



AIRCRAFT MAINTENANCE MANUAL

FREE-FALL CONTROL CABLES - REMOVAL/INSTALLATION

EFFECTIVITY: ALL

1. General

- A. This section gives the typical procedures to remove and install the landing-gear free-fall 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
32-34-03-000-801-A	LANDING-GEAR FREE-FALL CONTROL CABLES - REMOVAL	ALL
32-34-03-400-801-A	LANDING-GEAR FREE-FALL CONTROL CABLES - INSTALLATION	ALL



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TASK 32-34-03-000-801-A

EFFECTIVITY: ALL

2. LANDING-GEAR FREE-FALL CONTROL CABLES - REMOVAL

A. General

(1) This task gives the typical procedures to remove the landing-gear free-fall cables.

B. References

REFERENCE	DESIGNATION
AMM MPP 06-41-01/100	-
AMM MPP 06-41-02/100	-
AMM TASK 25-26-02-000-801-A/400	-
AMM TASK 25-26-02-000-802-A/400	-
AMM TASK 27-53-03-000-801-A/400	FLAP SELECTOR LEVER - REMOVAL
AMM TASK 29-10-00-860-802-A/200	HYDRAULIC SYSTEM - PRESSURIZATION WITH EMDP
AMM TASK 32-00-02-910-801-A/200	SAFETY PIN OF THE NLG DOORS SOLENOID VALVE - INSTALLATION AND REMOVAL
S.B.145-32-0036	-

C. Zones and Accesses

ZONE	PANEL/DOOR	LOCATION
222	222FF	Pressure bulkhead-cockpit RH upper side
232	232AF	Passenger cabin - RH
192	192BR	Center lower wing-to-fuselage fairing
155	155KZ	MLG wheelwell - LH
155	155MZ	MLG wheelwell - LH
156	156KZ	MLG wheelwell - RH
156	156MZ	MLG wheelwell - RH

D. Tools and Equipment

Not Applicable

E. Auxiliary Items

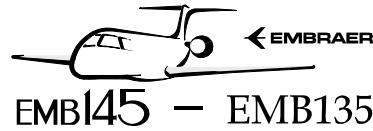
Not Applicable

F. Consumable Materials

Not Applicable

G. Expandable Parts

Not Applicable



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H. Persons Recommended

QTY	FUNCTION	PLACE
1	Does the task	Cockpit, passenger cabin, wing stub, NLG wheelwell, and MLG wheelwell
1	To help the other technician	Cockpit, passenger cabin, wing stub, NLG wheelwell, and MLG wheelwell

I. Preparation

SUBTASK 841-002-A

- (1) For aircraft PRE-MOD. [S.B.145-32-0036](#), make sure that the pressure in hydraulic system No. 1 is fully released ([AMM TASK 29-10-00-860-802-A/200](#)).
- (2) For aircraft POST-MOD. [S.B.145-32-0036](#), install safety pin of the NLG doors solenoid valve ([AMM TASK 32-00-02-910-801-A/200](#)).
- (3) To remove NLG control cable A, get access through the NLG wheelwell.
- (4) To remove NLG control cable B, get access as follows:
 - (a) Remove the flap selector ([AMM TASK 27-53-03-000-801-A/400](#)).
 - (b) Remove the pressure seal.
- (5) To remove MLG control cable C, get access as follows:
 - (a) Open access door 222EF (AMM MPP 06-41-02/100).
 - (b) Remove the RH wardrobe. Refer to AMM TASK 25-26-02-000-801-A/400, or AMM TASK 25-26-02-000-802-A/400, as applicable.
 - (c) Remove access panel 232AF (AMM MPP 06-41-02/100).
 - (d) Remove the pulley.
 - (e) Remove access panel 192BR (AMM MPP 06-41-01/100).
 - (f) Remove the pressure seal.
- (6) To remove MLG control cable D, get access as follows:
 - (a) Remove access panel 192BR (AMM MPP 06-41-01/100).
 - (b) Remove panel 156KZ (AMM MPP 06-41-01/100).
- (7) To remove MLG control cable E, get access as follows:
 - (a) Remove panel 156KZ (AMM MPP 06-41-01/100).
 - (b) Remove panel 156MZ (AMM MPP 06-41-01/100).
- (8) To remove MLG control cable F, get access as follows:
 - (a) Remove panel 156MZ (AMM MPP 06-41-01/100).

- (9) To remove MLG control cable G, get access as follows:
- Remove panel 155KZ (AMM MPP 06-41-01/100).
 - Remove panel 155MZ (AMM MPP 06-41-01/100).
- (10) To remove MLG control cable H, get access as follows:
- Remove panel 155MZ (AMM MPP 06-41-01/100).
- J. Removal**
- SUBTASK 020-002-A (Figure 402)**
- Remove the free-fall teleflex cable as follows ([Figure 402, Sheet 1](#) and [Figure 402, Sheet 2](#)):
 - Get access through the NLG wheelwell and door 222EF (AMM MPP 06-41-02/100).
 - Remove and discard the cotter pin (28) of the nut (29) and bolt (22).
 - Remove the nut (29), washer (27) and bolt (22) from the fork end (23) and LDG free-fall actuating device.
 - Remove and discard the lockwire (30) of the nut (24).
 - Loosen the nut (24) and remove the fork end (23) from the linear actuator (25).
 - Remove and discard the cotter pin (17) of the nut (14) and bolt (11).
 - Remove the nut (14), washer (13) and bolt (11) from the fork end (12) and free-fall selector valve.
 - Remove and discard the lockwire (15) of the nut (16).
 - Loosen the nut (16) and remove the fork end (12) from the linear actuator (6).
 - Remove the nuts (21), washers (20) and bolts (18) from the clamps (19).
 - Remove the clamps (19) from the conduits (1) and (3).
 - Remove the bolts (34), washers (36), and nuts (37) from the linear actuators (6) and (25).
 - Remove and discard the lockwire from the adapter (9) and nut (4).
 - Loosen the adapter (9) of the conduit (3) from the linear actuator (6).
 - Remove the nut (4), washer (10) and bushing (5) from the linear actuator (6).
 - Remove the linear actuator (6) from the aircraft.
 - Remove the teleflex-cable (8).
 - Remove and discard the lockwire of the adapter (33) and nut (26).
 - Loosen the adapter (33) of the conduit (1) from the linear actuator (25).



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- (t) Remove and discard the lockwire (2) of the conduits (1) and (3) and connector (7).
- (u) Remove the conduits (1) and (3) from the connector (7).
- (v) Remove the nut (26), washer (32) and bushing (31) from the linear actuator (25).
- (w) Remove the linear actuator (25) from the aircraft.

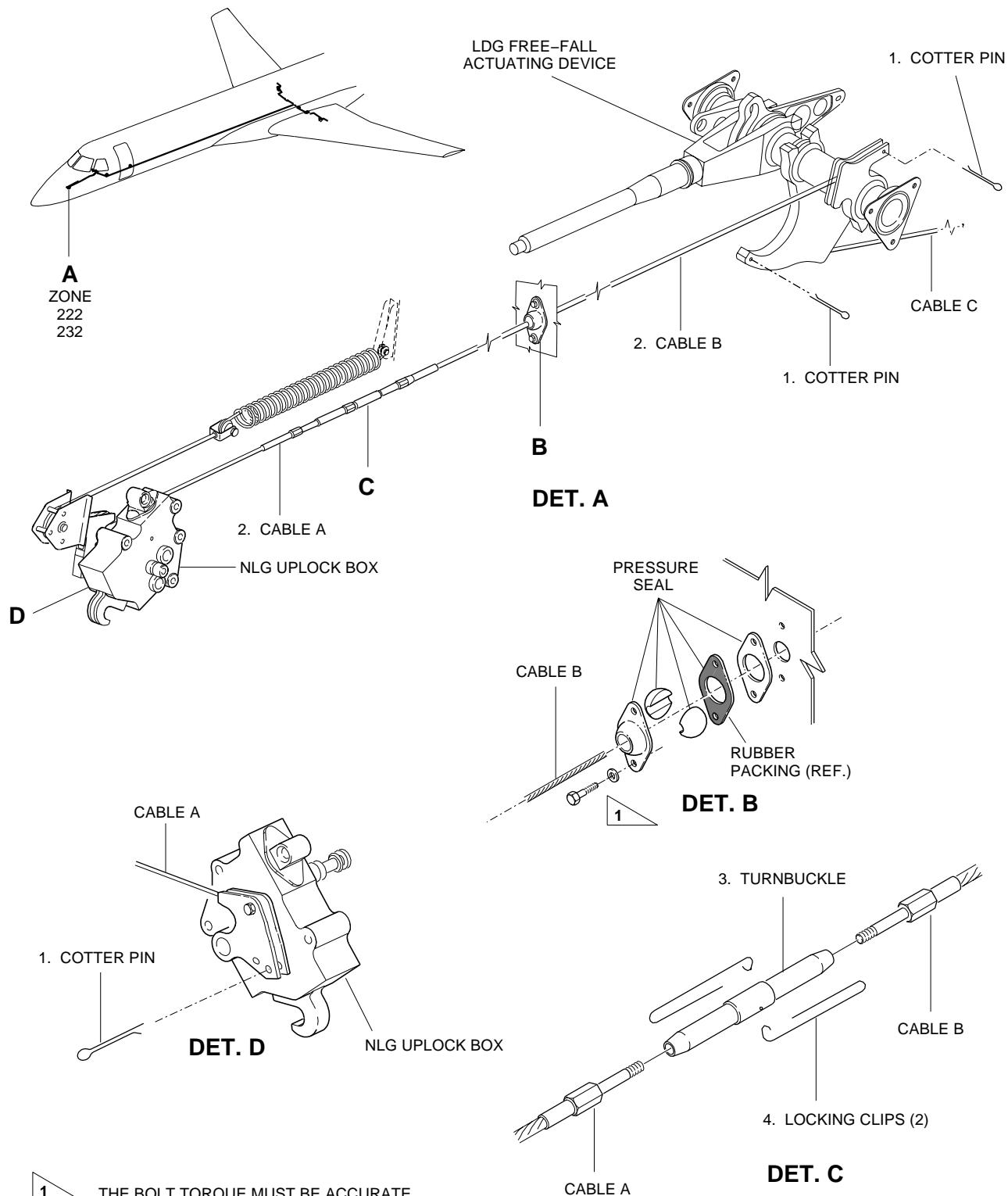
SUBTASK 020-005-A (Figure 401)

- (2) Remove the other control cables as follows:
 - (a) Remove and discard the locking clips (4).
 - (b) Release the turnbuckle (3).
 - (c) Remove and discard the cotter pins (1).
 - (d) Remove the cable (2).

EFFECTIVITY: ALL

Landing-Gear Free-Fall Control Cables - Removal/Installation

Figure 401 - Sheet 1

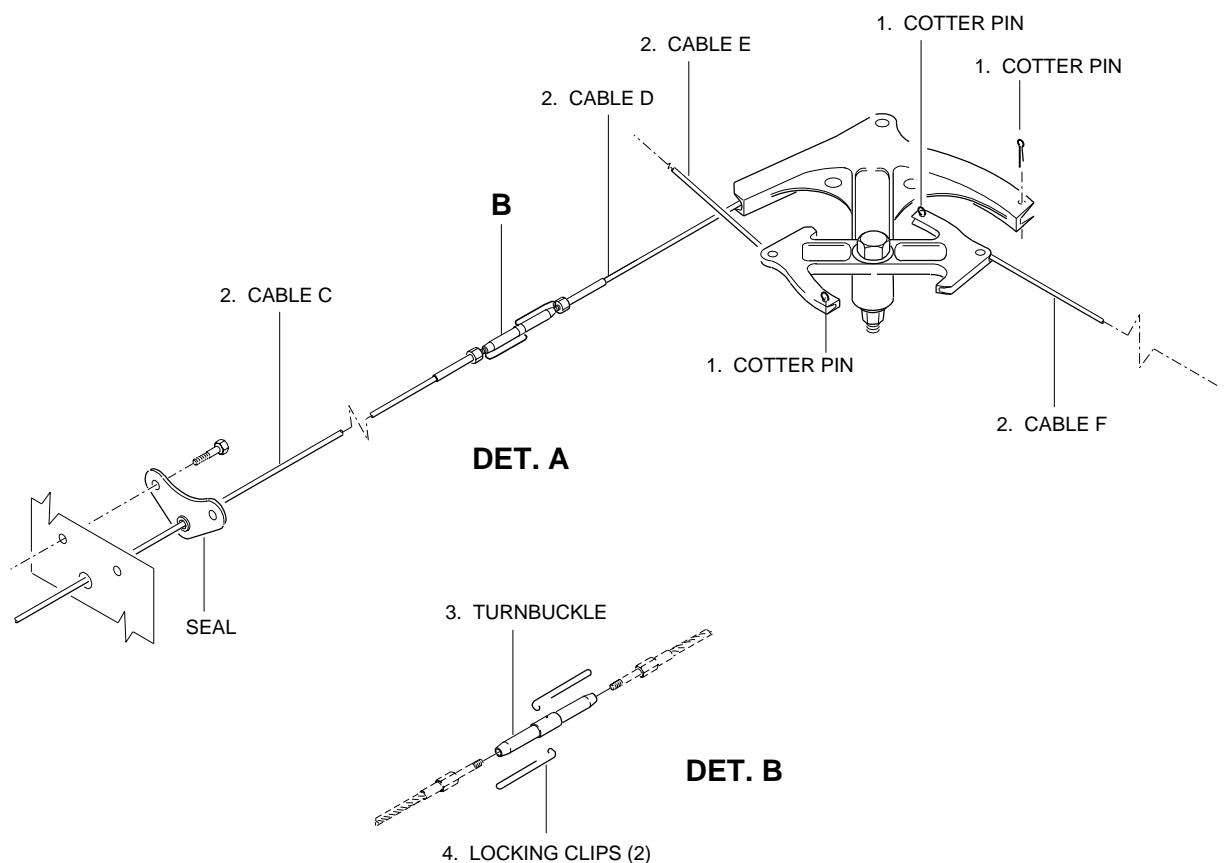
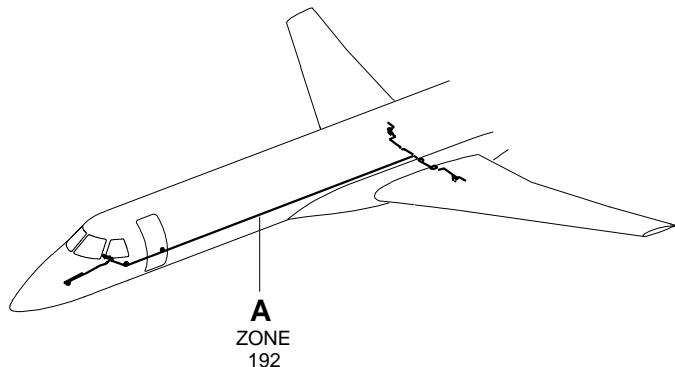

 THE BOLT TORQUE MUST BE ACCURATE
NOT TO PREVENT THE CABLE MOVEMENT

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EFFECTIVITY: ALL

Landing-Gear Free-Fall Control Cables - Removal/Installation

Figure 401 - Sheet 2

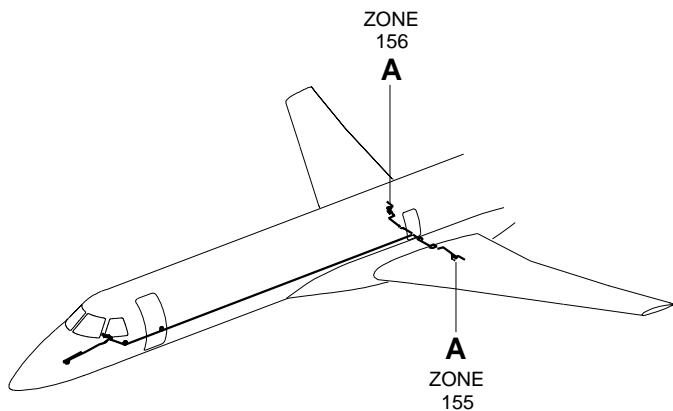


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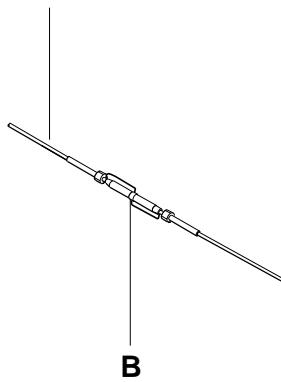
EFFECTIVITY: ALL

Landing-Gear Free-Fall Control Cables - Removal/Installation

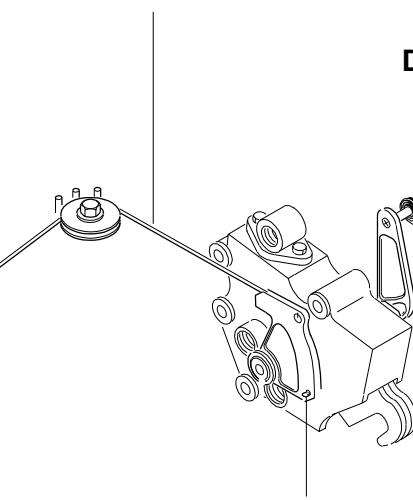
Figure 401 - Sheet 3



2. CABLE E OR F



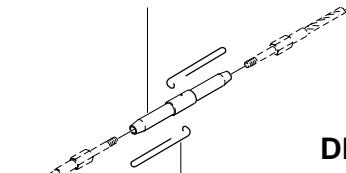
2. CABLE G OR H



DET. A
(TYP.)

1. COTTER PIN

3. TURNBUCKLE



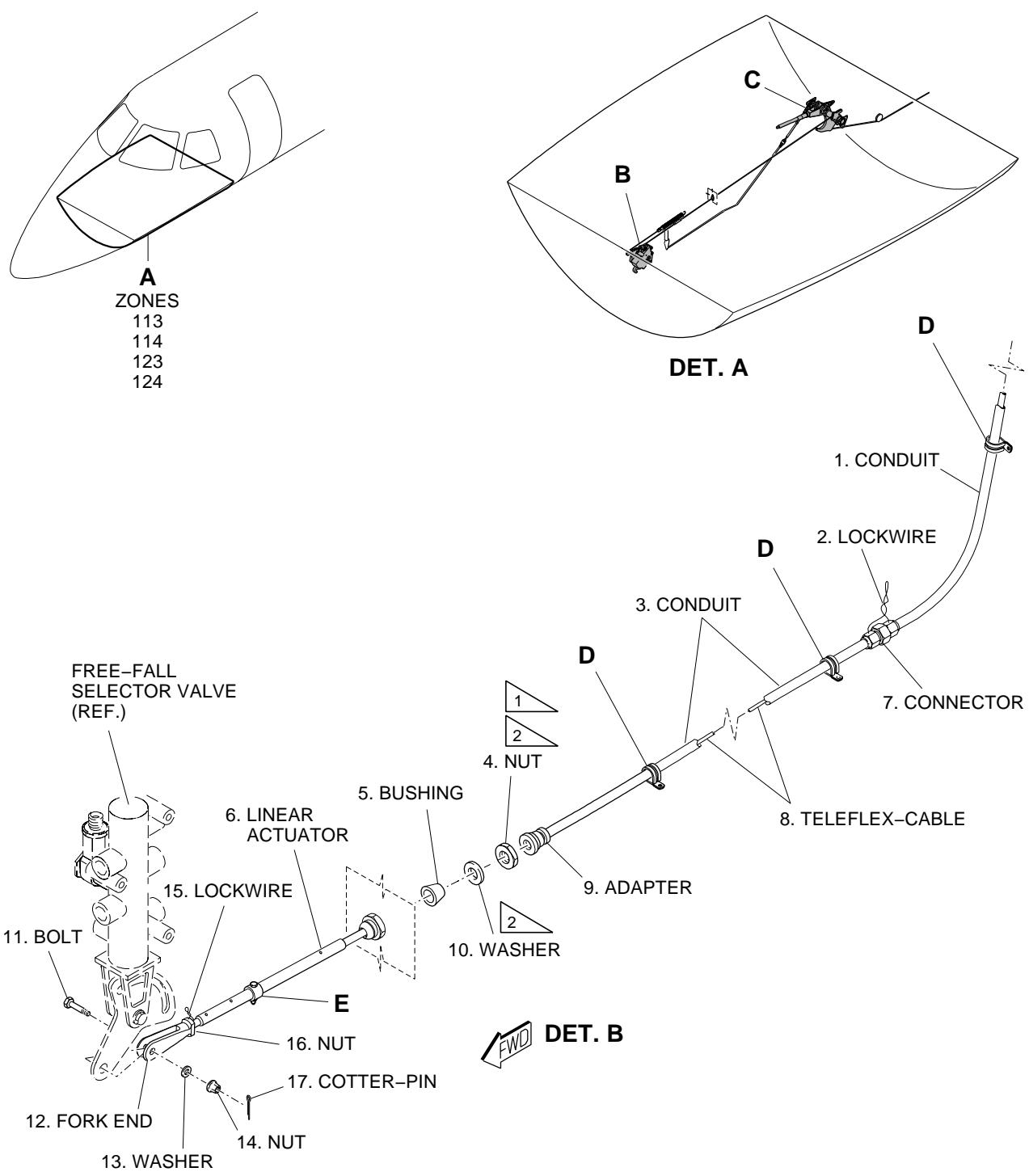
DET. B

4. LOCKING CLIPS (2)

EFFECTIVITY: ALL

Free-Fall Teleflex Cable - Removal/Installation

Figure 402 - Sheet 1

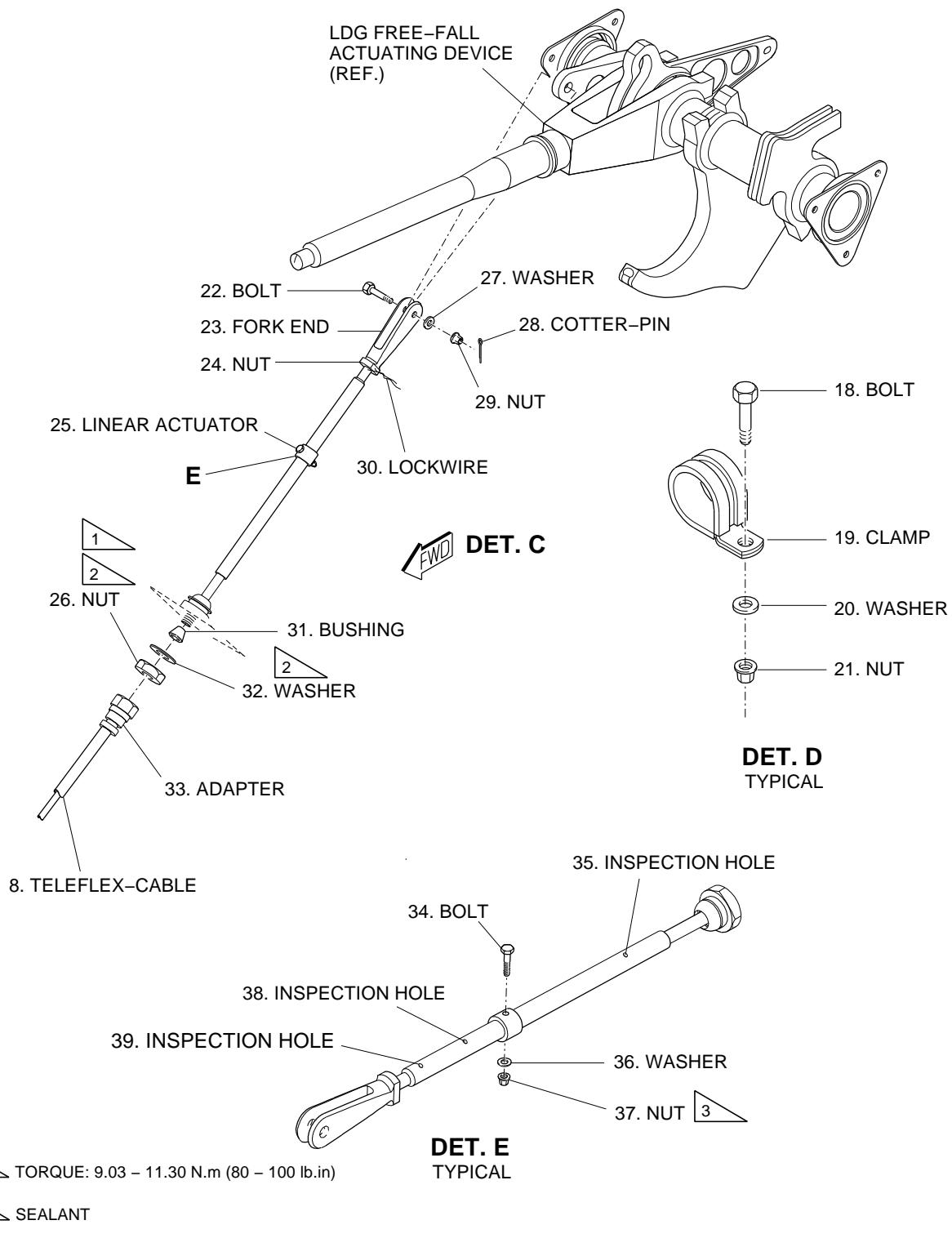


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EFFECTIVITY: ALL

Free-Fall Teleflex Cable - Removal/Installation

Figure 402 - Sheet 2



EM145AMM320723C.DGN

TASK 32-34-03-400-801-A
EFFECTIVITY: ALL
3. LANDING-GEAR FREE-FALL CONTROL CABLES - INSTALLATION
A. General

(1) This task gives the typical procedures to install the landing-gear free-fall cables.

B. References

<i>REFERENCE</i>	<i>DESIGNATION</i>
AMM MPP 06-41-01/100	-
AMM MPP 06-41-02/100	-
AMM TASK 25-26-02-400-801-A/400	-
AMM TASK 25-26-02-400-802-A/400	-
AMM TASK 27-53-03-400-801-A/400	FLAP SELECTOR LEVER - INSTALLATION
AMM TASK 28-41-00-200-801-A/600	-
AMM TASK 32-00-02-910-801-A/200	SAFETY PIN OF THE NLG DOORS SOLENOID VALVE - INSTALLATION AND REMOVAL
AMM TASK 32-34-00-700-801-A/500	LG EMERGENCY EXTENSION - OPERATIONAL AND FUNCTIONAL CHECKS
AMM TASK 32-34-03-700-802-A/500	FREE-FALL CONTROL CABLES - ADJUSTMENT
IPC 32-34-00	LDG EMERGENCY EXTENSION - FREE-FALL
IPC 32-34-02	LG FREE-FALL ACTUATING DEVICE
S.B.145-32-0036	-

C. Zones and Accesses

<i>ZONE</i>	<i>PANEL/DOOR</i>	<i>LOCATION</i>
222	222FF	Pressure bulkhead-cockpit RH upper side
232	232AF	Passenger cabin - RH
192	192BR	Center lower wing-to-fuselage fairing
155	155KZ	MLG wheelwell - LH
155	155MZ	MLG wheelwell - LH
156	156KZ	MLG wheelwell - RH
156	156MZ	MLG wheelwell - RH

D. Tools and Equipment

Not Applicable

E. Auxiliary Items

Not Applicable



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F. Consumable Materials

SPECIFICATION (BRAND)	DESCRIPTION	QTY
P/S870C-12 (MIL-PRF-81733)	Type IV CL-12 Rubber, Polysulfide-Interface Sealant	AR

G. Expendable Parts

ITEM	IPC REFERENCE (VENDOR REFERENCE)	QTY
Cotter pin	IPC 32-34-00	6
Cotter pin	IPC 32-34-02	2
Locking clip	IPC 32-34-00	8
Lockwire	IPC 32-34-00	AR

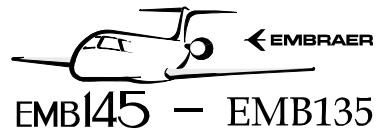
H. Persons Recommended

QTY	FUNCTION	PLACE
1	Does the task	Cockpit, passenger cabin, wing stub, NLG wheelwell, and MLG wheelwell
1	To help the other technician	Cockpit, passenger cabin, wing stub, NLG wheelwell, and MLG wheelwell

I. Installation

SUBTASK 420-002-A (Figure 402)

- (1) Install the free-fall teleflex-cable as follows ([Figure 402, Sheet 1](#) and [Figure 402, Sheet 2](#)):
 - (a) Put the linear actuator (25) in its installation position on the aircraft.
 - (b) Install the bushing (31), washer (32) and nut (26) on the linear actuator (25).
 - (c) Torque the nut (26) 9.03 - 11.30 N.m (80 - 100 lb.in).
 - (d) Apply P/S870C-12 sealant along the contour of the washer (32) and nut (26).
 - (e) Put the conduits (1) and (3) on their position on the aircraft.
 - (f) Install the conduits (1) and (3) on the connector (7) and safety them with lockwire (2).
NOTE: Make sure that the conduits are not twisted during installation.
 - (g) Install the adapter (33) of the conduit (1) on the linear actuator (25).
 - (h) Tighten the adapter (33) of the conduit (1) on the linear actuator (25).
 - (i) Safety the adapter (33) and nut (26) with a lockwire.
 - (j) Pass the teleflex-cable (8) through the conduits (1) and (3), and linear actuator (25).



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- (k) Attach the teleflex-cable (8) to the linear actuator (25) as follows:
- 1 Make sure that the teleflex-cable (8) can be seen through inspection hole (38) and cannot be seen through inspection hole (39).
 - 2 Make sure that the internal cursor of does not transcend the inspection hole (35) in the linear actuator (25) fully extended position.
 - 3 Install the bolt (34), washer (36), and nut (37) to attach the teleflex-cable (8) to the linear actuator (25).
 - 4 Torque the nut (37) 3.95 - 4.52 N.m (35 - 40 lb.in).
- (l) Put the linear actuator (6) in its installation position on the aircraft.
- (m) Install the bushing (5), washer (10) and nut (4) on the linear actuator (6).
- (n) Torque the nut (4) 9.03 - 11.30 N.m (80 - 100 lb.in).
- (o) Apply P/S870C-12 sealant along the contour of the washer (10) and nut (4).
- (p) Pass the teleflex-cable (8) through the linear actuator (6).
- (q) Attach the teleflex-cable (8) to the linear actuator (6) as follows:
- 1 Make sure that the teleflex-cable (8) can be seen through inspection hole (38) and cannot be seen through inspection hole (39).
 - 2 Make sure that the internal cursor of does not transcend the inspection hole (35) in the linear actuator (6) fully extended position.
 - 3 Install the bolt (34), washer (36), and nut (37) to attach the teleflex-cable (8) to the linear actuator (6).
 - 4 Torque the nut (37) 3.95 - 4.52 N.m (35 - 40 lb.in).
- (r) Install the adapter (9) of the conduit (3) on the linear actuator (6).
- (s) Tighten the adapter (9) of the conduit (3) on the linear actuator (6).
- (t) Safety the adapter (9) and nut (4) with a lockwire.
- (u) Install the clamps (19) on the conduits (1) and (3).
- (v) Install the nut (21), washer (20) and bolt (18) on the clamps (19).
- (w) Install the fork end (23) on the linear actuator (25).
- (x) Install the bolt (22), washer (27) and nut (29) on the fork end (23) and LDG free-fall actuating device.
- (y) Tighten the nut (29) and safety it with the cotter pin (28).
- (z) Tighten the nut (24) and safety it with lockwire (30).
- (aa) Install the fork end (12) on the linear actuator (6).



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- (ab) Do the adjustment of the teleflex-cable (8) of the free-fall selector valve ([AMM TASK 32-34-03-700-802-A/500](#)):
- (ac) Install the bolt (11), washer (13) and nut (14) on the fork end (12) and free-fall selector valve.
- (ad) Tighten the nut (14) and safety it with the cotter pin (17).
- (ae) Tighten the nut (16) and safety it with lockwire (15).

SUBTASK 420-007-A (Figure 401)

- (2) Install the other control cables as follows:
 - (a) Install the cable (2).
 - (b) Install new cotter pins (1).
 - (c) Install the turnbuckle (3).
 - (d) Adjust the cable ([AMM TASK 32-34-03-700-802-A/500](#)).
 - (e) Install new locking clips (4).

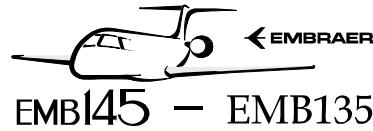
J. Follow-on

SUBTASK 842-002-A

- (1) Install these components related to NLG control cable B:
 - (a) Pressure seal.
 - (b) Flap selector ([AMM TASK 27-53-03-400-801-A/400](#)).
- (2) 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 (Section 6) of the Maintenance Review Board Report (MRB).

- (3) Install these components related to MLG control cable C:
 - (a) Pressure seal.
 - (b) Access panel 192BR (AMM MPP 06-41-01/100).
 - (c) Pulley.
 - (d) Access panel 232AF (AMM MPP 06-41-02/100).
 - (e) RH wardrobe. Refer to AMM TASK 25-26-02-400-801-A/400, or AMM TASK 25-26-02-400-802-A/400, as applicable.
 - (f) Access door 222EF (AMM MPP 06-41-02/100).
- (4) Install these components related to MLG control cable D:



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- (a) Panel 156KZ (AMM MPP 06-41-01/100).
- (b) Access panel 192BR (AMM MPP 06-41-01/100).
- (5) Install these components related to MLG control cable E:
 - (a) Panel 156MZ (AMM MPP 06-41-01/100).
 - (b) Panel 156KZ (AMM MPP 06-41-01/100).
- (6) Install these components related to MLG control cable F:
 - (a) Panel 156MZ (AMM MPP 06-41-01/100).
- (7) Install these components related to MLG control cable G:
 - (a) Panel 155MZ (AMM MPP 06-41-01/100).
 - (b) Panel 155KZ (AMM MPP 06-41-01/100).
- (8) Install these components related to MLG control cable H:
 - (a) Panel 155MZ (AMM MPP 06-41-01/100).
- (9) For aircraft POST-MOD. S.B.145-32-0036, remove the safety pin of the NLG doors solenoid valve ([AMM TASK 32-00-02-910-801-A/200](#)).
- (10) Do the functional check of the LG free-fall system ([AMM TASK 32-34-00-700-801-A/500](#)).

NOTE: During the check, monitor the landing-gear control-cable that you replaced.

