



AIRCRAFT
MAINTENANCE MANUAL

LANDING GEAR - ADJUSTMENT/TEST

EFFECTIVITY: ALL

1. General

- A. This section gives the procedure to do the check of the landing-gear emergency extension.
- 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
32-34-00-700-801-A ♦	LG EMERGENCY EXTENSION - OPERATIONAL AND FUNCTIONAL CHECKS	ALL

TASK 32-34-00-700-801-A
EFFECTIVITY: ALL
2. LG EMERGENCY EXTENSION - OPERATIONAL AND FUNCTIONAL CHECKS
A. General

- (1) Do the operational check of the landing-gear emergency extension with the override switch.
- (2) Do the functional check of the landing-gear emergency extension with the free-fall lever.
- (3) Do the OVERRIDE SWITCH operational check and the FREE-FALL functional check to do the MRB task.

B. References

<i>REFERENCE</i>	<i>DESIGNATION</i>
AMM SDS 23-51-00/1	
AMM TASK 07-10-00-500-801-A/200	-
AMM TASK 07-10-00-500-802-A/200	-
AMM TASK 20-40-01-860-801-A/200	ENERGIZATION OF THE AIRCRAFT WITH AN EXTERNAL POWER SOURCE
AMM TASK 29-10-00-860-801-A/200	HYDRAULIC SYSTEM - PRESSURIZATION WITH HTS
AMM TASK 32-00-01-910-801-A/200	LG SAFETY PIN - INSTALLATION AND REMOVAL
AMM TASK 32-32-00-700-801-A/500	LG EXTENSION AND RETRACTION SYSTEM THROUGH CHANNELS A AND B - OPERATIONAL CHECK (WITH JACKS)
AMM TASK 32-63-05-700-801-A/500	PROXIMITY SWITCH (SENSOR) - FUNCTIONAL CHECK

C. Zones and Accesses

Not Applicable

D. Tools and Equipment

<i>ITEM</i>	<i>DESCRIPTION</i>	<i>PURPOSE</i>	<i>QTY</i>
Commercially available	Stopwatch	To measure the time of the LG extension	
Commercially available	Dynamometer	To measure the force necessary to operate the FREE-FALL lever	

E. Auxiliary Items

<i>ITEM</i>	<i>DESCRIPTION</i>	<i>PURPOSE</i>	<i>QTY</i>
Commercially available	Fence	To isolate the area of LG operation	3

F. Consumable Materials

Not Applicable

G. Expandable Parts

Not Applicable

H. Persons Recommended

QTY	FUNCTION	PLACE
1	Does the task	Cockpit
1	Helps the other technician	Area of operation of the LG

I. Preparation

SUBTASK 841-003-A

- (1) Lift the aircraft on jacks. Refer to AMM TASK 07-10-00-500-801-A/200.
- (2) Isolate the area of operation of the landing gears (RH MLG, LH MLG, and NLG) with fences.
- (3) Remove the landing gear safety pins ([AMM TASK 32-00-01-910-801-A/200](#)).
- (4) Energize the aircraft ([AMM TASK 20-40-01-860-801-A/200](#)).
- (5) Connect the ramp interphone to permit the communication between the mechanics ([AMM SDS 23-51-00/1](#)).

J. Operationally Check Landing Gear Emergency Extension (Override Switch) ([Figure 501](#))

SUBTASK 710-003-A

WARNING: BEFORE YOU ENERGIZE OR DEENERGIZE THE AIRCRAFT WHEN IT IS ON JACKS AND THE LANDING GEARS ARE LOCKED UP, MAKE SURE THAT THERE ARE NO MAINTENANCE PERSONS AT WORK IN THE NOSE LANDING GEAR AREA BECAUSE THE NOSE GEAR DOORS ARE ELECTRICALLY CONTROLLED AND:

- IF THE NOSE GEAR DOORS ARE CLOSED AND ELECTRIC POWER IS REMOVED, THE DOORS WILL OPEN AUTOMATICALLY; OR
- IF THE NOSE GEAR DOORS ARE OPEN AND WITHOUT ELECTRIC POWER, THE DOORS WILL CLOSE AUTOMATICALLY WHEN ELECTRIC POWER IS APPLIED.

IN EITHER CASE, SERIOUS INJURY TO MAINTENANCE PERSONS CAN OCCUR.

- (1) Pressurize hydraulic system 1 ([AMM TASK 29-10-00-860-801-A/200](#)).
- (2) Do this check:
 - (a) Retract the landing gears.
 - (b) Open the CMD circuit breaker.
 - (c) Set the LG control lever to the DN position.
Result:
1 The landing gears stay up and locked.
2 The NLG wheelwell doors open.

- 3 (For aircraft not equipped with nose landing gear door proximity switch):

On the EICAS display, the three landing gear boxes show the position UP in amber and, after 20 seconds, they change to red.
- 4 (For aircraft equipped with nose landing gear door proximity switch):

On the EICAS display, the two main landing gear boxes (external boxes) show UP in amber and the nose landing gear box (medium box) becomes crosshatched in amber. After 20 seconds, the three boxes change to red.
- (d) Set the OVERRIDE switch to the GEAR DOORS position.
 Result:
 1 The landing gears extend and lock in the down position.
 2 On the EICAS display, the three landing gear boxes show the position DN in green.
- (e) Set the OVERRIDE switch to the NORMAL position.
 Result:
 1 The NLG wheelwell doors stay in the open position.
- (f) Close the CMD circuit breaker.
- (g) Set the LG control lever to the UP position.
 Result:
 1 The landing gears retract and lock up.
 2 The NLG wheelwell doors close.
- (h) Open the CMD circuit breaker.
- (i) Set the OVERRIDE switch to the DOORS position.
 Result:
 1 The NLG wheelwell doors open.
- (j) Set the OVERRIDE switch to the GEAR DOORS position.
 Result:
 1 The landing gears extend and lock in the DN position.
- (k) Set the LG control lever to the DN position.
- (l) Set the OVERRIDE switch to the NORMAL position.
- (m) Close the CMD circuit breaker.
- (n) Fully release the pressure from hydraulic system 1 ([AMM TASK 29-10-00-860-801-A/200](#)).

K. Functionally Check Landing Gear Emergency Extension (Free-Fall) ([Figure 501](#))

SUBTASK 720-003-A

- (1) Pressurize hydraulic system 1 ([AMM TASK 29-10-00-860-801-A/200](#)).
- (2) Retract the landing gears.
- (3) Fully release the pressure from hydraulic system 1 ([AMM TASK 29-10-00-860-801-A/200](#)).
- (4) Do this check:

- (a) Set the LG control lever to the DN position.

Result:

- 1 The landing gears stay up and locked.
- 2 All indication boxes will become amber, shows the UP condition.

NOTE: If the landing gear free-fall lever is not actuated immediately and the landing gears do not extend and lock 20 seconds after the actuation of the landing gear control lever, then the indications will become red (it continues to show the UP condition) and the message LG LEVER DISAGREE will come into view on the EICAS display.

- (b) Operate the FREE-FALL lever until the actuation of the free-fall selector valve spool occurs. This point is when the groove of the actuating cam starts to appear on the right side of the valve, as shown in Figure 501 - DET. D.

Result:

- 1 The landing gears stay up and locked.

- (c) Fully operate the FREE-FALL lever and measure the time for the landing gears to unlock, extend, and lock down.

Result:

- 1 The time must not be more than 30 seconds.

NOTE: If the time for the LG to lock down is more than 30 seconds, do an inspection on its articulation points for too much friction and on its return lines for fluid blockage in the components.

- 2 The indication boxes will become cross hatched in amber (or red if the condition written in the NOTE from step (4).(a).2 occurs) and after the landing gear lock down, the indication boxes will become green and will show the DN condition.

NOTE: If the indications above is not obeyed, refer to CMC for the maintenance messages related to proximity switch failures and do a test of the LG indication proximity switches ([AMM TASK 32-63-05-700-801-A/500](#)) and do the operational check of LG extension/retraction ([AMM TASK 32-32-00-700-801-A/500](#)).

- (d) Move the FREE-FALL lever back to its NORMAL position.

- (e) Do steps (1) thru (4) two more times.

- (f) Do steps (1) thru (3) again.

- (g) Set the LG control lever to the DN position.

- (h) With the dynamometer installed to the upper end of the FREE-FALL lever, measure the force necessary for you to operate the lever until the landing gears unlock.

Result:

- 1 The force must not be more than 28 Kgf (61.8 Lbf).

- (5) Move the FREE-FALL lever back to its NORMAL position.



EMB145 - EMB135

AIRCRAFT
MAINTENANCE MANUAL

L. Follow-on

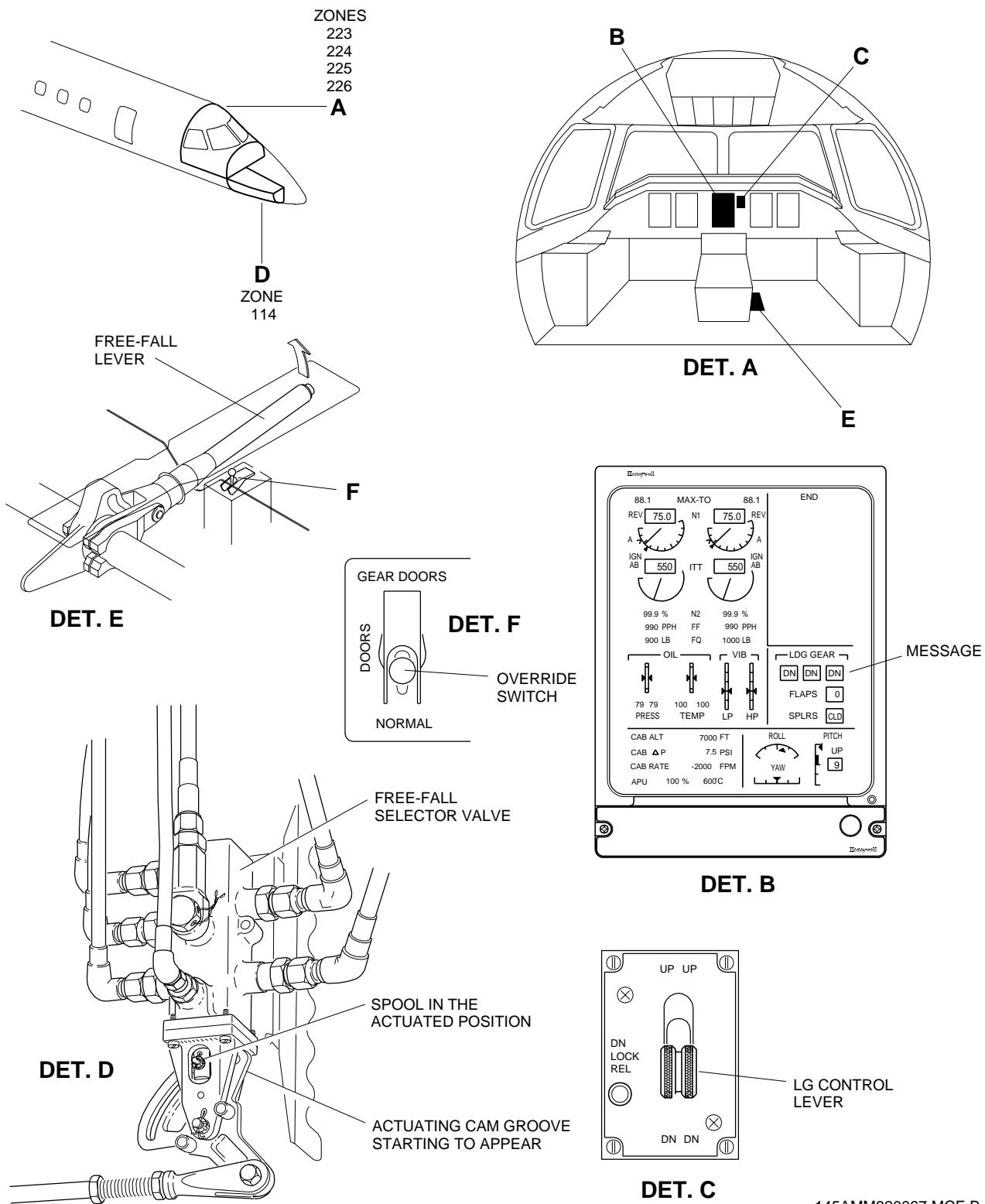
SUBTASK 842-003-A

- (1) Deenergize the aircraft ([AMM TASK 20-40-01-860-801-A/200](#)).
- (2) Install the LG safety pins ([AMM TASK 32-00-01-910-801-A/200](#)).
- (3) Remove the fences.
- (4) Lower the aircraft and remove the jacks (AMM TASK 07-10-00-500-802-A/200).
- (5) Touch up the painting in the point of shock of the landing gear with the landing gear doors after free-fall operation.

EFFECTIVITY: ALL

LG Emergency Extension - Operational and Functional Checks

Figure 501



145AMM320067.MCE B

