



Maintenance Briefing Notes

Invisible protection

Introduction

This Maintenance Briefing Note addresses the necessary precautions related to protections installed on the aircraft during painting and similar operations.

Despite the warnings and cautions, and the clear instructions given in the documentation, what is done in the field can sometimes deviate from what is written.

In the example given in this Maintenance Briefing Note, inadequate protections were applied during aircraft painting in such a way that they were difficult to see from the ground. As a result, they were not removed after the painting job was done.

This Maintenance Briefing Note is therefore issued in response to this in-service event to raise awareness, share experience reported from the Airbus in-service fleet, and recommend best practices.

Description

The following report was provided by an A320 operator:

Quote

An aircraft was re-painted by a third party maintenance organisation. The aircraft was handed back to the operator, and the operator discovered, before the aircraft was returned into service, that there was a clear plastic film over one of the pitot static ports that was almost impossible to detect visually.

Unquote

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If the clear plastic film had not been discovered detected and removed , it would have caused incorrect indications on the related cockpit instruments during the next flight.

A photo of the aircraft concerned shows why the plastic cover was not initially seen .



The transparent plastic was only noticed because of the presence of air bubbles under the film.

Airbus has reviewed in detail the instructions for protection of the aircraft for painting as given in the Aircraft Maintenance Manual (AMM), Structure Repair Manual (SRM), and in the Tool and Equipment Manual (TEM).

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The AMM and the SRM does provide instructions for stripping, paint removal, cleaning and painting as summarised below:

AMM

In AMM chapter 51-75-11 PB 701 – Stripping/paint removal – cleaning/ painting, the following Warning and Caution are included:

CAUTION:

MAKE SURE THAT THE MATERIALS, AREAS AND PARTS WHICH FOLLOW HAVE THE CORRECT PROTECTION FROM CHEMICAL PAINT STRIPPERS:

- RUBBER, ALL COMPOSITE PARTS, ACRYLIC MATERIALS, AERODYNAMIC SMOOTHER, METAL BONDED EDGES, PITOT PROBES, SENSORS, STATIC PORTS, ENGINE AIR INTAKE, PRECOOLER AIR OUTLET SCREEN, ENGINE EXHAUST DUCT, APU EXHAUST, APU INTAKES AND OUTLETS, AIR- CONDITIONING RAM AIR INLETS, LANDING GEARS, DOOR SEALS, ACCESS DOORS, CABIN WINDOW AND WINDSHIELD PANELS AND SEALS, ELECTRICAL EQUIPMENT AND CABLES, PLASTIC MATERIALS, EXTERNAL SKIN PANEL JOINTS, HIGH STRENGTH STEEL PARTS, DRAIN HOLES, VENTS AND ALL ANTENNAS

WARNING:

DO NOT APPLY ADHESIVE TAPE ON THE PROBES, DUCTS, SENSORS (STATIC, PITOT, TAT, AOA). USE ONLY THE SPECIFIED TOOLS FOR THE PROTECTION OF THE AIRCRAFT. THE SPECIFIED TOOLS:

- GIVE THE CORRECT PROTECTION TO THE AIRCRAFT EQUIPMENT,**
- ARE EASY TO SEE FROM THE GROUND,**
- ARE EASY TO REMOVE.**

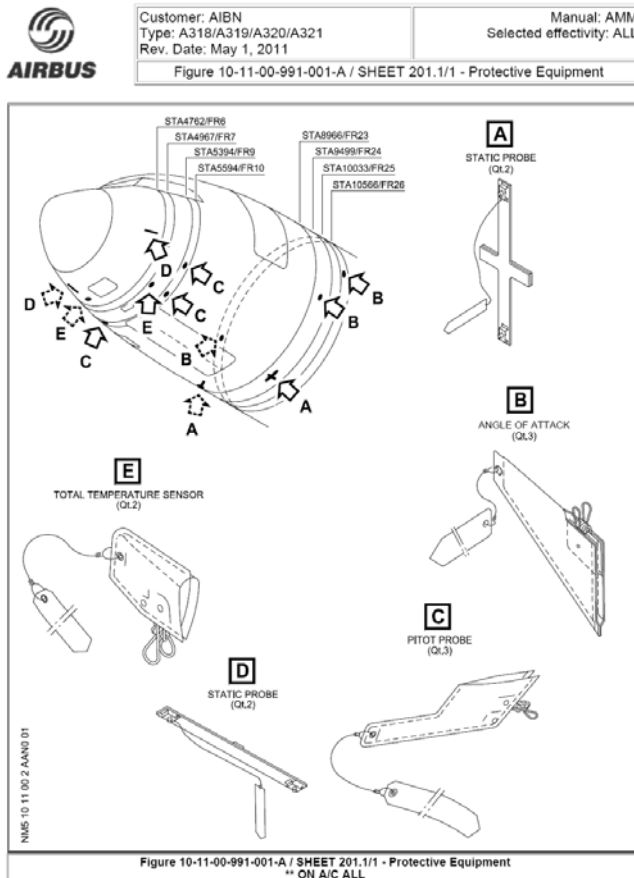
IF YOU USE TAPE, THERE IS A RISK THAT SOME TAPE, OR ADHESIVE FROM THE TAPE, WILL STAY ON THE PROBES, DUCTS OR SENSORS. THIS CAN CAUSE INCORRECT INDICATIONS ON THE RELATED COCKPIT INSTRUMENTS.

Note that the potential consequences of failure to comply with the instructions on aircraft operation are explained.

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The aircraft protection equipment to be used for the static probes is given in the AMM chapter 10-11-00 Page Block 201:



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TEM

The description of the protective equipments is given in the Tool and Equipment Manual (TEM):

Part No.	98D10103500001(FAPE3)
Designation	COVER-STATIC PROBE
Description	This tool is used to blank the static probes . Note : this tool is in the flight kit.
See drawings	98D10103500 COVER STATIC PROBE
References	AMM 10-11-00 AMM 12-21-11 AMM 34-21-00

SRM

Concerning the SRM, chapter 51-75-12, Repair of Paint Coatings, includes the

CAUTION:

MAKE SURE THAT THE MATERIALS, AREAS AND PARTS GIVEN BELOW ARE PROPERLY PROTECTED AGAINST PAINT MATERIALS BY:

MASKING: RUBBER, ALL COMPOSITE PARTS, ACRYLIC MATERIALS, AERODYNAMIC SMOOTHER, METAL BONDED EDGES, PITOT PROBES, SENSORS, STATIC PORTS, ENGINE AIR INTAKE, PRECOOLER AIR OUTLET SCREEN, ENGINE EXHAUST DUCT, APU EXHAUST, APU INTAKES AND OUTLETS, AIR CONDITIONING FRESH AIR INTAKE, CABIN PRESSURIZATION CONTROL SYSTEM OUTFLOW VALVE (ZONE 172), LANDING GEARS, DOOR SEALS, ACCESS DOORS, CABIN WINDOW AND WINDSHIELD PANELS AND SEALS, ELECTRICAL EQUIPMENT AND CABLES, PLASTIC MATERIALS, EXTERNAL SKIN PANEL JOINTS, HIGH STRENGTH STEEL PARTS, AVIONICS SKIN TEMPERATURE SENSOR (28HQ) SUPPORT EXTERNAL FACE AND BALL LOCK FITTINGS.

PLUGGING: DRAIN HOLES, VENTS.

Other Caution in the SRM give the instruction to make sure **that all masking materials are removed upon work completion**, with special attention to pitot heads and static ports.

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Conclusion

The AMM, SRM, and the TEM do give instructions, including Warnings and Cautions, on how to protect critical components during painting operations.

The instructions require also that the protections should be easily visible from the ground, and be removed after the painting work is completed.

For all painting on the aircraft, strict adherence to the instructions are required, and it shall be ensured that the instructions are reflected in the job cards.

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

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This Maintenance Briefing Note (MBN) is part of a set of Briefing Notes that provide an overview of the applicable standards, techniques, best practices, human factors, suggested company prevention strategies and personal lines-of-defense related to major threats and hazards that may affect maintenance.

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