AIR/GROUND (WOW) SYSTEM SIMULATION - ADJUSTMENT/TEST

EFFECTIVITY: ALL

1. General

   A. This section gives the procedure to do the check of the AIR/GROUND system.

   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*
32-63-00-700-801-A ♦	AIR/GROUND SYSTEM - OPERATIONAL CHECK	ALL

TASK 32-63-00-700-801-A
EFFECTIVITY: ALL

2. AIR/GROUND SYSTEM - OPERATIONAL CHECK

A. General

(1) This procedure is for the operational check of the AIR/GROUND system.

(2) During the procedure, a check is done on some systems for which the AIR/GND signal is necessary. You must make sure that the ground signal or flight signal is sent to operate the system.

B. References

REFERENCE	*DESIGNATION*
AMM SDS 24-60-00/1	
AMM TASK 20-40-01-860-801-A/200	ENERGIZATION OF THE AIRCRAFT WITH AN EXTERNAL POWER SOURCE
AMM TASK 29-10-00-860-802-A/200	HYDRAULIC SYSTEM - PRESSURIZATION WITH EMDP
AMM TASK 31-31-00-700-803-A/500	FDR DATA - PERSONAL COMPUTER DOWNLOADING
AMM TASK 32-00-02-910-801-A/200	SAFETY PIN OF THE NLG DOORS SOLENOID VALVE - INSTALLATION AND REMOVAL
AMM TASK 32-63-05-700-801-A/500	PROXIMITY SWITCH (SENSOR) - FUNCTIONAL CHECK
SB145-32-0036	-

C. Zones and Accesses

Not Applicable

D. Tools and Equipment

Not Applicable

E. Auxiliary Items

ITEM	*DESCRIPTION*	*PURPOSE*	*QTY*
Commercially available	Metallic target with adhesive	To simulate the shock-absorber extended condition	5

F. Consumable Materials

Not Applicable

G. Expandable Parts

Not Applicable

H. Persons Recommended

QTY	*FUNCTION*	*PLACE*
1	Does the task	Cockpit

(Continued)

QTY	FUNCTION	PLACE
1	Helps the other technician	NLG, LH, and RH MLG

I. Preparation

SUBTASK 841-002-A

WARNING: IF IT IS NECESSARY TO ENERGIZE THE AIRCRAFT WHILE IT IS IN THE IN-FLIGHT CONDITION, MAKE SURE THAT THE WEATHER RADAR BUTTON IS IN OFF POSITION ON THE WEATHER RADAR CONTROLLER IN THE COCKPIT. FAILURE TO DO THIS LETS THE RADAR BE OPERATIONAL AND INJURY TO PERSONS IN THE ADJACENT AREA CAN OCCUR.

(1) Aircraft on the ground.

(2) For aircraft PRE-MOD SB145-32-0036, make sure that the pressure in hydraulic system No. 1 is fully released (AMM TASK 29-10-00-860-802-A/200).

(3) For aircraft POST-MOD SB145-32-0036, install the safety pin of the NLG door solenoid valve (AMM TASK 32-00-02-910-801-A/200).

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

(5) On the overhead panel, set the BATT 1 switch to OFF and make sure that the BATT 2 switch is set to OFF.

NOTE: The switches of batteries 1 and 2 must be set to the OFF position to permit the external power to energize the electrical systems when the aircraft is in the AIR condition.

(6) On the circuit breaker panel, make sure that the CLOCK 2 circuit breaker is closed.

WARNING: MAKE SURE THAT THE PITOT SENSORS, STATIC PORTS, TAT SENSORS, AOA SENSORS AND ICE DETECTOR HEATERS ARE SET TO OFF AND ARE COLD. TAKE CARE NOT TO TOUCH THESE COMPONENTS WHEN THEY ARE HOT. IF YOU TOUCH THEM, THEY WILL CAUSE INJURY TO YOU.

(7) Set the SENSORS (PITOT 1 - TAT 1/AOA 1, and PITOT 2 - TAT 2/AOA 2) pushbuttons, on the overhead panel, to OFF.

(8) On the LH/RH electrical-power control/distribution box (AMM SDS 24-60-00/1), open ICE DETECTOR 1 and 2 circuit breakers and attach a DO-NOT CLOSE tag on it.

NOTE: When you disable the ice protection system in flight condition, caution messages referent the system are activated.

J. Operational Check of Air/Ground System (Figure 501)

SUBTASK 710-002-A

NOTE: If there is a suspicion of a proximity switch failure during the check, you can do the specific test of the proximity switch (AMM TASK 32-63-05-700-801-A/500).

(1) Do the check as follows:

NOTE: These steps start the recording function of the FDR which will overwrite the data stored in the FDR.
If it is necessary to keep the data stored on the FDR, open the FDR circuit breaker on the circuit breaker panel or if it is necessary to keep the FDR on, do an FDR downloading as given in AMM TASK 31-31-00-700-803-A/500.

(a) Open the AIR/GND A, AIR/GND B, AIR/GND C, and AIR/GND D circuit breakers. Then, close the circuit breakers in 10 seconds maximum.

NOTE: This is to reset the air/ground channels of the landing gear electronic unit (LGEU). During the reset processing (3 sec. max.), the LG AIR/GND FAIL caution message is activated. After the reset, the message goes out of view.

Result:

1 On the EICAS display, the LG AIR/GND FAIL caution message goes out of view.

(b) Push the TEST button of display controller 1.

Result:

1 The self-test starts on PFD 1.

NOTE: Result 1 means that LGEU channel A shows the aircraft-on-ground condition.

(c) Do as follows:

Result:

1 (Aircraft with AHRS 800): On the maintenance panel, set the AHRS switch to position 1.

2 (Aircraft with dual IRS or AHRS 900):

1. This step is not applicable because the air/ground system does not inhibit the test of the IRS test mode.

3 For step 1 above, the AHRS 1 self-test starts on PFD 1.

NOTE: The result in step 3 above means that LGEU channel B1 shows the aircraft-on-ground condition.

(d) Push the PGE button of RMU 1.

Result:

1 The MAINTENANCE label is available.

NOTE: Result 1 means that LGEU channel B2 shows the aircraft-on-ground condition.

(e) Push the TEST button of display controller 2.

Result:

1 The self-test starts on PFD 2.

NOTE: Result 1 means that LGEU channel C shows the aircraft-on-ground condition.

(f) (For aircraft with AHRS 800, do step below as follows).

(For aircraft with AHRS 900 or dual IRS, go to action (g)).

On the maintenance panel, set the AHRS switch to position 2

Result:

1 The AHRS 2 self-test starts on PFD 2.

NOTE: The result 1 means that LGEU channel D1 shows the aircraft-on-ground condition.

(g) Look at the copilot's digital clock to see its indication.

Result:

1 Make sure that on its ET / CHR display there is no colon between the hour and minute digits.

2 After one minute, make sure that the time on the ET / CHR display did not change.

NOTE: The results 1 and 2 means that LGEU channel D1 shows the aircraft-on-ground condition.

(h) Push the PGE button of RMU 2.

Result:

1 The MAINTENANCE label is available.

NOTE: Result 1 means that LGEU channel D2 shows the aircraft-on-ground condition.

(i) Attach a metallic target with adhesive in front of the WOW 1 proximity switch of the LH MLG.

Result:

1 Make sure that, after 10 seconds, the LG AIR/GND FAIL caution message does not come into view on the EICAS display.

NOTE: If the LG AIR/GND FAIL caution message is shown on the EICAS, refer to the fault isolation manual to identify the defective WOW proximity switch.

(j) Do steps (b) thru (i) again.

(k) Attach a metallic target with adhesive in front of the WOW 2 proximity switch of the LH MLG.

Result:

1 Make sure that, after 10 seconds, the LG AIR/GND FAIL caution message comes into view on the EICAS display.

NOTE: This step is a check on the logic function of the AIR/GND system. It is necessary when the second WOW proximity switch is defective.

(l) Do steps (b) thru (h) again.

(m) Remove the metallic target from the WOW 1 and 2 proximity switches of the LH MLG.

(n) Open the AIR/GND A, AIR/GND B, AIR/GND C, and AIR/GND D circuit breakers. Then, close the circuit breakers in 10 seconds maximum.

Result:

1 On the EICAS display, the LG AIR/GND FAIL caution message goes out of view.

(o) Do steps (b) thru (h) again.

(p) Attach a metallic target with adhesive in front of the WOW 1 proximity switch of the RH MLG.

Result:

1 Make sure that, after 10 seconds, the LG AIR/GND FAIL caution message does not come into view on the EICAS display.

NOTE: If the LG AIR/GND FAIL caution message is shown on the EICAS, refer to the fault isolation manual to identify the WOW proximity switch in failure.

(q) Do steps (b) thru (h) again.

(r) Open the AIR/GND A, AIR/GND B, AIR/GND C, and AIR/GND D circuit breakers. Make sure that the LG AIR/GND FAIL caution message is shown on the EICAS.

(s) Attach a metallic target with adhesive in front of the WOW 1 and 2 proximity switches of the LH MLG, WOW 2 proximity switch of the RH MLG, and NOSE WOW proximity switch.

(t) Close the circuit breakers in 10 seconds maximum.

Result:

1 On the EICAS display, the LG AIR/GND FAIL caution message goes out of view.

(u) Do steps (b) through (h) again. Now the results must not occur. This means that the LGEU channels show the aircraft-in-flight condition.

(v) Remove the metallic target from the WOW 1 proximity switch of the LH MLG.

Result:

1 Make sure that, after 10 seconds, the LG AIR/GND FAIL caution message does not come into view on the EICAS display.

NOTE: If the caution message comes into view, refer to the Fault Isolation Manual to identify the defective WOW proximity switch.

(w) Do steps (b) through (h) again. Now the results must not occur. This means that the LGEU channels show the aircraft-in-flight condition.

(x) Open the AIR/GND A, AIR/GND B, AIR/GND C, and AIR/GND D circuit breakers. Make sure that the LG AIR/GND FAIL caution message is shown on the EICAS.

(y) Attach the metallic target with adhesive in front of the WOW 1 proximity switch of the LH MLG.

(z) Close the circuit breakers in 10 seconds maximum.

Result:

1 On the EICAS display, the LG AIR/GND FAIL caution message goes out of view.

(aa) Do steps (b) thru (h) again. Now the results must not occur. This means that the LGEU channels show the aircraft-in-flight condition.

(ab) Remove the metallic target from the WOW 1 proximity switch of the RH MLG.

Result:

1 Make sure that, after 10 seconds, the LG AIR/GND FAIL caution message does not come into view.

NOTE: If the LG AIR/GND FAIL caution message is shown on the EICAS, refer to the fault isolation manual to identify the defective WOW proximity switch.

(ac) Do steps (b) thru (h) again. Now the results must not occur. This means that the LGEU channels show the aircraft-in-flight condition.

(ad) Remove the metallic targets from the WOW 2 proximity switch of the LH MLG.

Result:

1 Make sure that, after 10 seconds, the LG AIR/GND FAIL caution message is shown.

NOTE: This step is a check of the logic function of the AIR/GND system. It is necessary when the second WOW proximity switch is defective.

(ae) Do steps (b) thru (h) again. Now the results must not occur. This means that the LGEU channels show the aircraft-in-flight condition.

(af) Open the AIR/GND A, AIR/GND B, AIR/GND C, and AIR/GND D circuit breakers.

(ag) Remove the metallic targets from the WOW 2 proximity switch of the RH MLG and from the WOW 1 proximity switch of the LH MLG.

(ah) Close the circuit breakers in 10 seconds maximum.

Result:

1 The LG AIR/GND FAIL message is not shown on the EICAS.

(ai) Turn ON the hydraulic-system-1 electric pump and control the steering.

Result:

1 The steering does not obey the control.

(aj) Remove the metallic target from the WOW proximity switch of the NLG and try to control the steering.

Result:

1 The steering can be controlled.

K. Follow-on

SUBTASK 842-002-A

(1) Make sure that the FDR circuit breaker is closed.

(2) Make sure that the aircraft is back to the ground condition. For this, do steps (b) through (h) again.

(3) Set the SENSORS (PITOT 1 - TAT 1/AOA 1, and PITOT 2 - TAT 2/AOA 2) pushbuttons, on the overhead panel, to ON.

(4) On the LH/RH electrical-power control/distribution box (AMM SDS 24-60-00/1), remove the DO-NOT CLOSE tag of the ICE DETECTOR 1 and 2 circuit breakers and close them.

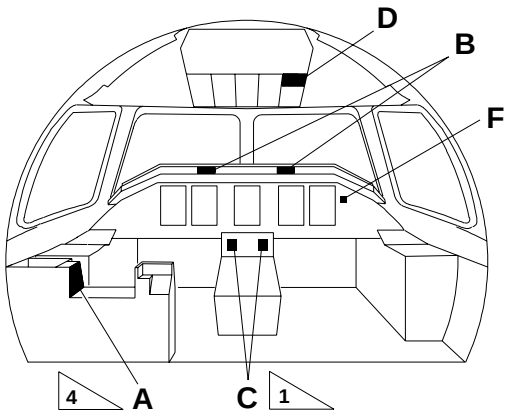
(5) Turn OFF the hydraulic-system-1 electric pump.

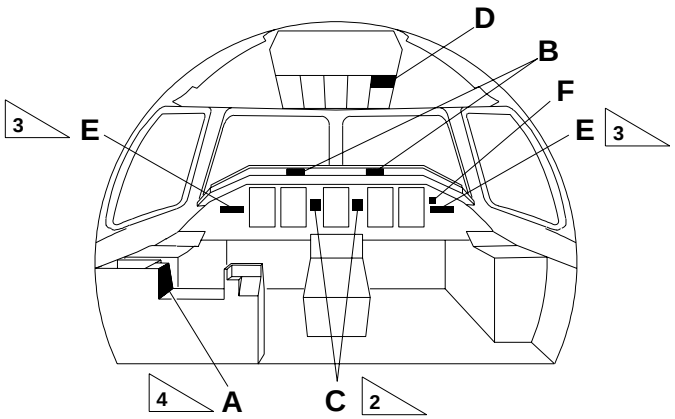
(6) For aircraft POST-MOD SB145-32-0036, remove the safety pin of the NLG door solenoid valve (AMM TASK 32-00-02-910-801-A/200).

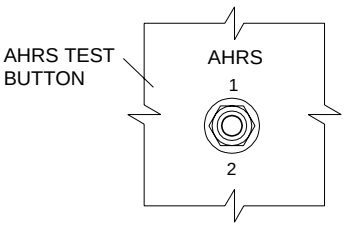
(7) Deenergize the aircraft (AMM TASK 20-40-01-860-801-A/200).

EFFECTIVITY: ALL

AIR/GROUND System - Operational Check
Figure 501 - Sheet 1

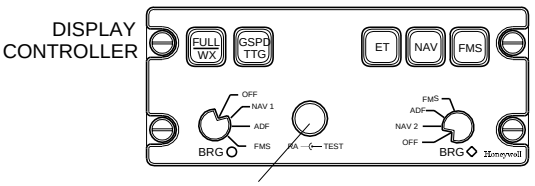




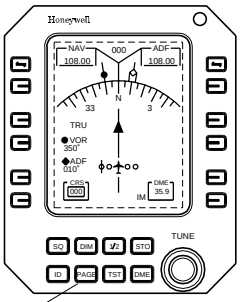


DET. A

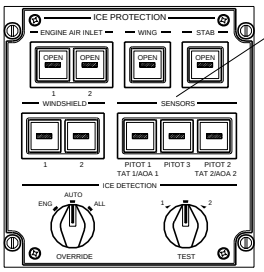
MAINTENANCE PANEL



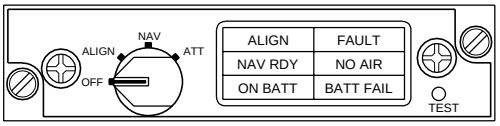
DET. B



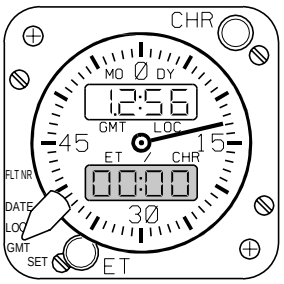
DET. C



DET. D



DET. E



DET. F

1 AIRCRAFT WITH RMU INSTALLED ON CONTROL PEDESTAL

2 AIRCRAFT WITH RMU INSTALLED ON MAIN INSTRUMENT PANEL

3 AIRCRAFT WITH DUAL IRS INSTALLED ON MAIN INSTRUMENTS PANEL

4 AIRCRAFT AHRS INSTALLED ON THE MANUTENCE PANEL

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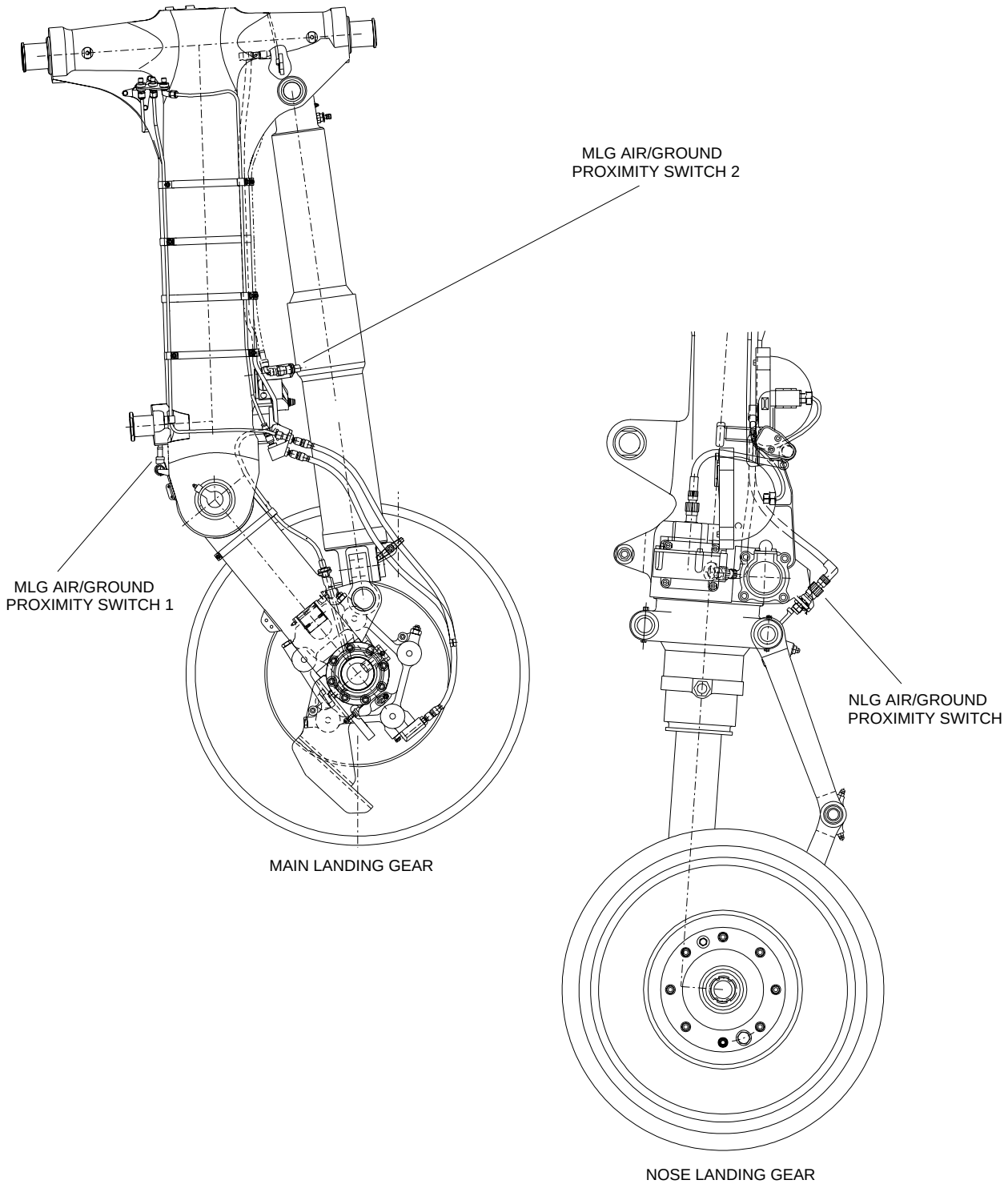
EFFECTIVITY: ALL

AIR/GROUND System - Operational Check
Figure 501 - Sheet 2



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