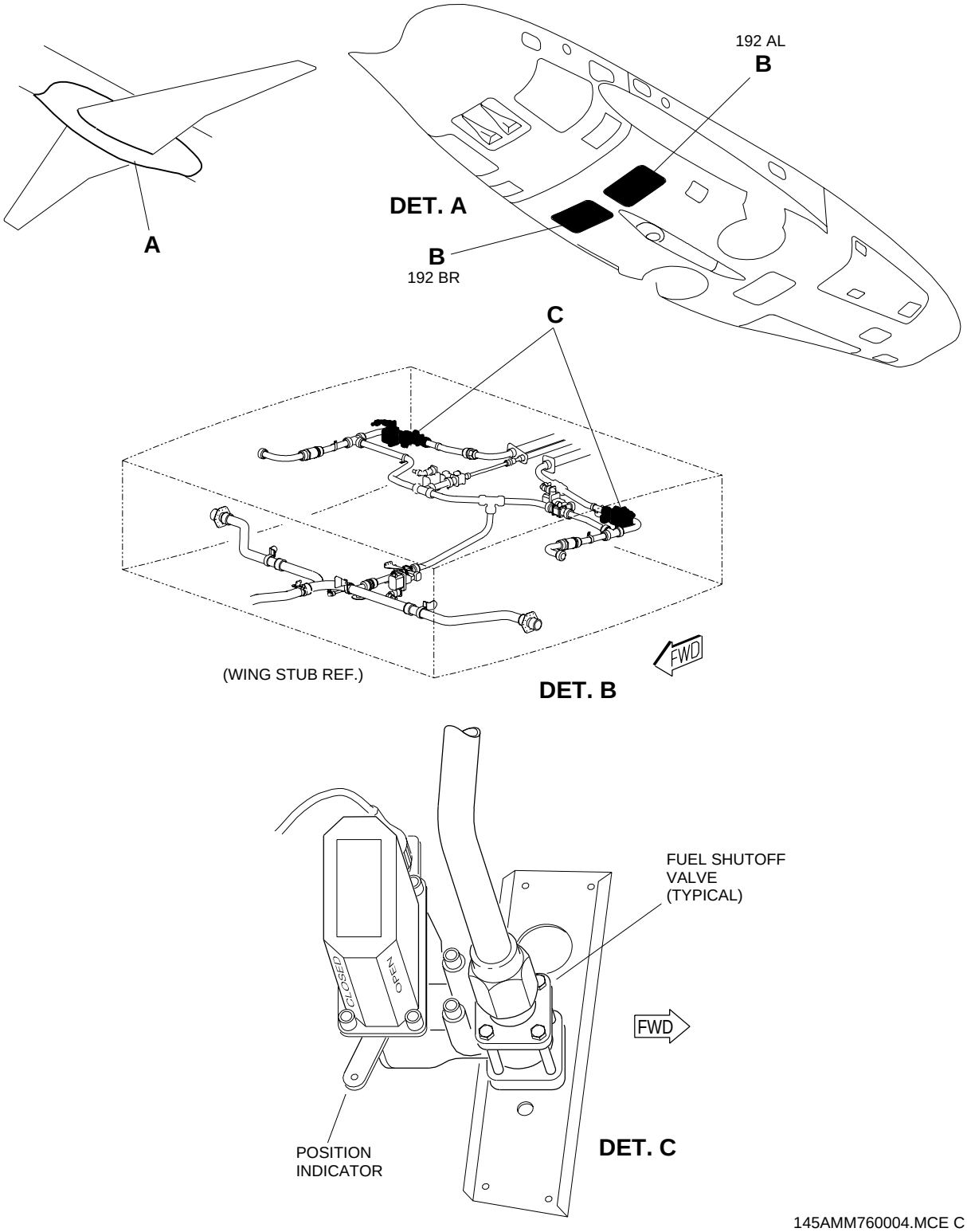
DET. B
(BOTTOM VIEW)



DET. C

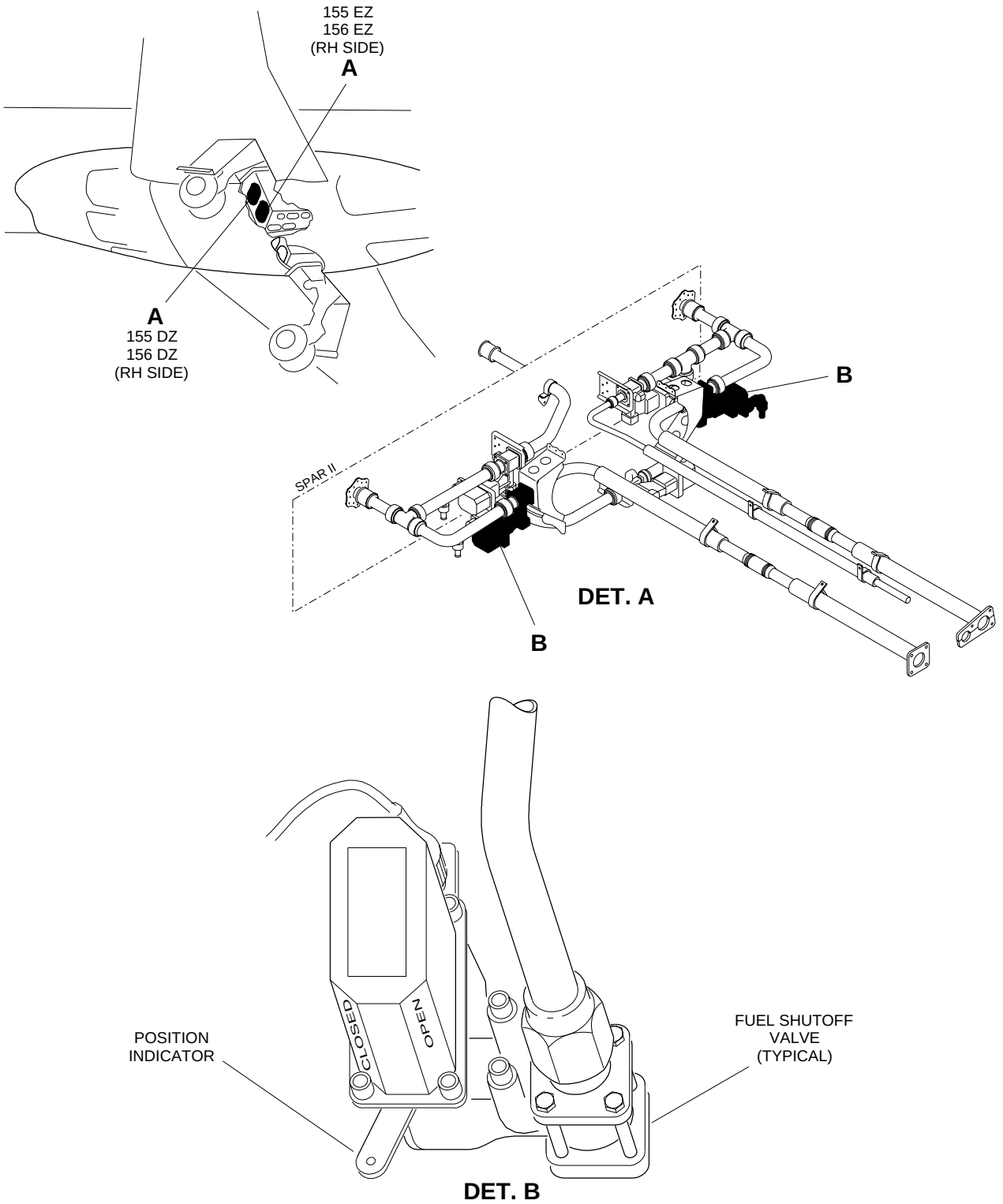
145AMM760003.MCE B

EFFECTIVITY: EMB-145ER/EP/EU/MP/MR and EMB-135ER/KE MODELS
Emergency Shutdown System - Adjustment/Test
Figure 503



145AMM760004.MCE C

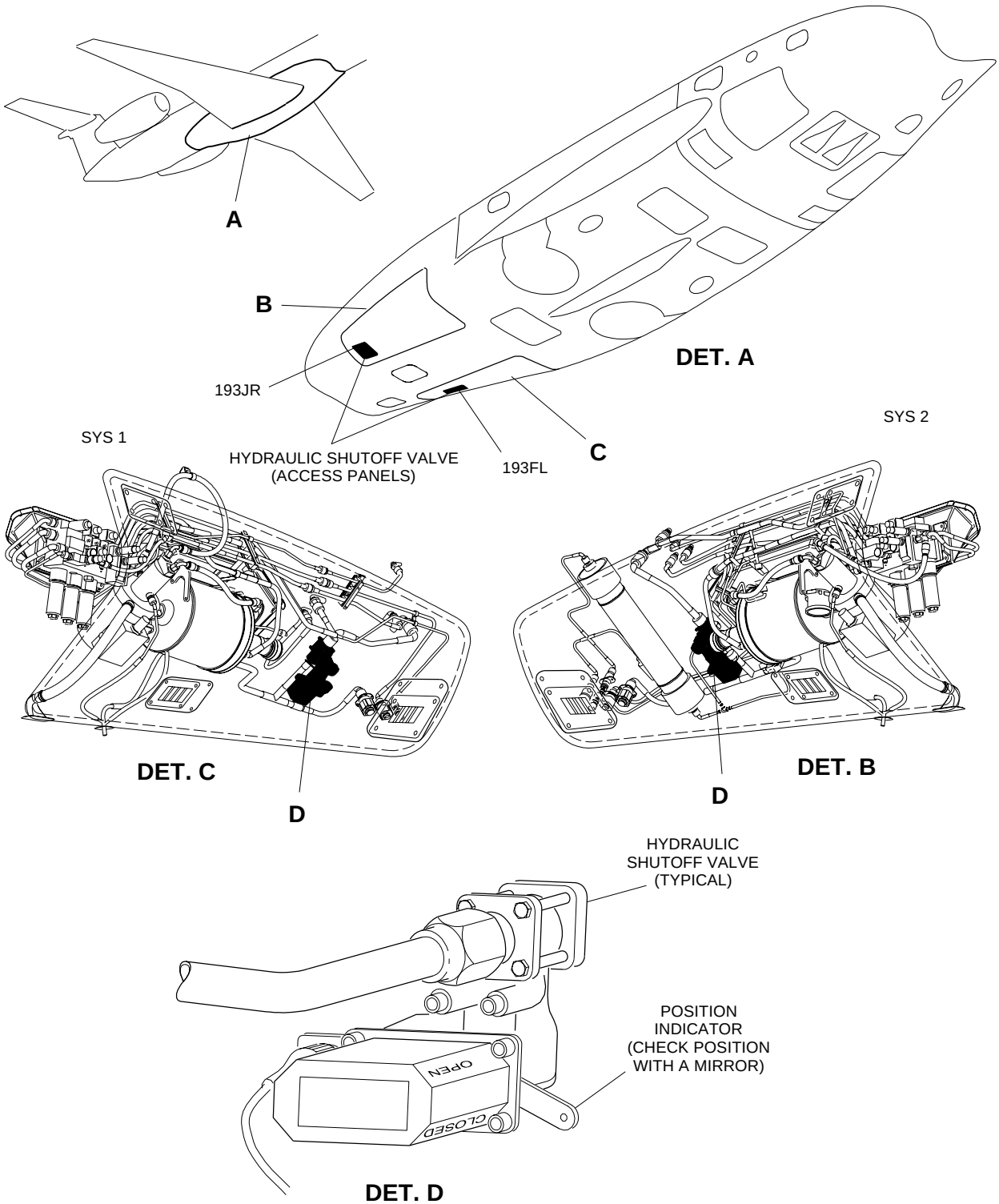
EFFECTIVITY: EMB-145LR/LU and EMB-135LR/KL MODELS
Emergency Shutdown System - Adjustment/Test
Figure 504



145AMM760035.MCE D

EFFECTIVITY: ALL

Emergency Shutdown System - Adjustment/Test
Figure 505



EM145AMM760060A.DGN