BRAKE PEDAL TRANSDUCER - ADJUSTMENT/TEST

EFFECTIVITY: ALL

1. General

   A. This section gives the procedure to do the check of the brake-pedal position transducers and the procedure to do the functional check the brake pedal transducers (BRAKE PPTRAN).

   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*
32-41-01-700-801-A ♦	BRAKE-PEDAL POSITION TRANSDUCER - OPERATIONAL CHECK	ALL
32-41-01-700-802-A	BRAKE PEDAL TRANSDUCER - FUNCTIONAL TEST	ALL

TASK 32-41-01-700-801-A
EFFECTIVITY: ALL

2. BRAKE-PEDAL POSITION TRANSDUCER - OPERATIONAL CHECK

A. General

(1) This procedure is applicable to the four brake-pedal position transducers (BRAKE PPTRAN).

(2) If the pedal does not move back to its rest position with the external feel spring not connected, then replace the transducer or (and) do an inspection on the articulation points of the mechanism for jamming.

B. References

REFERENCE	*DESIGNATION*
AMM MPP 06-41-01/100	-

C. Zones and Accesses

ZONE	*PANEL/DOOR*	*LOCATION*
123	123BL	Area below the cockpit floor

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 and area below the cockpit floor

I. Preparation

SUBTASK 841-002-A

(1) Remove access panel 123BL (AMM MPP 06-41-01/100).

J. Operationally Check Brake Pedal Transducer (Figure 501)

SUBTASK 710-002-A

(1) Do this check:

(a) Disengage the four feel springs of the brake pedals.

(b) Fully operate the pilot's LH brake pedal and slowly release the pedal.

Result:

1 The pedal must go back to its rest position.

(c) Do step (b) again for the pilot's RH brake pedal.

(d) Do step (b) again for the copilot's LH brake pedal of copilot.

(e) Do step (b) again for the copilot's RH brake pedal.

(f) Engage the four springs of the brake pedals back.

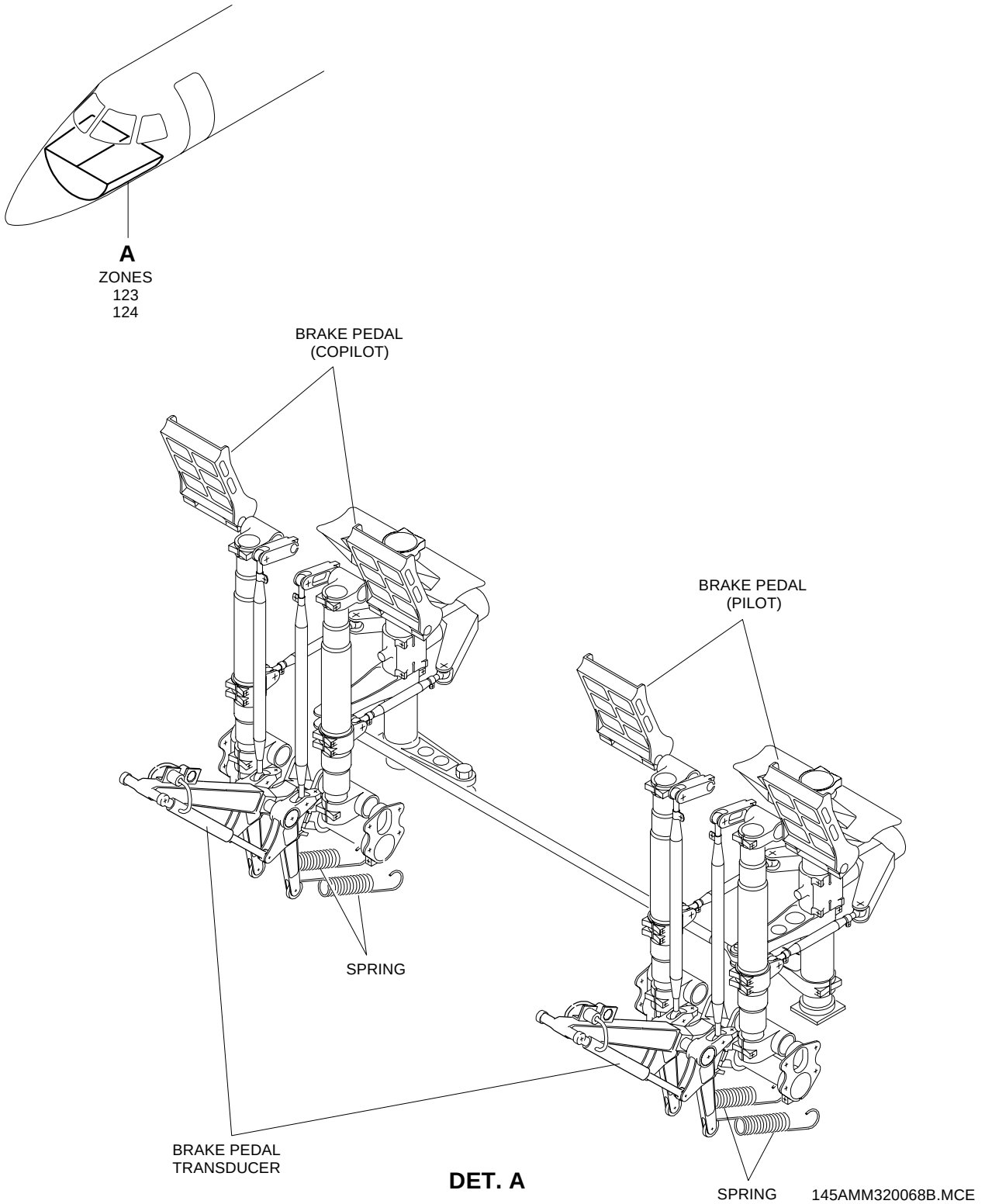
K. Follow-on

SUBTASK 842-002-A

(1) Install access panel 123BL (AMM MPP 06-41-01/100).

EFFECTIVITY: ALL

Brake-Pedal Position Transducer (BRAKE PPTRAN) - Operational Check
Figure 501



TASK 32-41-01-700-802-A
EFFECTIVITY: ALL

3. BRAKE PEDAL TRANSDUCER - FUNCTIONAL TEST

A. General

(1) This procedure is applicable to the four brake-pedal position transducers (BRAKE PPTRAN).

(2) The test must be done for the pilot and copilot brake pedals.

B. References

REFERENCE	*DESIGNATION*
AMM MPP 06-41-01/100	-
AMM MPP 32-41-00/500	- ADJUSTMENT/TEST
AMM TASK 20-40-01-860-801-A/200	ENERGIZATION OF THE AIRCRAFT WITH AN EXTERNAL POWER SOURCE
AMM TASK 25-11-01-000-801-A/400	PILOT SEAT - REMOVAL
AMM TASK 25-11-01-400-801-A/400	PILOT SEAT - INSTALLATION
AMM TASK 25-12-06-000-801-A/400	PEDAL ASSEMBLY LINING - REMOVAL
AMM TASK 25-12-06-400-801-A/400	PEDAL ASSEMBLY LINING - INSTALLATION
AMM TASK 32-00-01-910-801-A/200	LG SAFETY PIN - INSTALLATION AND REMOVAL
AMM TASK 32-41-06-000-801-A/400	BRAKE CONTROL VALVE - REMOVAL
IPC 27-21-01	RUDDER PEDALS
SRM 51-40-02/1	-

C. Zones and Accesses

ZONE	*PANEL/DOOR*	*LOCATION*
123	123BL	Area below the cockpit floor
223		Cockpit

D. Tools and Equipment

Not Applicable

E. Auxiliary Items

ITEM	*DESCRIPTION*	*PURPOSE*	*QTY*
Local available	Fluorescent Work Light - Explosion Proof - 60 W minimum	To Adjust the Maximum Brake Pedal Deflection	1

F. Consumable Materials

Not Applicable

G. Expendable Parts

ITEM	*IPC REFERENCE (VENDOR REFERENCE)*	*QTY*
Pin	IPC 27-21-01	AR
Collar Shear	IPC 27-21-01	AR

H. Persons Recommended

QTY	*FUNCTION*	*PLACE*
1	Does the task	Cockpit and area below the cockpit floor

I. Preparation

SUBTASK 841-003-A

(1) Make sure that the safety pins are installed of the landing gears (AMM TASK 32-00-01-910-801-A/200).

(2) Remove access panel 123BL (AMM MPP 06-41-01/100).

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

J. Functional Check of Brake Pedal Transducer (Figure 502) (Figure 503)

SUBTASK 720-002-A

NOTE: Start the test for the pilot brake pedals.

(1) Install the applicable GSE. Refer to AMM MPP 32-41-00/500.

(2) Connect to the GSE the pins related to the transducer in test.

(3) Turn ON the electric hydraulic pump of the system in test.

(4) To refer to the Test Page, select the fourth button on the Field Analyzer toolbar or push the keys (Ctrl+Sh+D) on the Field-Analyzer computer keyboard.

(5) The information will be shown on the screen of the GSE.

(a) With no pressure on brake pedal, read the brake pressure.

Result:

1 The pressure shown must be less than or equal to 120 psi. If not, write down this value.

(b) Fully apply the brake pedal and read the brake pressure:

Result:

1 The pressure shown must be 2700 psi minimum. If not, write down this value.

NOTE:
- If the pressure of step 5 action (a) is 120 psi maximum and the pressure of step 5 action (b) is 2700 psi minimum, go to step (7).
- If the pressure of step 5 action (a) is more than 120 psi and/or the pressure of step 5 action (b) is less than 2700 psi, do step (6).

- If, after, you do step 6, the pressure value is not in the correct range, it can be a sign that the brake control valve is defective. Replace the brake control value (AMM TASK 32-41-06-000-801-A/400) and go to step 5 again.

(6) Adjust the brake pedal deflection as follows (Refer to Figure 503).

(a) Turn OFF the electric hydraulic pump of the system in test.

(b) Remove the pilot seat (AMM TASK 25-11-01-000-801-A/400).

(c) Remove the pedal assembly lining (AMM TASK 25-12-06-000-801-A/400).

(d) Disconnect the spring (3) or (4) from the stop bellcrank assembly (6) or (5), as applicable. Refer to Figure 503, sheet 1.

(e) Remove the nut (7), washers (8) and (9), and the bolt (10) to release the lower rod-end of transducer (PPTRAN) (12) or (11), as applicable. Refer to Figure 503, sheet 1.

(f) Remove the cotter pin (2), nut (1), and bolt (13) to release the lower rod end of the rod assembly (15) or (14), as applicable. Refer to Figure 503, sheet 1.

NOTE: Discard the cotter pin (2) removed.

(g) Remove the nut (27), washers (26) and (16), and the bolt (17). Refer to Figure 503, sheet 2.

(h) Remove the stop bellcrank assembly (6) or (5), as applicable. Refer to Figure 503, sheet 2.

(i) If necessary, adjust the minimum brake pedal deflection to a maximum 120 psi as follows: Refer to Figure 503, sheet 2.

1 Remove the collar shear (24), the washer (23), delaminable washer (22), and the hi-lite pin (21). (SRM 51-40-02/1). Refer to Figure 503, sheet 2.

NOTE: Discard the collar shear (24) removed.

2 Reduce the delaminable washer (22) thickness to decrease the brake pressure. Refer to Figure 503, sheet 2.

NOTE: Each 0.25 mm (0.01 in) of the delaminated washer, is equal to a decrease of approximately 50 psi of brake pressure.

3 Install the hi-lite pin (21), delaminable washer (22), and washer (23) with a new collar shear (24). (SRM 51-40-02/1). Refer to Figure 503, sheet 2.

(j) If necessary, adjust the maximum brake pedal deflection to at least 2700 psi as follows: Refer to Figure 503, sheet 2.

1 Remove the collar shear (25), the washer (18), delaminable washer (19), and the hi-lite pin (20). (SRM 51-40-02/1). Refer to Figure 503, sheet 2.

NOTE: Discard the collar shear (25) removed.

2 Reduce the delaminable washer (19) thickness to increase the brake pedal stroke. Refer to Figure 503, sheet 2.

NOTE: Each 0.5 mm (0.02 in) of the delaminated washer, is equal to an increase of approximately 100 psi of brake pressure.

3 Install the hi-lite pin (20), delaminable washer (19), and washer (18) with a new collar shear (25). (SRM 51-40-02/1). Refer to Figure 503, sheet 2.

(k) Put the stop bellcrank assembly (6) or (5) in position. Refer to Figure 503, sheet 2.

(l) Attach it with the bolt (17), washers (16) and (26), and nut (27). Refer to Figure 503, sheet 2.

(m) Install the lower rod end of rod assembly (15) or (14) with the bolt (13), nut (1), and a new cotter pin (2). Refer to Figure 503, sheet 1.

(n) Install the lower rod-end of transducer (PPTRAN) (12) or (11) with the bolt (10), washers (9) and (8), and nut (7). Refer to Figure 503, sheet 1.

(o) Connect the spring (3) or (4). Refer to Figure 503, sheet 1.

(p) Do the step (4) again.

(7) Turn ON the electric hydraulic pump of the system in test.

(8) Apply the brake pedals up to approximately half-travel.

(9) On the brake test screen, do the LVDT - Loop back test.

(a) To refer to the Test Page, select the second button on the Field Analyzer toolbar or push the keys (Ctrl+Sh+I) on the Field-Analyzer computer keyboard.

(b) Select the test: LVDT Loopback Test, Both Wheels.

(c) Run and push the "Run Outboard test" button to run the outboard tests.

NOTE:
- After a few seconds, the message PASSED comes into view. If the message NOT RUN comes into view, do step (8) again and repeat the test.
- To do the inboard tests, push the "Run Inboard test" button instead.

1 During the display test, the EICAS will show the caution messages as follows:

a BRAKE DEGRADED

b BRK OUTBD INOP or BRK INBD INOP

2 If these messages do not come into view, this means that the BCU or the DAU/EICAS are defective.

(d) To refer to the Status Page, select the first button on the Field Analyzer toolbar or push the keys (Ctrl+Sh+S) on the Field Analyzer computer keyboard.

1 The Status Page will show the results of the tests. If there is a failure, the failure and the related component will be isolated.

2 The cells will be shown in three possible colors, as follows:

a RED cells: component is defective.

b GREEN cells: component is serviceable.

c BLUE cells: component is in STATUS condition.

(10) Turn OFF the electric hydraulic pump of the system in test.

(11) Do steps (1) through (9) again for the other transducer.

(12) Do the test again for the copilot pedals.

K. Follow-on

SUBTASK 842-003-A

(1) If you removed the pilot seats, instal them again (AMM TASK 25-11-01-400-801-A/400).

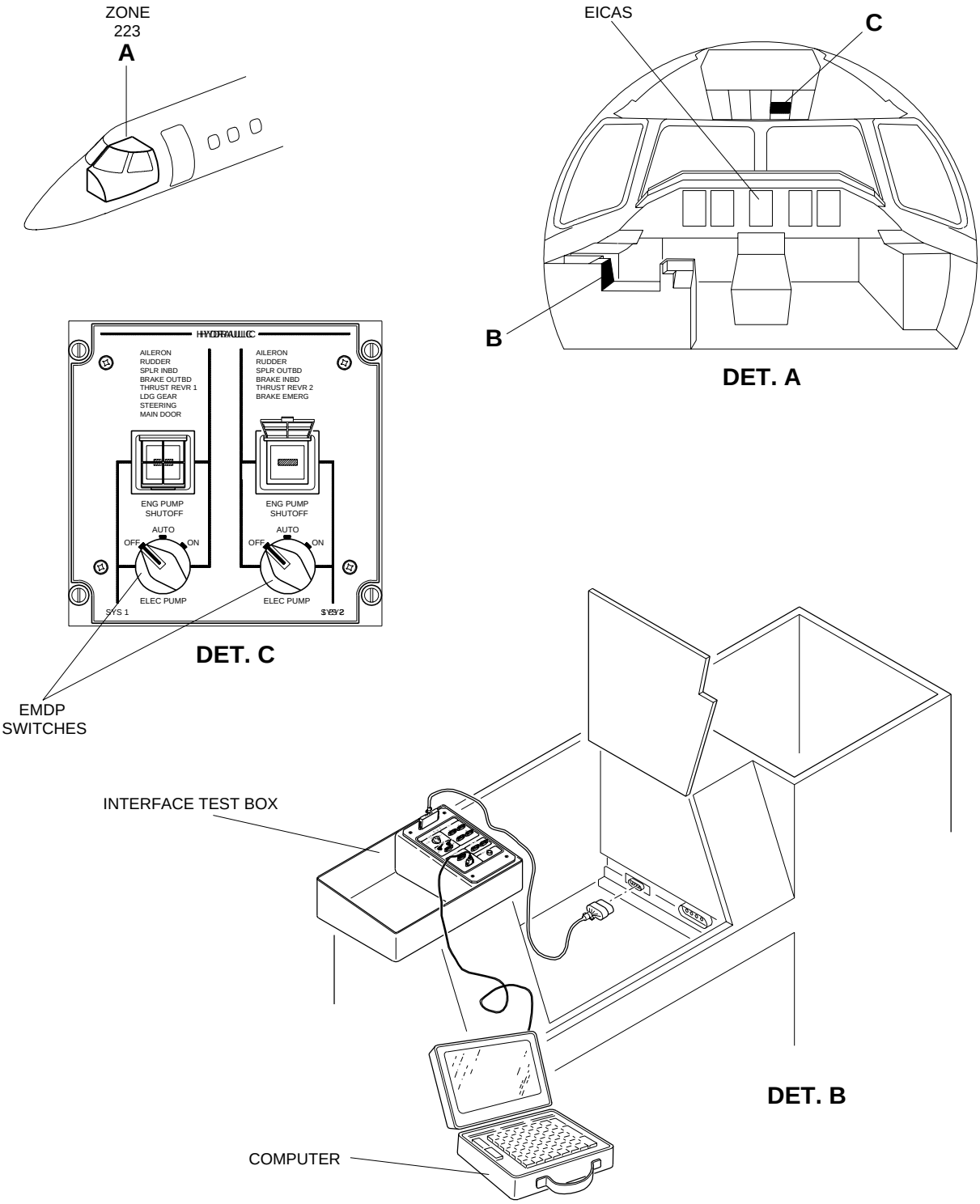
(2) If you removed the pedal assembly linings, instal them again (AMM TASK 25-12-06-400-801-A/400).

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

(4) Install access panel 123BL (AMM MPP 06-41-01/100).

EFFECTIVITY: ALL

Operational Check of the Brake Transducers (BRAKE PPTRAN)
Figure 502



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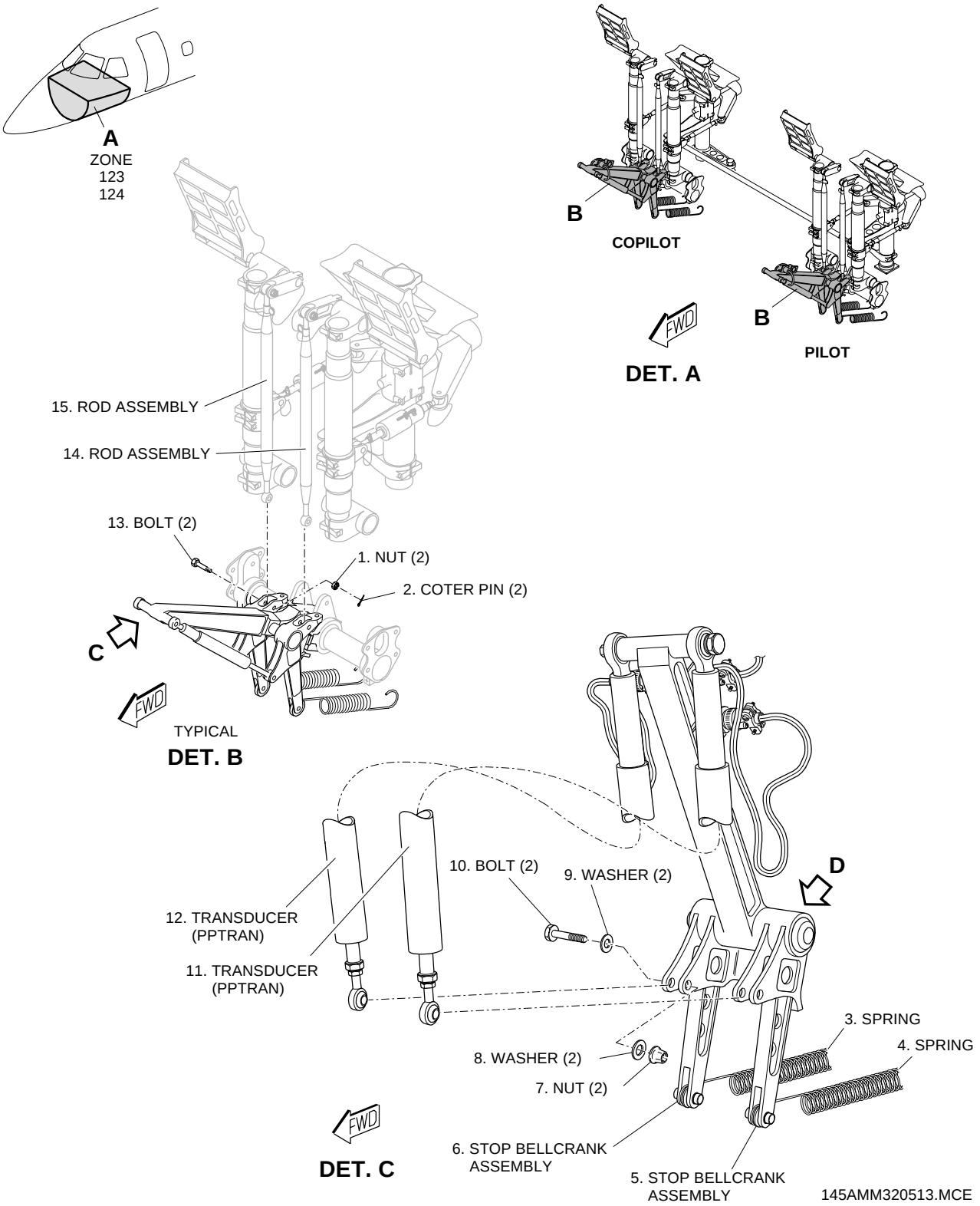
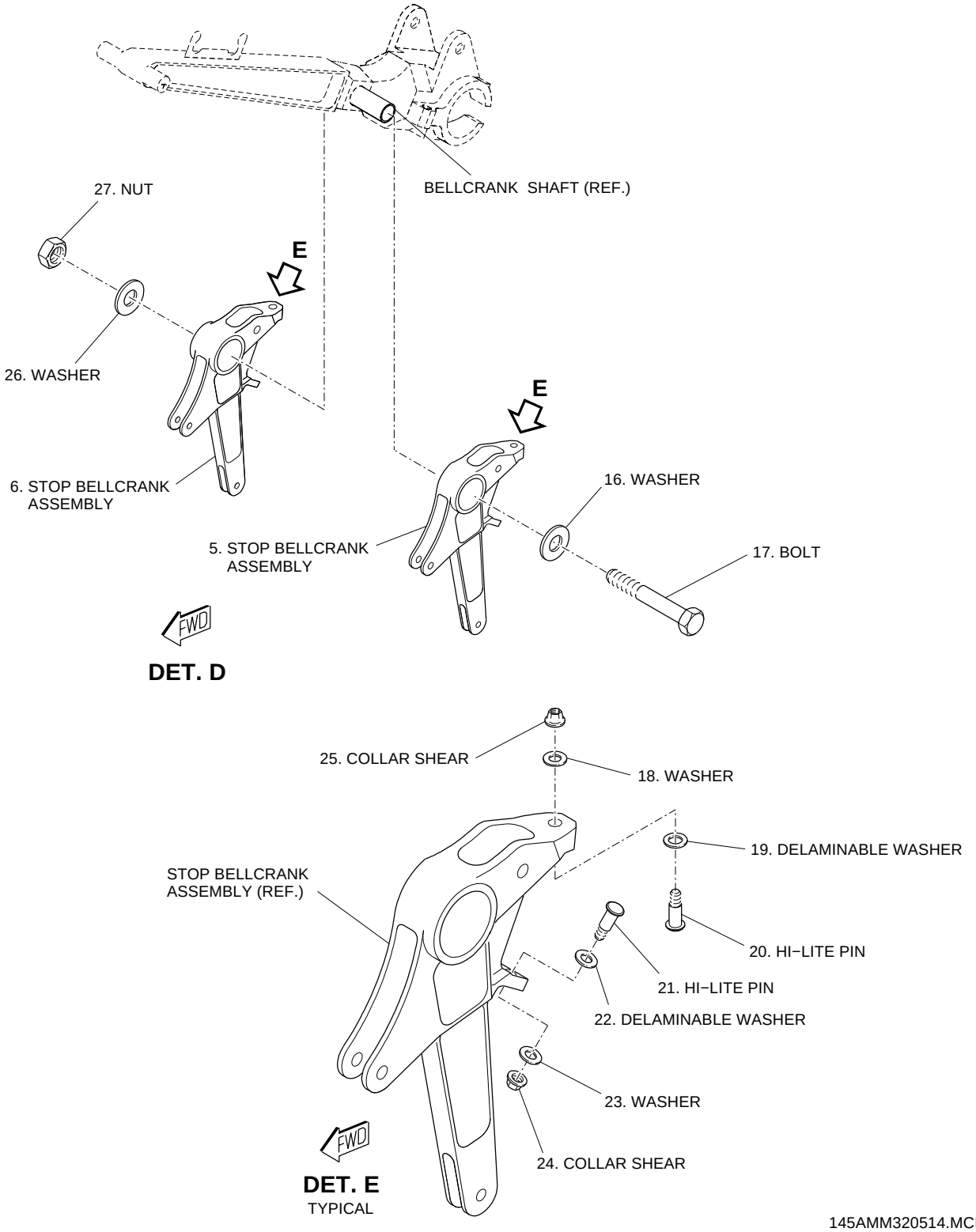
EFFECTIVITY: ALL

Adjustment of the Maximum Brake Pedal Deflection
Figure 503 - Sheet 1



EFFECTIVITY: ALL

Adjustment of the Maximum Brake Pedal Deflection
Figure 503 - Sheet 2



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