

# Antiskid Control System Troubleshooting Event Procedures

## Before You Begin

Retrieve the UL101 Receiver Headset and put it on.

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## Start the Clock.

### Antiskid Valve Troubleshooting

1. Retrieve the UL101 Receiver (with the **solid tip**) from the table.
2. Plug the UL101 Receiver Headset into the Receiver.
3. Rotate the On/Gain Control Knob to 2.
4. Move the Full/Half Gain Mode Switch to “Full Moon” ( ● ) setting.
5. Visually observe that the ANTISKID INOP light is illuminated, which indicates that there is a fault.
6. Verify that the AUTOBRAKE selector knob is in the OFF position.

NOTE: If not, rotate selector knob to the OFF position.

7. Lift the guard and place the LANDING GEAR ANTISKID valve switch in the ON position.
8. Using moderate pressure, place the tip of the tool on the PRESS port valve body or union on the antiskid valve and listen.
9. Test all four antiskid valves in the same manner.
10. Identify which valve has a loud static sound at the PRESS port valve body fitting.  
**Verbally announce to the judge which valve has failed.**
11. Once the judge confirms failed valve, return the LANDING GEAR ANTISKID valve switch to the OFF position.
12. Turn off the receiver by rotating the On/Gain Control Knob to OFF.
13. Unplug the headset from the UL101 Receiver, but **do not remove the headset**.
14. Return the UL101 Receiver to the tool tray.

# Antiskid Control System Troubleshooting Event Procedures

## Replace Failed Antiskid Valve

1. Pull and tag the following circuit breaker:

<u>Row</u>	<u>Col</u>	<u>Name</u>
C	5	LANDING GEAR ANTISKID CONT

2. Pull and tag **only** the circuit breaker for the antiskid valve that you are replacing:

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	1	V717	VALVE PWR
C	2	V727	VALVE PWR
C	3	V737	VALVE PWR
C	4	V747	VALVE PWR

3. Remove connector from the failed antiskid valve.
4. Give the following verbal command to the judge:

**“Removed and replaced antiskid valve per AMM.”**

## Complete Antiskid Valve Troubleshooting

1. Reinstall the connector onto the valve that was just replaced.
2. Remove lockout tags and reset circuit breakers.
3. Lift the guard and flip the LANDING GEAR ANTISKID valve switch to ON.
4. Verify that the ANTISKID INOP light is **not** illuminated.
5. Verbally announce to the judge the following:  
**“Operational check of the antiskid system passed.”**
6. Return the LANDING GEAR ANTISKID valve switch to the OFF position.
7. Proceed to next task.

# Antiskid Control System Troubleshooting Event Procedures

## Shorted Antiskid Wire Troubleshooting

1. Verify LANDING GEAR ANTISKID wire switch is in the OFF position.
2. Pull and tag the following breakers:

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	1	V717	VALVE PWR
C	2	V727	VALVE PWR
C	3	V737	VALVE PWR
C	4	V747	VALVE PWR
C	5	CONT	LANDING GEAR ANTISKID CONT

3. Disconnect the connector labeled D4372P.
4. Retrieve the FLUKE1587 FC insulation multimeter from the tool storage.
5. Connect the test leads to D4372J as follows:
  - a. Red lead to socket 7.
  - b. Black lead to socket 5.
6. Rotate the knob on the meter all the way to the right (50V-1000V insulation setting).
7. Press and release the HOLD button.
8. Press and release the INSULATION TEST button.

**⚡ WARNING ⚡ The meter will be activated and 1000Vdc will be coming out of the test leads. DO NOT remove and touch the leads to eliminate the risk of electrical shock.**

9. Retrieve the UL101 Receiver (with the **conical tip**) from the tool storage.
10. Plug it into the headset.
11. Rotate the On/Gain Control Knob to 1.5.
12. Move the Full/Half Gain Mode Switch to “Half Moon” (☾) setting.

**NOTE: Ultrasound will radiate out of all gaps and plugs in the boxes. Your objective is to find the box that radiates from all sides of the box AND causes a meter fluctuation. All four boxes must be tested.**

13. With the UL101 Receiver in your hand, slowly move the tool around each of the junction boxes.

**NOTE: Point the conical tip at the side of the box. Slowly move the tip around the perimeter of the box, listening carefully to the headset for anomalies. Do this for each box.**
14. Observe the analog gauge on the tool. When the gauge shows maximum deflection and a screeching sound can be heard through the headset, you have located the short.

**Verbally announce to the judge which box contains the shorted wire.**

## Antiskid Control System Troubleshooting Event Procedures

15. Press and release the INSULATION TEST button on the meter, which will deactivate the meter.

**⚡ WARNING ⚡ The meter must be deactivated before moving forward to eliminate the risk of electrical shock.**

16. Disconnect the headset from the receiver and turn the receiver off by rotating the On/Gain Control Knob to OFF.

**NOTE: You may now remove the headset.**

17. Return the receiver to the tool tray.

18. Turn off the FLUKE1587 FC insulation multimeter.

19. Remove the test leads from D4372J and return the meter to the tool tray.

### Repair the Shorted Wire

1. Remove the cover of the junction box that contains the shorted wire.

2. Verbally announce to the judge the following:

**“The shorted wire has been repaired per AMM.”**

3. Retrieve the torque driver and set it to 10in/lbs and **verify torque setting with judge.**

4. Reinstall the cover on the junction box by torquing the screws.

5. Reinstall connector D4372P.

6. Remove lockout tags and reset breakers.

7. Move the LANDING GEAR ANTISKID wire switch to the ON position.

8. Verbally announce to the judge the following:

**“Landing Gear Antiskid System ops check good.”**

9. Move the LANDING GEAR ANTISKID wire switch to the OFF position.

### Complete Shorted Antiskid Wire Troubleshooting

1. Zero the torque driver and return all the tools to their proper locations, ensuring that they are all turned off and stowed properly.

2. Check for FOD.

### Stop the Clock.

NOTE: When the clock is stopped by the competitor, the task is complete.

Competitors may not restart the clock.

**Before leaving the event area, use a sanitary wipe to thoroughly clean the headset. After you have cleaned it, return it to the table and throw away the cleaning wipe.**