ELEVATOR CONTROL CABLES - INSPECTION/CHECK

EFFECTIVITY: ALL

1. General

A. This section gives the procedures to do:

- The general visual inspection of the elevator disconnect system.
- The general visual inspection of the stick-pusher actuator mechanical linkage to the forward quadrant.
- The detailed visual inspection of the elevator control cables.

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*
27-31-01-200-801-A	ELEVATOR DISCONNECT SYSTEM - GENERAL VISUAL INSPECTION	ALL
27-31-01-200-802-A	INSPECT (GENERAL VISUAL) STICK PUSHER ACTUATOR MECHANICAL LINKAGE TO FORWARD QUADRANT	ALL
27-31-01-200-803-A ♦	ELEVATOR CONTROL CABLES - DETAILED VISUAL INSPECTION	ALL

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TASK 27-31-01-200-801-A
EFFECTIVITY: ALL

2. ELEVATOR DISCONNECT SYSTEM - GENERAL VISUAL INSPECTION

A. General

(1) The function of this inspection is to do a check of the general condition of the equipment.

B. References

REFERENCE	*DESIGNATION*
AMM MPP 06-41-01/100	-
AMM TASK 28-41-00-200-801-A/600	-

C. Zones and Accesses

ZONE	*PANEL/DOOR*	*LOCATION*
123	123BL	Area below the cockpit floor
221	221EF	Passenger cabin - LH
221	221GF	Passenger cabin - LH

D. Tools and Equipment

ITEM	*DESCRIPTION*	*PURPOSE*	*QTY*
Commercially available	Flashlight	To make the lighting condition better for inspection	

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 841-002-A

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

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

(3) Remove control rigging door 123BL and floor panels 221EF and 221GF (AMM MPP 06-41-01/100).

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J. Inspect (General Visual) Elevator Disconnect System (Figure 601)

SUBTASK 212-002-A

(1) Do an inspection of the mechanical linkage of the disconnectable link to the bellcrank. Examine the pin, washer and cotter pin for condition.

(2) Do an inspection of the disconnect cable from the bellcrank to the disconnectable link.

(3) Do an inspection of the bolt, washer and nut that attach the disconnectable link to the elevator torque tube for condition.

(4) Do an inspection of the electrical connector of the disconnectable link for condition.

K. Follow-on

SUBTASK 842-002-A

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

NOTE: The inspection of fuel quantity indication harness is part of Critical Design Configuration Control Limitations (CDCCL) in the Airworthiness Limitations of the Aircraft Maintenance Program.

(2) Install control rigging door 123BL and floor panels 221EF and 221GF (AMM MPP 06-41-01/100).

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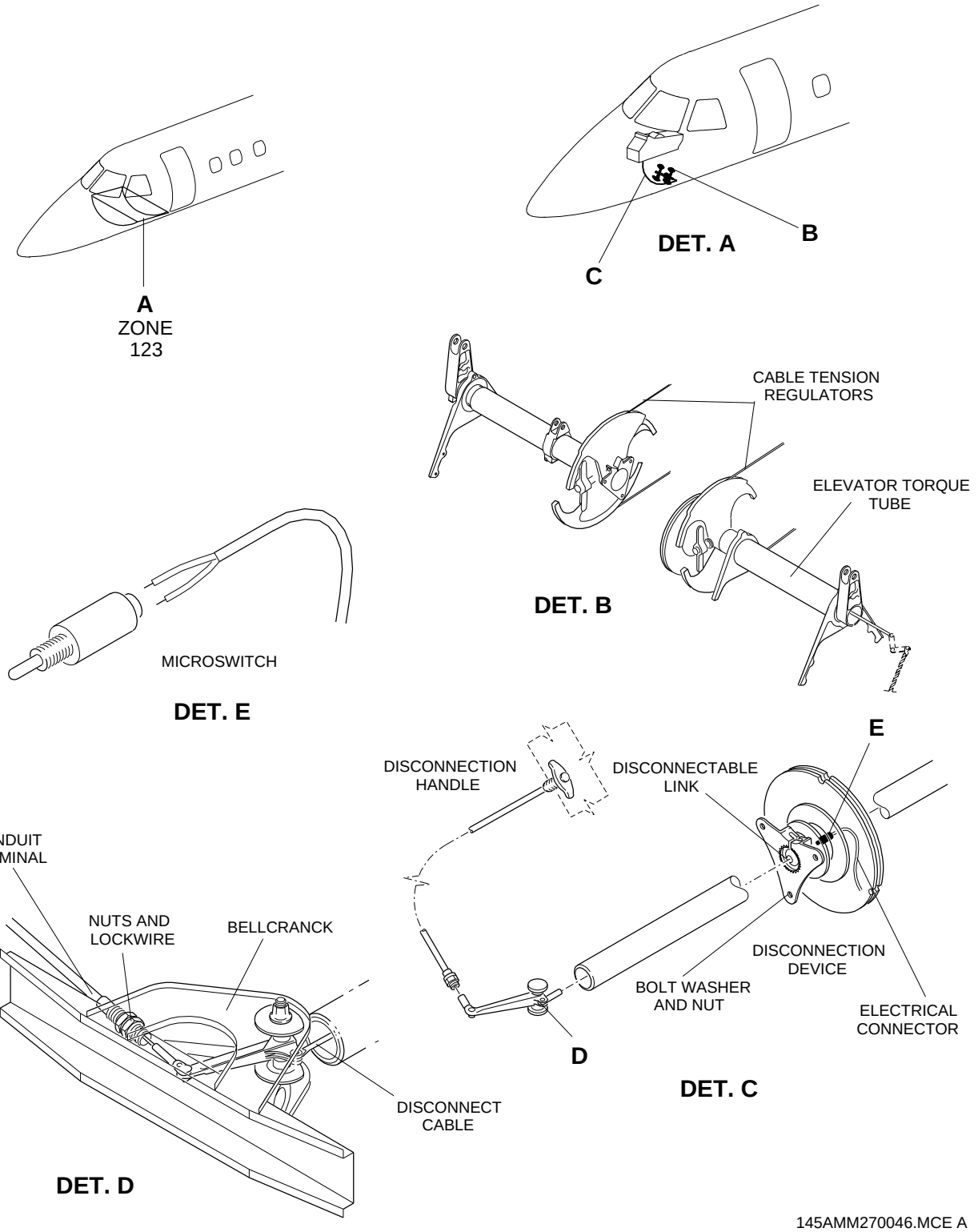
EFFECTIVITY: ALL

Elevator Disconnect System - Inspection
Figure 601



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TASK 27-31-01-200-802-A
EFFECTIVITY: ALL

3. INSPECT (GENERAL VISUAL) STICK PUSHER ACTUATOR MECHANICAL LINKAGE TO FORWARD QUADRANT

A. General

(1) The function of this inspection is to do a check of the general condition of the equipment.

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

ITEM	*DESCRIPTION*	*PURPOSE*	*QTY*
Commercially available	Flashlight	To make the lighting condition better for inspection	

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 841-003-A

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

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

(3) Remove control rigging door 123BL (AMM MPP 06-41-01/100).

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J. Inspect (General Visual) Stick Pusher Actuator Mechanical Linkage to Forward Quadrant (Figure 602)

SUBTASK 212-003-A

(1) Do a visual inspection of the stick pusher cable from the stick pusher to the forward quadrant.

(2) Make sure that the elevator bellcrank does not show signs of too much friction of the stick pusher cable.

(3) Do an inspection of the cable guard and cotter pin for condition.

K. Follow-on

SUBTASK 842-003-A

(1) Install control rigging door 123BL (AMM MPP 06-41-01/100).

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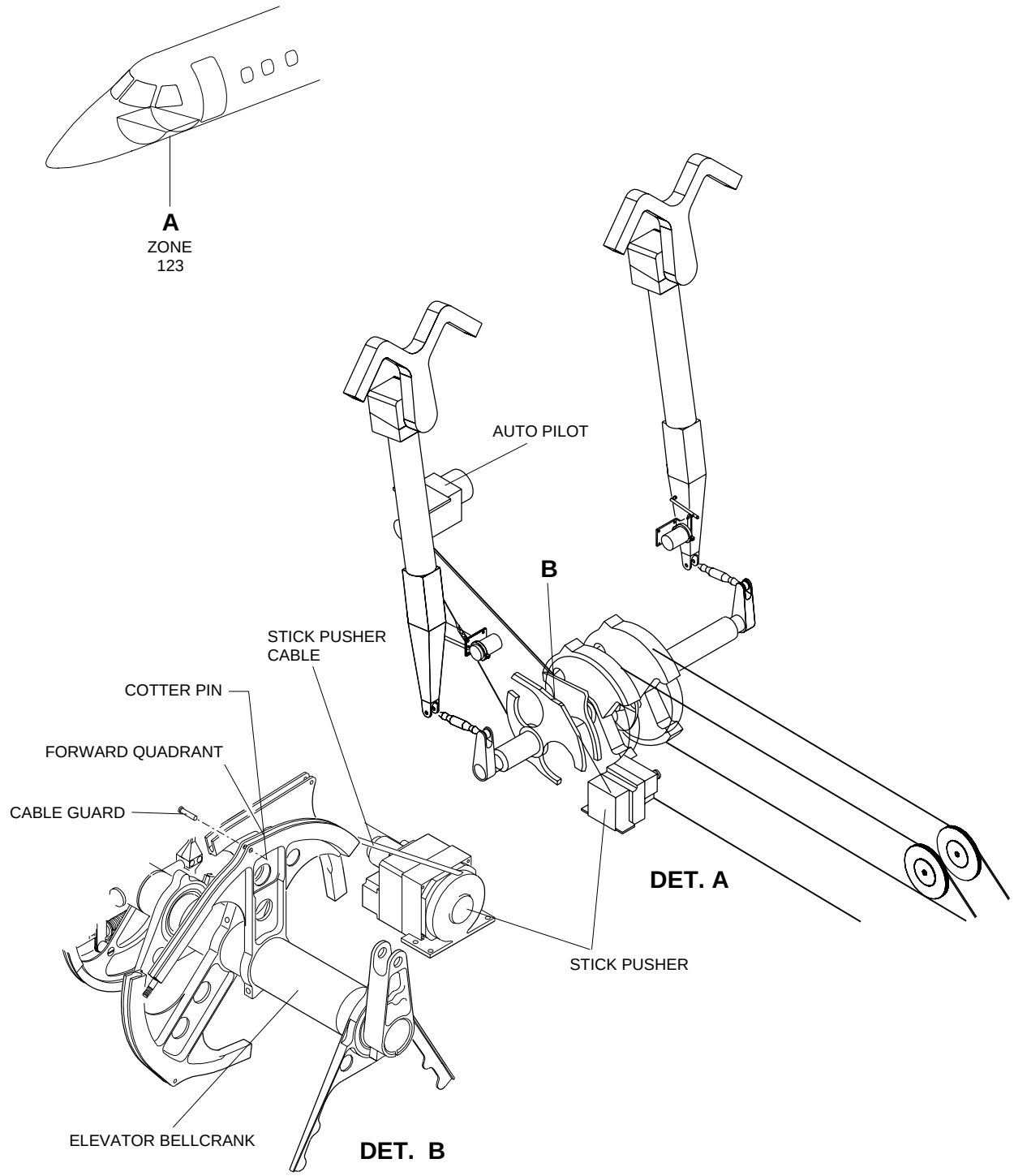
EFFECTIVITY: ALL

Stick Pusher Actuator Mechanical Linkage to Forward Quadrant - Inspection
Figure 602



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TASK 27-31-01-200-803-A
EFFECTIVITY: ALL

4. ELEVATOR CONTROL CABLES - DETAILED VISUAL INSPECTION

A. General

(1) The function of this inspection is to do a check of the general condition of the equipment.

B. References

REFERENCE	*DESIGNATION*
AMM MPP 06-41-01/100	-
AMM MPP 06-41-02/100	-
AMM MPP 06-42-00/100	-
AMM MPP 27-31-01/400	- REMOVAL/INSTALLATION
AMM MPP 28-00-00/200	- MAINTENANCE PRACTICES
AMM TASK 12-11-01-600-802-A/300	FUEL-TANK PRESSURE DEFUELING - SERVICING
AMM TASK 20-20-01-200-801-A/600	CONTROL CABLES - INSPECTION
AMM TASK 27-31-01-000-801-A/400	ELEVATOR TENSION REGULATOR - REMOVAL
AMM TASK 28-41-00-200-801-A/600	-

C. Zones and Accesses

ZONE	*PANEL/DOOR*	*LOCATION*
123	123BL	Area below the cockpit floor - LH
155	155BZ	LH Wing stub
155	155CZ	LH Wing stub
155	155FZ	LH Wing stub
155	155LZ	LH Wing stub
155	155MZ	LH Wing stub
156	156BZ	RH Wing stub
156	156CZ	RH Wing stub
156	156FZ	RH Wing stub
156	156LZ	RH Wing stub
192	192AL	Center lower fairing
192	192BR	Center lower fairing
221	221GF	Cockpit RH upper side
231	231BF	Passenger cabin - LH
231	231DF	Passenger cabin - LH
231	231FF	Passenger cabin - LH
231	231GF	Passenger cabin - LH
241	241BF	Passenger cabin - LH
241	241DF	Passenger cabin - LH

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(Continued)

ZONE	*PANEL/DOOR*	*LOCATION*
251	251BF	Passenger cabin - LH
251	251DF	Passenger cabin - LH
251	251FF	Passenger cabin - LH
251	251HF	Passenger cabin - LH
261	261BF	Passenger cabin - LH
261	261DF	Passenger cabin - LH
271	271AF	Passenger cabin - LH
271	271BF	Passenger cabin - LH
271	271CF	Passenger cabin - LH
271	271DF	Passenger cabin - LH
271	271EF	Passenger cabin - LH
272	272DR	Rear electronic compartment door
312	312AR	Tail cone compartment door
324	324AL	Vertical stabilizer
325	325FR	Vertical stabilizer
325	325HR	Vertical stabilizer
325	325KR	Vertical stabilizer
325	325LR	Vertical stabilizer

D. Tools and Equipment

ITEM	*DESCRIPTION*	*PURPOSE*	*QTY*
Commercially available	Flashlight	To make the lighting condition better for inspection	
Commercially available	Mirror	To do an inspection of the control cables	

E. Auxiliary Items

ITEM	*DESCRIPTION*	*PURPOSE*	*QTY*
Commercially available	Dry cloth	To do an inspection of the control cables	AR
Commercially available	Brush	To apply the corrosion preventive to the cables	1

F. Consumable Materials

SPECIFICATION (BRAND)	*DESCRIPTION*	*QTY*
MIL-C-16173 Class 1, Grade 3	Esgard PL-3	AR

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G. Expandable Parts

Not Applicable

H. Persons Recommended

QTY	*FUNCTION*	*PLACE*
1	Does the task	Fuselage and vertical stabilizer

I. Preparation

SUBTASK 841-004-A

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

WARNING: BEFORE YOU DO THE TASK, OBEY THE SAFETY PRECAUTIONS GIVEN IN AMM MPP 28-00-00/200 TO PREVENT INJURY TO PERSONS AND DAMAGE TO MATERIAL

(2) Make sure that the aircraft is defueled (AMM TASK 12-11-01-600-802-A/300) for all wet stub wing.

(3) Do not do other tasks on the elevator system.

(4) Remove control rigging door 123BL (AMM MPP 06-41-01/100), the floor panels 221GF, 231BF, 231DF, 231GF, 241BF, 241DF, 251BF, 251DF, 251HF, 261BF, 261DF, 271AF, 271BF, 271CF, 271DF, and 271EF (AMM MPP 06-41-02/100).

(5) Remove access door 272DR (AMM MPP 06-41-01/100).

(6) Remove access door 312AR (AMM MPP 06-42-00/100).

(7) Remove access doors 324AL, 325FR, 325HR, 325KR, and 325LR (AMM MPP 06-42-00/100).

(8) Remove access panels 192AL, 192BR, 155BZ, 155CZ, 155FZ, 155LZ, 155MZ, 156BZ, 156CZ, 156FZ and 156LZ (AMM MPP 06-41-01/100).

J. Inspect (Detailed Inspection) Elevator Control Cables (Figure 603) (Figure 604) (Figure 605)

SUBTASK 220-002-A

NOTE: Use a mirror and a flashlight to examine the parts.

(1) Do a visual inspection of the elevator control cables from the tension regulators to the pulleys.

CAUTION: BE CAREFUL WITH YOUR HANDS WHILE THE CABLE ARE MOVED.

(2) Wipe a dry cloth on the control cables near the pulleys and tension regulator. Make sure that there are no broken wires on the cables. Do a special inspection of the points where the cables change direction (quadrants, pulleys).

- If cloth catches on the cables and snags are found, remove the cable (AMM TASK 27-31-01-000-801-A/400) and do (AMM TASK 20-20-01-200-801-A/600).

NOTE: Move the cable to full travel in the two directions to examine the cable.

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(3) Do a visual inspection of the elevator control cables from the pulleys to the end of central fuselage IV.

CAUTION: BE CAREFUL WITH YOUR HANDS WHILE THE CABLE ARE MOVED.

(4) Wipe a dry cloth on the control cables on the central fuselage central IV near the pulleys. Make sure that there are no broken wires on the cables. Do a special inspection of the points where the cables change direction (quadrants, pulleys).

- If cloth catches on the cables and snags are found, remove the cable (AMM TASK 27-31-01-000-801-A/400) and do (AMM TASK 20-20-01-200-801-A/600).

NOTE: Move the cable to full travel in the two directions to examine the cable.

(5) Do a visual inspection of the elevator control cables from the end of central fuselage IV to the elevator rear sector.

CAUTION: BE CAREFUL WITH YOUR HANDS WHILE THE CABLE ARE MOVED.

(6) Wipe a dry cloth on the control cables near the elevator rear sector and the pulleys on the central fuselage IV. Make sure that there are no broken wires on the cables. Do a special inspection of the points where the cables change direction (quadrants, pulleys).

- If cloth catches on the cables and snags are found, remove the cable (AMM TASK 27-31-01-000-801-A/400) and do (AMM TASK 20-20-01-200-801-A/600).

NOTE: Move the cable to full travel in the two directions to examine the cable.

(7) Do a visual inspection of the linkage of the control cables to the rear elevator sector.

CAUTION: BE CAREFUL WITH YOUR HANDS WHILE THE CABLE ARE MOVED.

(8) Examine the cable for external wear and corrosion.

- If one single wire of any strand shows wear that reduces its cross section by more than 40 percent, the cable must be replace (AMM TASK 20-20-01-200-801-A/600) (AMM MPP 27-31-01/400).
- If signs of corrosion are found, remove the cable (AMM TASK 27-31-01-000-801-A/400) and examine the cable for internal corrosion (AMM TASK 20-20-01-200-801-A/600).

NOTE: Move the cable to full travel in the two directions to examine the cable.

(9) Do an inspection of the pressure seals and check if they are worn. If necessary, replace them as follows.

(a) Remove the bolts (24) and washers (25). Refer to DET. C, Figure 604

(b) Release the plate (26) and move it forward.

(c) Put a new pressure seal between the plate and gasket.

NOTE: To prevent air leakage, make sure that the larger diameter of the gasket assy taper drill is turned to the semi-sphere seal.

(d) Finger-tighten bolts (24) with their washers (25).

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(e) Move the control column forward and backward to align the pressure seal with the cable.

(f) Tighten bolts (24) until they touch the structure surface and turn the bolt (24) by a 1/4 turn more.

NOTE: Make sure that the pressure seal is aligned with the cable and there is no friction between the control cable and the plate to prevent jamming and wear.

(g) Check if the cable moves freely and smoothly after the installation of the new pressure seal

(10) (ON AIRCRAFT WITH ELEVATOR−CONTROL CARBON−STEEL CABLES) Apply a thin layer of Esgard PL-3, with a brush, along the control cables.

K. Follow-on

SUBTASK 842-004-A

(1) Do an inspection of 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 (Section 6) of the Maintenance Review Board Report (MRB).

(2) Install control rigging door 123BL (AMM MPP 06-41-01/100), the floor panels 221GF, 231BF, 231DF, 231GF, 241BF, 241DF, 251BF, 251DF, 251HF, 261BF, 261DF, 271AF, 271BF, 271CF, 271DF, and 271EF (AMM MPP 06-41-02/100).

(3) Install access door 272DR (AMM MPP 06-41-01/100).

(4) Install access door 312AR (AMM MPP 06-42-00/100).

(5) Install access doors 324AL, 325FR, 325HR, 325KR, and 325LR (AMM MPP 06-42-00/100).

(6) Install access panels 192AL, 192BR, 155BZ, 155CZ, 155FZ, 155LZ, 155MZ, 156BZ, 156CZ, 156FZ and 156LZ (AMM MPP 06-41-01/100).

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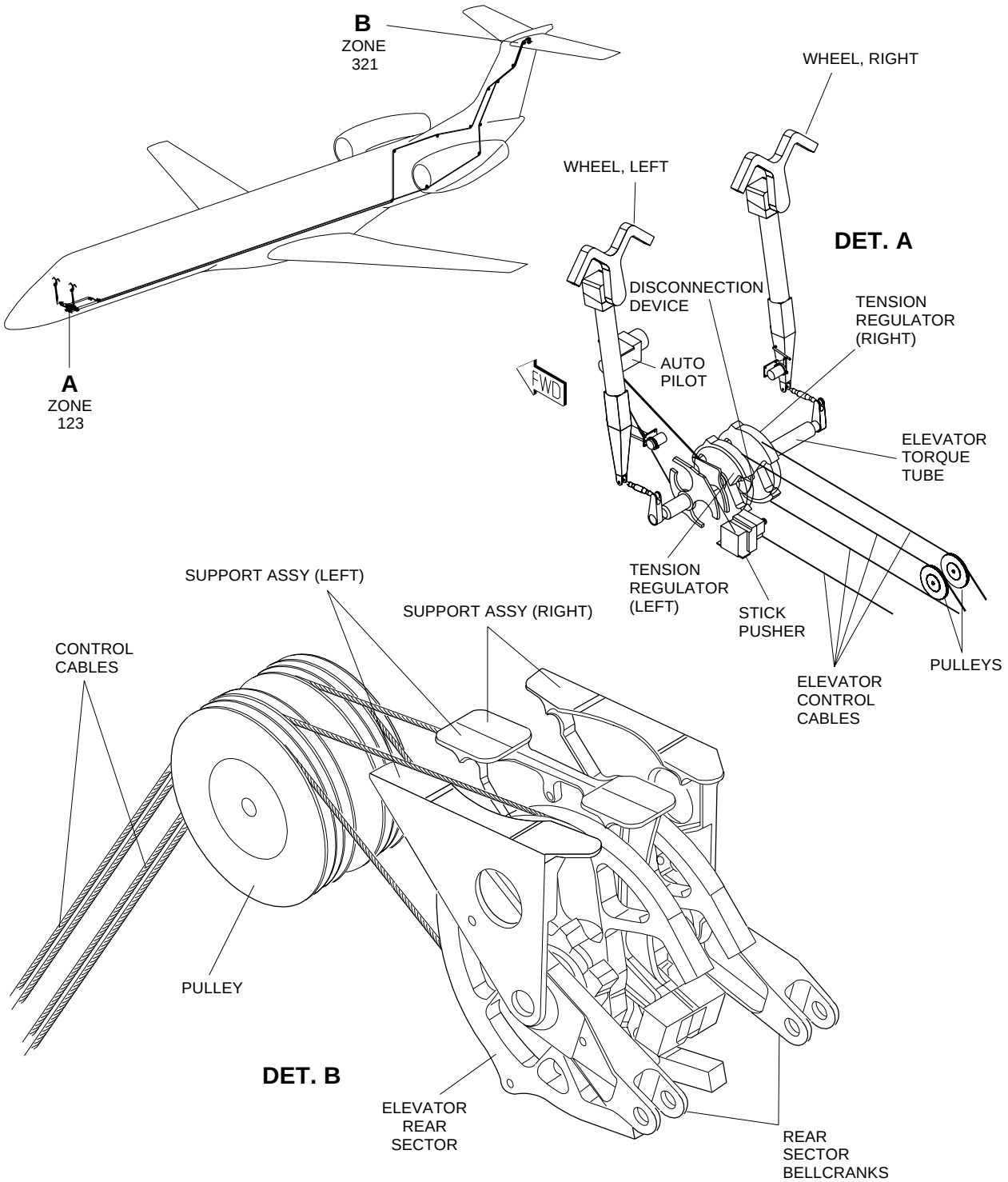
EFFECTIVITY: ALL

Elevator Control Cables - Inspection
Figure 603



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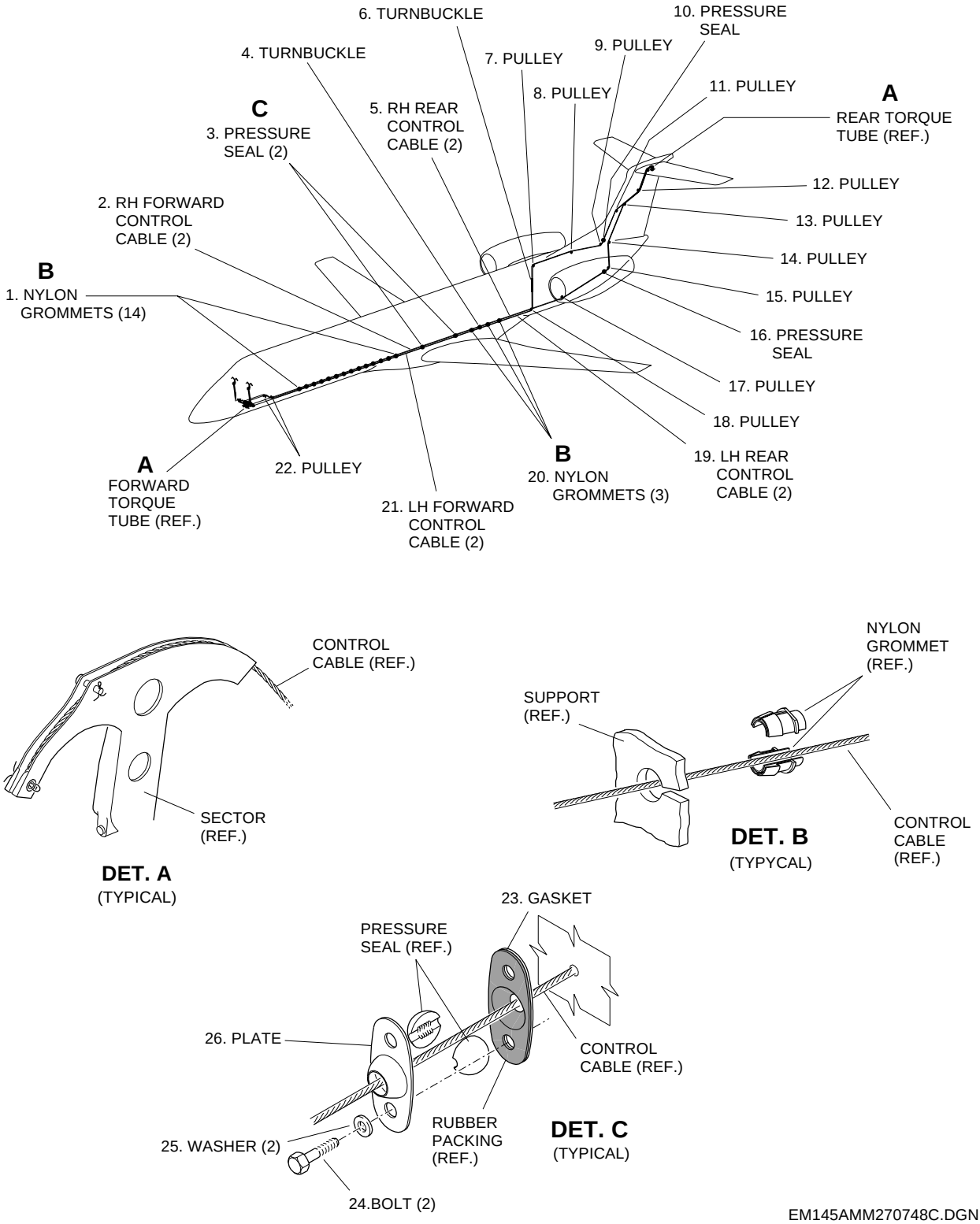
EFFECTIVITY: ALL

Elevator Control Cables, Pulleys, and Quadrants - Detailed Visual Inspection
Figure 604



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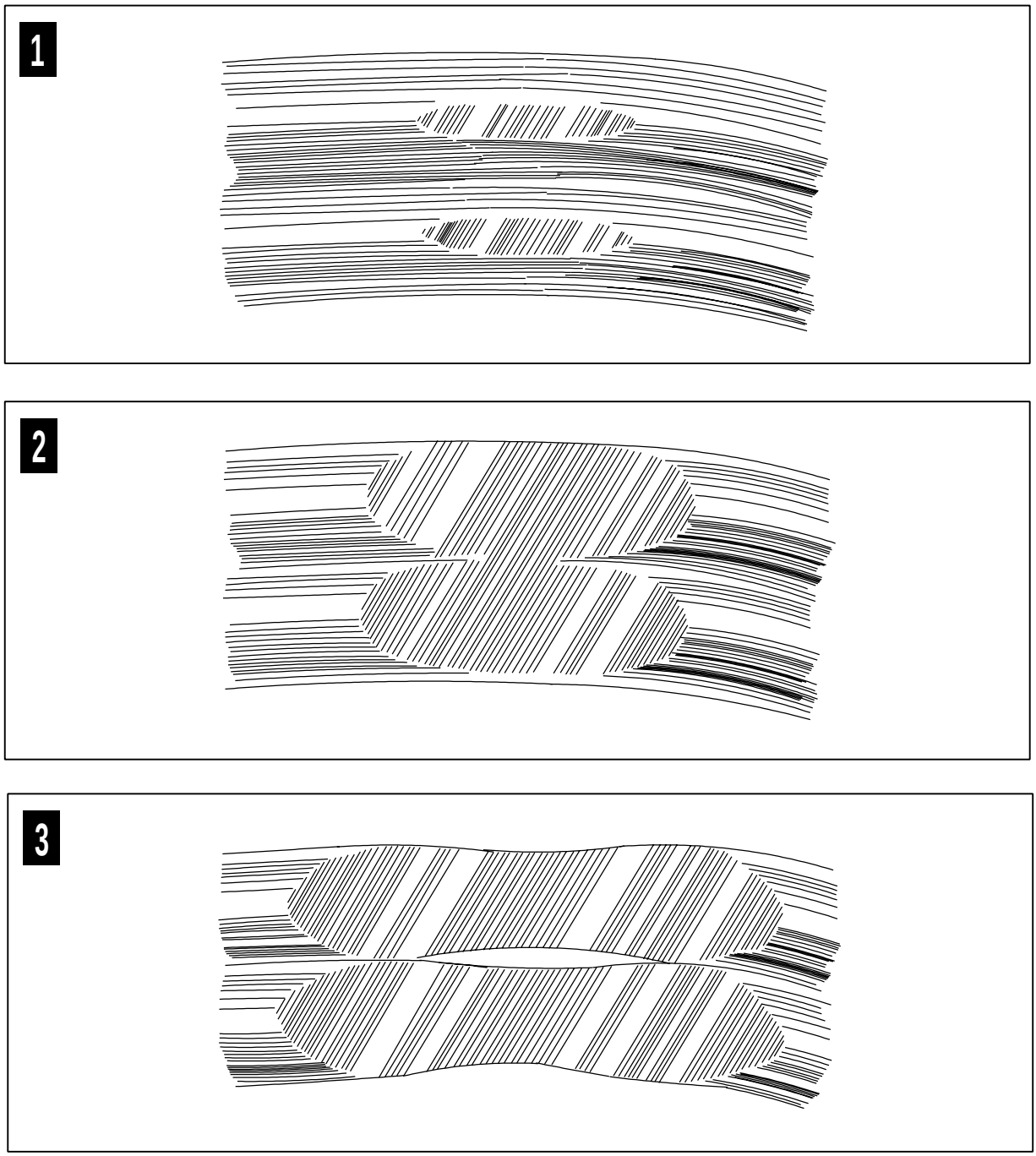
EFFECTIVITY: ALL
External Cable Wear
Figure 605



1 − WEAR OF OUTER WIRE IS LESS THAN 40% OF ITS CROSS SECTION AND THE WORN AREAS ARE NOT BLENDED.

2 − WEAR OF OUTER WIRE IS FROM 40% TO 50% OF ITS CROSS SECTION AND THE WORN AREAS ARE BLENDED.

3 − WEAR OF OUTER WIRE IS MORE THAN 50% OF ITS CROSS SECTION AND THERE IS VISIBLE SPACE BETWEEN WIRES.

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