

Maintenance Briefing Notes



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Aircraft bonding, grounding/earthing requirements during maintenance



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Introduction

The objective of this Maintenance Briefing Note is to communicate on the results of an exhaustive review made by Airbus on all bonding and grounding/earthing requirements in the Aircraft Maintenance Manual.

The review is aimed at ensuring completeness, clarity, cross-program harmonisation, on the bonding and grounding requirements during servicing, and also on the definition used for subject requirements.

It is important to remember that those requirements are not only to protect aircraft components and structure, but also to prevent injury during maintenance activities.

Description

Terminology and definitions:

Aircraft grounding (earthing):

The grounding (earthing) operation is for the electrical continuity between the aircraft and the earth.

Electrical bonding:

The bonding operation is for the electrical continuity between the aircraft and a ground equipment, or between an equipment and the aircraft structure.

It was decided to supplement the term “grounding” by adding “earthing” in the Airbus AMM relevant chapters dealing with the aircraft bonding/grounding (earthing) for all aircraft programs.

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The outcome of the review is summarised in the table below, and applicable for all maintenance and servicing operations:

Task	Recommendations
Fuel or Oxygen Servicing e.g. Refueling operations	A/C bonding is mandatory For A/C grounding (earthing) obey local regulations
Maintenance or servicing operations on A/C or/and work stand using power tools, power sources, electrical lights, powered instruments not supplied by the A/C electrical system (i.e. electrical domestic or industrial network) e.g. cleaning of the carpet using external power outlet	Grounding (earthing) of the aircraft and workstand is mandatory as soon as maintenance and/or servicing tasks are done.
During maintenance or servicing using power supplied by the A/C electrical system (Ext power, APU, Engine or bat) e.g. BITE test	No need for A/C bonding and for A/C grounding (earthing).

Subject	Recommendation
Alternative earthing point/ method when A/C jacked	If the aircraft is on jacks for retraction / extension checks of the landing gear, or for replacement, connect the parking or the hangar ground cable to the aircraft grounding (earthing) point on the wings or on the engines.
Max cable/Impedance	Ground cable requirements: "section 25 mm ² , reference: H07VR-25 mm ² " Max connection impedance: Maximum impedance needed is equal to, or less than 10 milliohms <u>under 100A</u>

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Maintenance in storm conditions	<p>Avoid presence of maintenance personnel around the aircraft and do not allow work to be performed in exposed areas (work on platforms, work on wings, etc). Grounding (earthing) of the aircraft shall be done with a cable as short as possible.</p> <p>Disconnect all other external connections (external power supply, etc).</p> <p>Refer to AMM 201700, Maintenance in storm conditions.</p>

The recommendations will be issued in the Airbus Maintenance Documentation with the following revisions:

Airbus WB program: June 01/13

Airbus SA program: Feb 01/13

Airbus LR program: Jan 01/13

A380: March 01/13

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We appreciate receiving feedback to this issue of the Maintenance Briefing Notes.

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