FLAPS - ELECTRICAL/ELECTRONIC COMPONENTS - ADJUSTMENT/TEST

EFFECTIVITY: ACFT MODEL(S) EMB-145

1. General

A. This section gives the procedures to do the operational check of:

- FLAP FAIL caution message and FLAP LOW SPEED advisory message.
- “Takeoff Flaps” Aural Warning and NO TAKEOFF CONFIG Visual Warning.

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*
27-53-00-700-801-A ♦	FLAP FAIL MESSAGE - OPERATIONAL CHECK	ACFT MODEL(S) EMB-145
27-53-00-700-802-A ♦	"TAKEOFF FLAPS" AURAL WARNING AND NO TAKEOFF CONFIG VISUAL WARNING - OPERATIONAL CHECK	ACFT MODEL(S) EMB-145

TASK 27-53-00-700-801-A
EFFECTIVITY: ACFT MODEL(S) EMB-145

2. FLAP FAIL MESSAGE - OPERATIONAL CHECK

A. General

(1) This task gives the procedures to do the operational check of the FLAP FAIL caution message and FLAP LOW SPEED advisory message.

(2) Figure 501 shows the EICAS display.

B. References

REFERENCE	*DESIGNATION*
AMM TASK 20-40-01-860-801-A/200	ENERGIZATION OF THE AIRCRAFT WITH AN EXTERNAL POWER SOURCE

C. Zones and Accesses

Not Applicable

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	Cockpit

I. Preparation

SUBTASK 841-012-B

WARNING: MAKE SURE THAT THERE ARE NO PERSONS OR EQUIPMENT IN THE FLAP TRAVEL AREA.

(1) Make sure that the aircraft is safe for maintenance.

(2) Do not do other tasks on the flap system.

(3) Energize the aircraft with the External DC Power Supply (AMM TASK 20-40-01-860-801-A/200).

J. Operationally Check Flap Fail Message (Figure 501)

SUBTASK 710-012-B

(1) Do a check of the FLAP FAIL caution message and FLAP LOW SPEED advisory message.

(a) On the Circuit Breaker Panel, open the FLAP 1 circuit breaker.

Result:

1 The EICAS display shows the FLAP LOW SPEED advisory message.

(b) On the Circuit Breaker Panel, open the FLAP 2 circuit breaker.

Result:

1 On the EICAS display, the FLAP LOW SPEED advisory message goes out of view.

2 The EICAS display shows the FLAP FAIL caution message.

(c) On the Circuit Breaker Panel, close the FLAP 1 and FLAP 2 circuit breakers.

Result:

1 On the EICAS display, the FLAP FAIL caution message goes out of view.

(2) Do a check of the continuous flap-position indication on the EICAS.

(a) On the Circuit Breaker Panel, open the FLAP 1 circuit breaker.

Result:

1 On the EICAS display shows the FLAP LOW SPEED advisory message.

(b) If the flap position indication on EICAS is an amber dash (-), do as follows:

1. Set the back-up battery switch to OFF.

2. Open the IC1 circuit breaker and wait until the red cross shows on EICAS display.

3. Close the IC1 circuit breaker.

(c) Set the flaps to the 9-degree position.

Result:

1 The EICAS shows the continuous flap-position indication from 0 degrees to 9 degrees.

(d) Set the flaps to the 0-degree position.

(e) On the Circuit Breaker Panel, close the FLAP 1 circuit breaker.

Result:

1 On the EICAS display, the FLAP LOW SPEED advisory message goes out of view.

(f) If the FLAP LOW SPEED advisory message does not go out of view, do the flap reset as follows:

1. On the Maintenance Panel, actuate the FLAP RESET switch and keep it pushed.

2. On the Circuit Breaker Panel, open and close the FLAP 1 and FLAP 2 circuit breakers to clear the fault.

3. Release the FLAP RESET switch on the Maintenance Panel.

(g) On the Circuit Breaker Panel, open the FLAP 2 circuit breaker.

Result:

1 On the EICAS display shows the FLAP LOW SPEED advisory message.

(h) If the flap position indication on EICAS is an amber dash (-), do as follows:

1. Make sure that the back-up battery switch is OFF.

2. Open the IC1 circuit breaker and wait until the red cross shows on EICAS display.

3. Close the IC1 circuit breaker.

(i) Set the flaps to the 9-degree position.

Result:

1 The EICAS shows the continuous flap-position indication from 0 degrees to 9 degrees.

(j) Set the flaps to the 0-degree position.

(k) On the Circuit Breaker Panel, close the FLAP 2 circuit breaker.

Result:

1 On the EICAS display, the FLAP LOW SPEED advisory message goes out of view.

(l) If the FLAP LOW SPEED advisory message does not go out of view, do the flap reset as follows:

1. On the Maintenance Panel, actuate the FLAP RESET switch and keep it pushed.

2. On the Circuit Breaker Panel, open and close the FLAP 1 and FLAP 2 circuit breakers to clear the fault.

3. Release the FLAP RESET switch on the Maintenance Panel.

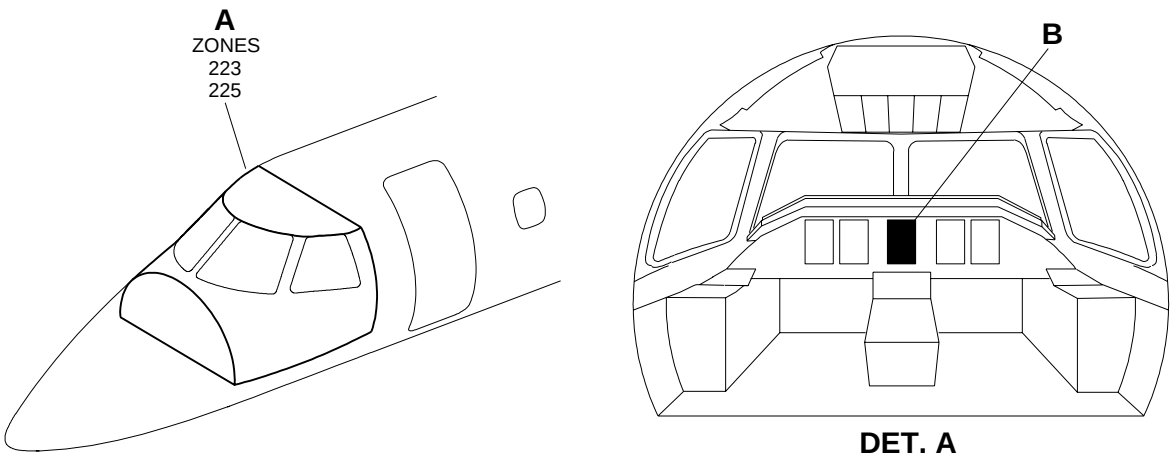
K. Follow-on

SUBTASK 842-012-B

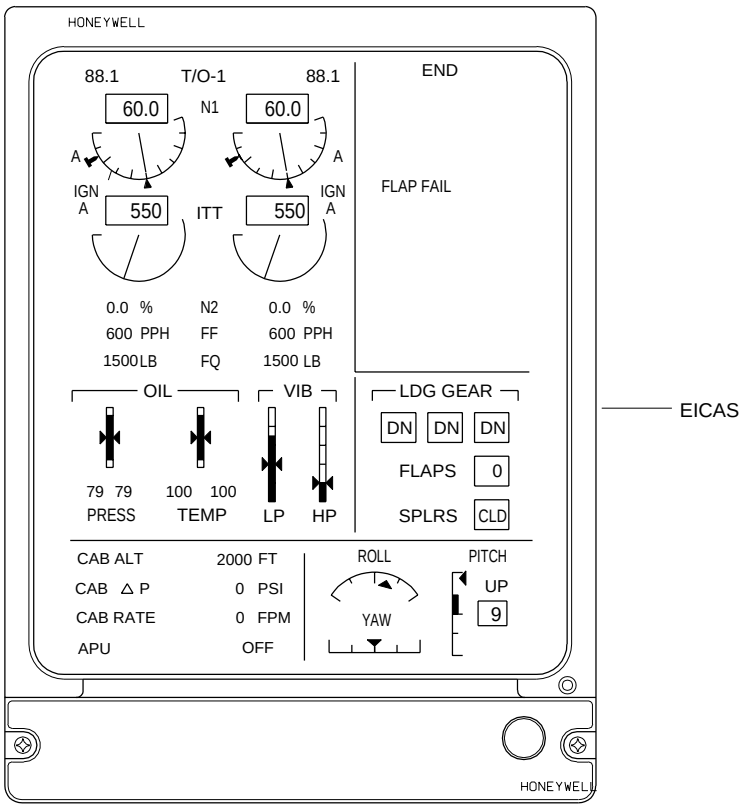
(1) Set the back-up battery switch to AUTO.

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

EFFECTIVITY: ACFT MODEL(S) EMB-145
EICAS Display
Figure 501



DET. A



DET. B

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TASK 27-53-00-700-802-A
EFFECTIVITY: ACFT MODEL(S) EMB-145

3. "TAKEOFF FLAPS" AURAL WARNING AND NO TAKEOFF CONFIG VISUAL WARNING - OPERATIONAL CHECK

A. General

(1) This task gives the procedures to do the operational check of the “Takeoff Flaps” aural warning and NO TAKEOFF CONFIG visual warning.

B. References

REFERENCE	*DESIGNATION*
AMM TASK 10-10-01-500-801-A/200	AIRCRAFT NORMAL PARKING
AMM TASK 20-40-01-860-801-A/200	ENERGIZATION OF THE AIRCRAFT WITH AN EXTERNAL POWER SOURCE
AMM TASK 32-44-00-700-801-A/500	EMERGENCY/PARKING BRAKE SYSTEM - FUNCTIONAL CHECK
S.B.145-27-0025	-
S.B.145-27-0042	-

C. Zones and Accesses

Not Applicable

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	Cockpit

I. Preparation

SUBTASK 841-013-B

(1) Make sure that the aircraft is safe for maintenance.

(2) Do not do other tasks on the flap system.

(3) Energize the aircraft with the External DC Power Supply (AMM TASK 20-40-01-860-801-A/200).

(4) Make sure that the AWS 1, AWS 2, FADEC 1A, FADEC 2A, FLAP 1, FLAP 2, PITCH TRIM 1, PITCH TRIM 2, AIR GROUND A, B, C, and D circuit breakers are closed, on the Circuit Breaker Panel.

(5) Do not put the aircraft on jacks.

(6) Put chocks at the landing gear wheels (AMM TASK 10-10-01-500-801-A/200).

(7) Make sure that the emergency parking brake handle is released and the BRAKE ON light is off, on the instrument and ramp panels (AMM TASK 32-44-00-700-801-A/500).

J. Operational Check of the “Takeoff Flaps” Aural Warning and NO TAKEOFF CONFIG Visual Warning (Figure 502)

SUBTASK 710-013-B

WARNING: MAKE SURE THAT THERE ARE NO PERSONS OR EQUIPMENT IN THE FLAP TRAVEL AREA.

(1) Do a check of the “Takeoff Flaps” Aural Warning and the NO TAKEOFF CONFIG Visual Warning.

(a) Set the pitch trim to the take off position.

NOTE: When the EICAS pitch trim indicator is on the take off range bar, the bar becomes green.

(b) Set the flaps to the 0-degree position.

(c) Push the Engine 1 Thrust Lever to maximum power.

Result:

1 The “Takeoff Flaps” Aural Warning will be in operation.

2 The EICAS display shows the NO TAKEOFF CONFIG warning message.

(d) Pull the Engine 1 Thrust Lever back to the IDLE position.

Result:

1 The “Takeoff Flaps” Aural Warning is canceled.

2 On the EICAS display, the NO TAKEOFF CONFIG warning message goes out of view.

(e) Push the Engine 2 Thrust Lever to maximum power.

Result:

1 The “Takeoff Flaps” Aural Warning will be in operation.

2 The EICAS display shows the NO TAKEOFF CONFIG warning message.

(f) Set the flaps to the 9-degree position.

Result:

1 The “Takeoff Flaps” Aural Warning is canceled.

2 On the EICAS display, the NO TAKEOFF CONFIG warning message goes out of view.

(g) Only on ACFT POST-MOD. S.B.145-27-0042 or ACFT EQUIPPED WITH FLAP 18-DEGREE, set the flaps to the 18-degree position.

Result:

1 The “Takeoff Flaps” Aural Warning stays canceled.

2 On the EICAS display, the NO TAKEOFF CONFIG warning message stays out of view.

NOTE: When the flaps are in transit between 9 and 18 degrees, the EICAS shows the NO TAKEOFF CONFIG warning message.

(h) Set the flaps to the 22-degree position.

Result:

1 For JAA-certified EMB-145 aircraft PRE-MOD. S.B.145-27-0025; for CTA-certified EMB-145 aircraft; and for FAA-certified EMB-145 aircraft:

1. The “Takeoff Flaps” Aural Warning stays off.
2. On the EICAS display, the NO TAKEOFF CONFIG warning message stays out of view.

2 For JAA-certified EMB-145 aircraft POST-MOD. S.B.145-27-0025:

1. The “Takeoff Flaps” Aural Warning will be in operation.
2. On the EICAS display, the NO TAKEOFF CONFIG warning message stays out of view.

NOTE: When the flaps are in transit between 18 and 22 degrees, the EICAS shows the NO TAKEOFF CONFIG warning message.

(i) Set the flaps to the 45-degree position.

Result:

1 The “Takeoff Flaps” Aural Warning will be in operation.

2 The EICAS display shows the NO TAKEOFF CONFIG warning message.

(j) On the Circuit Breaker Panel, open the FLAP 1 circuit breaker.

Result:

1 The “Takeoff Flaps” Aural Warning stays in operation.

2 The EICAS display shows the NO TAKEOFF CONFIG warning message and the FLAP LOW SPEED advisory message and SPS ADVANCED caution message.

(k) On the Circuit Breaker Panel, close the FLAP 1 circuit breaker.

Result:

1 The “Takeoff Flaps” Aural Warning stays in operation.

2 The EICAS display shows the NO TAKEOFF CONFIG warning message.

(l) On the Circuit Breaker Panel, open the FLAP 2 circuit breaker.

Result:

1 The “Takeoff Flaps” Aural Warning stays in operation.

2 On the EICAS display, the NO TAKEOFF CONFIG warning message goes out of view.

3 The EICAS display shows the FLAP LOW SPEED advisory message and SPS ADVANCED caution message.

(m) On the Circuit Breaker Panel, open the FLAP 1 circuit breaker.

Result:

1 For JAA-certified EMB-145 aircraft PRE-MOD. S.B.145-27-0025; for CTA-certified EMB-145 aircraft; and for FAA-certified EMB-145 aircraft:

1. The “Takeoff Flaps” Aural Warning stays off.
2. On the EICAS display, the NO TAKEOFF CONFIG warning message stays out of view.

2 For JAA-certified EMB-145 aircraft POST-MOD. S.B.145-27-0025:

1. The “Takeoff Flaps” Aural Warning will be in operation.
2. On the EICAS display, the NO TAKEOFF CONFIG warning message stays out of view.

3 The EICAS display shows the FLAP FAIL caution message.

(n) On the Circuit Breaker Panel, close the FLAP 1 and FLAP 2 circuit breakers.

Result:

1 The “Takeoff Flaps” Aural Warning will be in operation.

2 The EICAS display shows the NO TAKEOFF CONFIG warning message.

(o) Pull the Engine 2 Thrust Lever back to the IDLE position.

Result:

1 The “Takeoff Flaps” Aural Warning is canceled.

2 On the EICAS display, the NO TAKEOFF CONFIG warning message goes out of view.

K. Follow-on

SUBTASK 842-013-B

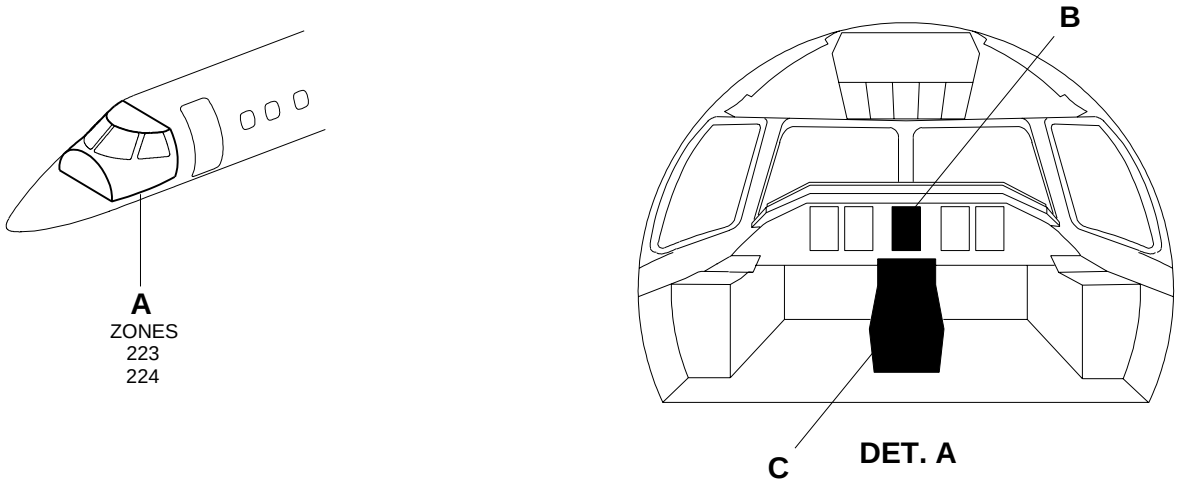
(1) Set the flaps to the 0-degree position.

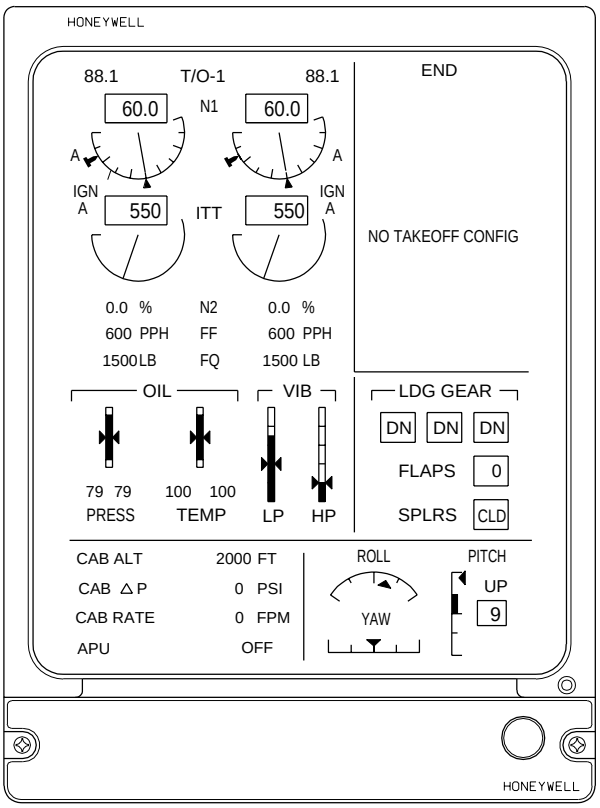
(2) With the aircraft still energized, make sure that the emergency parking brake is applied and that the BRAKE ON lights, on the instruments and ramp panels, are on (AMM TASK 32-44-00-700-801-A/500).

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

EFFECTIVITY: ACFT MODEL(S) EMB-145

EICAS display, Thrust Lever, and Flap Selector Lever - Location
Figure 502 - Sheet 1





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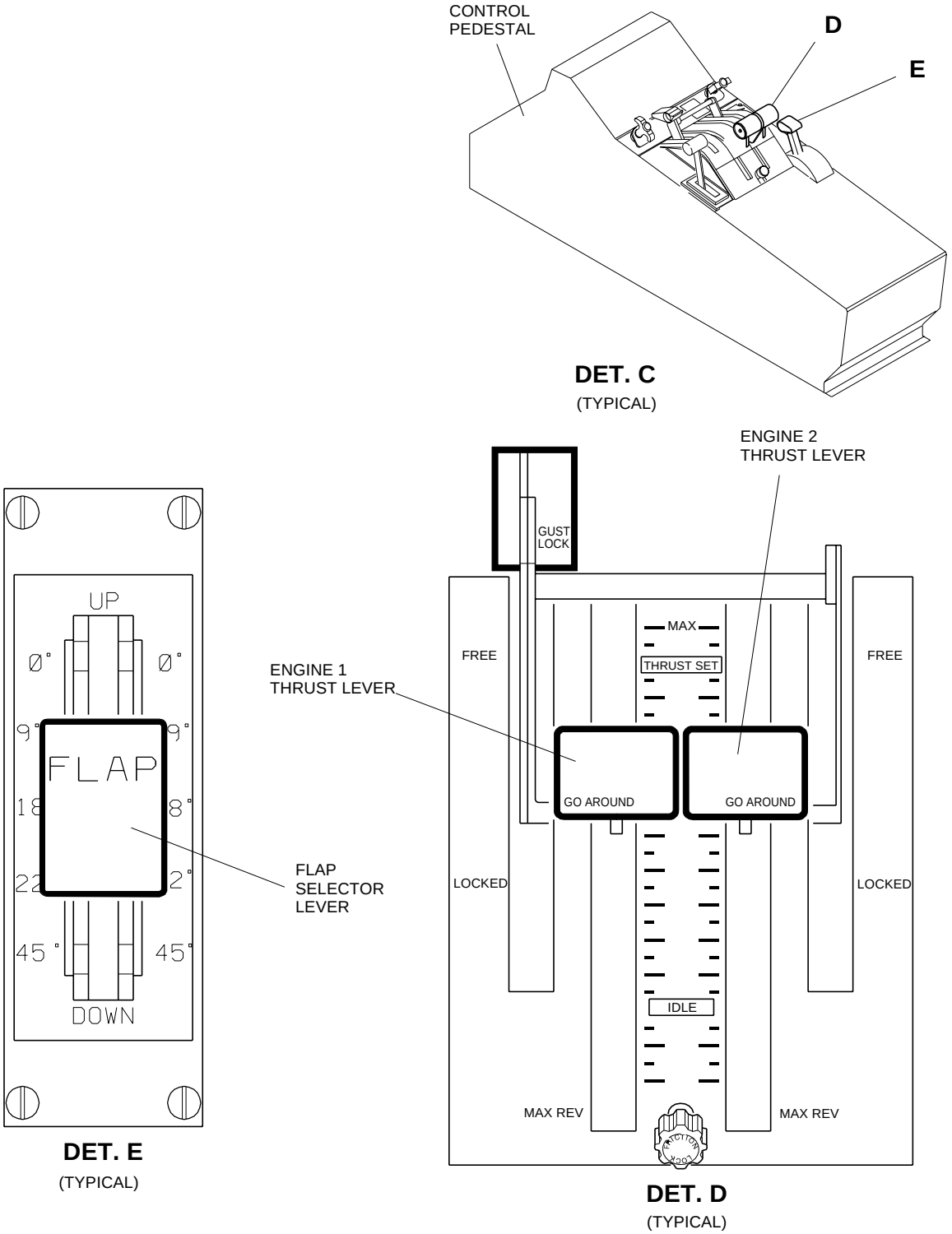
EFFECTIVITY: ACFT MODEL(S) EMB-145

EICAS display, Thrust Lever, and Flap Selector Lever - Location
Figure 502 - Sheet 2



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