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Dear Readers,



Welcome to our April edition.

After some technical difficulties we are back with our improved monthly newsletter.

Now all the links and graphics should work properly. If not, please let us know and we will try to fix any remaining issues. Thank you all for your patience and continuing support.

At least for now the sun decided to grace us with his presence once more. Suddenly everyone and their mother feel the need to be sporty and active outdoors. I have to admit even I am not immune and dusted of my inline skates. It just feels good to be able to go outside again and do something productive and hopefully healthy. Afterwards of course we all like to relax in the outdoor bars and cafes and count the days to our summer holidays.

This month Georg Stöcker introduces the topic of FOD in the **main article**.

Also included are a couple of **short topics**.

In the not so distant future there are our courses, of course. Please have a look at the open **course status** and our course updates.

This month we have one job offer and you can of course continue to send us your **job offers**.

Have a lovely May and watch out for those wicked trees!



Tina Cameron
QCM

●○○○○ Main Article

FOD – Foreign Object Debris -> Foreign Object Damage

After one relaxing for a month (hahaha!!! who believes that?) this month we are back with a newsletter again and I have the pleasure to write a main article. This time I would like to talk about a subject which is of major interest to our business. A subject which – if not handled properly – can create a big headache to the involved persons. And, to be honest, not only a headache.



What do these three letters stand for? In our business "FOD" stands for "Foreign Object Debris" or "Foreign Object Damage".

What is "Foreign Object Debris"? "Foreign Object Debris" is anything that potentially impairs the aircraft's ability to fly. This may include tools, nuts, bolts, caps, paper, vehicles, people, construction material, packaging, plastic bags, dogs, cats, birds, pencils, phones, books, rocks, pavement pieces, aluminium cans, etc. A "Foreign Object Debris" can be all kinds of objects like these:



What can be the consequences of "Foreign Object Debris"?

"Foreign Object Debris" in the wrong place can create a potential safety problem.

Or, in other words:

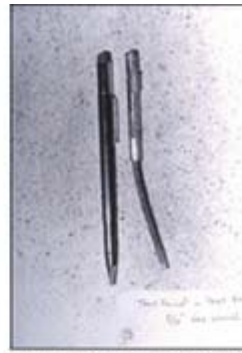
"Foreign Object Debris" => "Foreign Object Damage"

What is "Foreign Object Damage"?

"Foreign Object Damage" is any damage to the aircraft attributed to a foreign object (i.e. any object that is not part of the aircraft).



An engine from a US Navy A-6E that crashed shortly after takeoff



The bent wrench, found inside the engine, that crashed it
Source for images: Naval Safety Center



What might be consequences of "Foreign Object Damage"?

Unfortunately "Foreign Object Damages" are not only occurring on aircraft on the ground. The past shows that several accidents or severe incidents can be traced back to "Foreign Object Damages".

Here some examples:



Accident: 25.Jul.2000, Air France Flight 4590, departs from Charles de Gaulle Airport, Paris.

Cause: Metal strip on the runway ejected from the cowl of a Continental Airlines DC-10 departing five minutes before the Concorde.

Consequences: Cutting and destroying a main gear tire, leading to a fuel tank rupture, a fire and loss of engine thrust. The crash killed all 109 people on the flight and 4 on the ground.



Accident: 15.Jan.2009, US Airways Flight 1549, departs from La Guardia Airport, New York City.

Cause: The jet flew into a flock of Canada geese.

Consequences: The plane suffered a double engine failure. The pilot was able to ditch the plane in the Hudson River. All 155 occupants safely evacuated.



Accident: 01.Feb.2003, Space Shuttle Columbia, 28th Space Shuttle Mission, STS-107.

Cause: The damage sustained during launch when a piece of foam insulation the size of a small briefcase broke off from the Space Shuttle external tank (the 'ET' main propellant tank) under the aerodynamic forces of launch. The debris struck the leading edge of the left wing, damaging the Shuttle's thermal protection system (TPS), which shields it from the intense heat generated from atmospheric compression during re-entry. During re-entry, the aircraft structure (no longer protected by the tiles) began to melt causing the wing to fail and the Columbia to break apart.

Consequences: The Space Shuttle Columbia disintegrated over Texas and Louisiana during re-entry into the Earth's atmosphere, resulting in the death of all 7 crew members. Debris from Columbia fell to Earth in Texas along a path stretching from Trophy Club to Tyler, as well as into parts of Louisiana.

How can we prevent "Foreign Object Damage"?

Most FOD can be attributed to poor housekeeping, facilities deterioration, improper maintenance or careless assembly and inadequate operational practices. Therefore a FOD prevention training program as part of initial job orientation and on a continuing basis is to increase employee awareness to the causes and effects of FOD. Following are a few stages and possibilities for FOD prevention to give you an idea of what can be done.

Parts and material handling:

A well-established plan for material handling and parts protection can eliminate many potential FOD hazards. First, identify the specifics such as sensitive parts, assemblies, surfaces, areas, etc. Then, sequence events for packaging, handling, shipping and storage, and finally, evaluate cleanliness and care requirements.

Housekeeping:

Maintenance, manufacturing and operational areas must remain clean. Employees should be informed that housekeeping is a part of their job and they will be graded on their performance. Incorporate "Clean-As-You-Go" as a required work ethic to prevent debris from migrating into flight hardware.

Ensure that all production, maintenance and test areas meet "good housekeeping" standards that enhance foreign object elimination. This includes sweeping and vacuuming production areas as well as a regular schedule for sweeping ramp areas.

Ensure that grounds and surfaces on which aerospace vehicles and ground support equipment are

operated and maintained are free of objects that could cause damage due to ingestion of foreign object or jet blast effects.

Tool accountability:

The primary objective of a positive tool accountability program is to eliminate accidents/incidents and loss of life or equipment due to tool FOD.

There are numerous methods to facilitate accountability: use of shadow boards, shadowboxing, bar coding, special canvas layouts with tool pockets, tool counters, chit system tool tags, or consolidated tool kits.

Unique control methods should be implemented for special tools used in checkout, test and operational environments.

Tools/equipment should be tethered or suitably restrained to the user in areas around structural work stands or any other locations where a dropped article could result in damage to flight hardware, injury to personnel, or where difficulty in retrieval would result if the tool were dropped.

All loose tools should be contained in a tote tray, soft tool bag or other suitable spill-proof container and not placed in a manner that would cause damage to flight hardware or injury to personnel.

Hardware accountability:

The primary objective of hardware accountability is to assure control. There are many methods that can be established for control of hardware (nuts, bolts, screws, cotter pins, rivets, clecoes, etc.), e.g. kit hardware by task; FOD containers should be placed in key locations within the work area and entry and exit points; "Clean-As-You-Go" policy; removal/installation paperwork to track loose parts; furnish and specify tote trays; covered spring-loaded containers; etc.

Lost items:

Any time an item is lost during an assembly, manufacturing, or maintenance task, cease activity in the affected area and initiate a search for the item. Continue this search until the item is found or adequate assurances are made that the item is not in the aerospace vehicle or assembly. Searching for such items may require depaneling or non-destructive inspections, including boroscope and/or x-ray. If an item cannot be located after a search has been completed, annotate applicable forms with a description of the item and search procedure followed.

Physical entry into FOD critical area:

When physical entry is required into flight hardware, such as crew compartments, engine intake, exhaust, fuel tank areas, etc., personnel should remove all loose objects, badges, jewellery, etc., from clothing. Pocketless coveralls should be worn to preclude foreign objects dropping from pockets onto a FOD critical area.

(Source: FOD Prevention Guideline; National Aerospace FOD Prevention, INC; 1-800-FOD-1121)

Conclusion

To prevent accidents and incidents due to "Foreign Object Debris", a proper FOD Prevention Programme is essential.

There is a lot of information material and guidelines available to establish and implement such a programme. All of the information leads to the same conclusion:



We don't want to run into that situation:



Newsflash

Notices of Proposed Amendments (NPAs)

TITLE	DATE PUBLISHED	END OF COMMENT
NPA 2012-03 Control of suppliers of components and material used in maintenance	2012-04-12	2012-07-12
NPA 2012-02 Airworthiness and operational criteria for the approval for Electronic Flight Bags (EFBs)	2012-03-15	2012-06-18
A-NPA 2012-01 (Corrigendum) Harmonised Transition Altitude	2012-02-29	2012-05-29

New AMC & GM to Part-M, Part-145, Part-66 and Part-147

We would like to inform you that on Monday, 23 April 2012, EASA has published a new amendment to the AMC & GM to Part-M, Part-145, Part-66 and Part-147.

DECISION NO 2012/004/R

OF THE EXECUTIVE DIRECTOR OF THE AGENCY

of 19 April 2012

amending the Annexes I, II, IV, V, VI, VII and VIII to Decision No 2003/19/RM of the Executive Director of the European Aviation Safety Agency of 28 November 2003 on acceptable means of compliance and guidance material to Commission Regulation (EC) No 2042/2003 of 20 November 2003 on the continuing airworthiness of aircraft and aeronautical products, parts and appliances, and on the approval of organisations and personnel involved in these tasks

This amendment introduces:

- 'Time limit for demonstrating compliance with knowledge and experience requirements',
- 'Privileges of B1 and B2 aircraft maintenance licences AND Type and group ratings AND Type rating training', and
- 'Aircraft maintenance licence for non-complex aircraft'.

You have access to this new guidance material through the EASA homepage:

<http://easa.europa.eu/agency-measures/acceptable-means-of-compliance-and-guidance-material.php#AMCPart-145>

New consolidated version of QCM-Part-145

We would like to inform you that we have amended our consolidated version of Part-145 (Doc.

Name: QCM-Part-145-en-Rev08-230412).

This new amendment (Rev. 8, 23.04.12) includes the following latest amendments of the regulation and the corresponding AMC & GM:

- Commission Regulation (EU) No 1149/2011 of 21 October 2012
- Decision No 2012/004/R of 19 April 2012

In addition we added a new document which we called "Addendum to QCM Part-145 consolidated version" (Doc. Name: QCM-Part-145-en-Rev08-230412-Addendum). This addendum includes the Appendices to Part-M and to AMC to Part-M relevant to Part-145.

You have access to these documents through our homepage:

<http://www.qcm.ch/en/publications/#/14/>

○○○○● Course Update

Please find below our open courses with seats available.

There are **no courses in July** so far.

From June on we offer a new course on **SAFA Awareness for Operators**. The first course will take place on **25. June 2012** in Berne. The course aims to answer all questions concerning SAFA including: What are the working arrangements between EASA and several Civil Aviation Authorities? What are the regulations and Directives of a SAFA check? What are the requirements (ICAO Annex 1, 6 and 8)?

The course date of the **Maintenance Program** course in Berne is **28. – 29. June 2012**.

Our next aircraft type rating course is the **Dassault Falcon 900EX Level 1 (T4) General Familiarisation**. The course is for EASA Part-66 C licensed staff and can also be used as a Refresher for Certifying Staff. It is scheduled for **23. – 25. May 2012** at our facility in Berne.

If you are interested in participating in these or any other training please do not hesitate to contact us.


I. Open Course Status March 2012 - May 2012

Course title	Date	Places available	Instructor
EASA-OPS / EASA-FCL Airplanes	01. - 03.05.2012	open	Patrick Sutter
EASA Part-M Subpart G	07. – 09.05.2012	open	Paul Baumann
Airworthiness Review for ARC Signatories	10.05.2012	open	Paul Baumann
EASA Part-66 / Part-147	21. – 23.05.2012	open	Jürgen Feldhoff
EASA Part-M Subpart F	18. – 19.06.2012	open	Georg Stöcker
FAA Part 145	20. – 21.06.2012	open	Georg Stöcker
SAFA Awareness for Operators	25.06.2012	open	Claude Schär
Fuel Tank Safety Phases 1 and 2	26.06.2012	open	Paul Baumann
EWIS	27.06.2012	open	Paul Baumann
Maintenance Program	28. – 29.06.2012	open	Chris Tamerius

If not stated otherwise, courses will take place in our facilities in Belp/Berne. Please "click" on the Course title for detailed information.

II. Open Course Status EASA Part-147 Type Trainings

Course title	Date	Places available	Instructor
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Job Market

Take advantage of our Newsletter platform if you wish to publish a job advertisement or if you are looking for a new challenge in the aviation industry.

Important:

Please note that details of job advertisements or searches for the next edition must reach our office (info@qcm.ch) by the **22nd of each month**.

Without further notice, you advert will be published only once.

I. Job Offer



Wir sind eine international tätige Unternehmung im Bereich Unterhalt, Reparatur und Überholung von Helikoptern und Luftfahrzeugkomponenten. Unsere Kernaufgabe besteht darin, unseren Kunden eine hohe Verfügbarkeit ihrer Maschinen, zu marktgerechten Preisen zu gewährleisten. Eine effiziente Materialbewirtschaftung leistet dazu einen entscheidenden Beitrag. Als Ergänzung zum heutigen Team für den Bereich Logistik und Fakturierung suchen wir per sofort oder nach Vereinbarung, einen qualifizierten

Ihre Hauptaufgaben sind:

- Operativer Einkauf von Ersatzteilen und Verbrauchsmaterial
- Organisation & Koordination der Warentransporte & Zollformalitäten (Import & Export)
- Wareneingang, Lagerbewirtschaftung, Warenausgang
- Materialverkauf (Angebot, Auftragsentgegennahme, Kommissionierung, Verpackung, Versand und Fakturierung)
- Kontakt mit Kunden und Lieferanten
- fakturieren von Kundenaufträgen

Wir erwarten von Ihnen:

- Abgeschlossenen Berufslehre als Lagerist oder gleichwertige Ausbildung oder Berufserfahrung
- Technisches Flair, Eigenverantwortung und Qualitätsbewusstsein
- Belastbarkeit und Einsatzbereitschaft
- Gute Englischkenntnisse (Wort und Schrift); Französisch von Vorteil
- Aviatik Kenntnisse von Vorteil

Wir bieten Ihnen:

- Eine herausfordernde Tätigkeit in einem faszinierenden Umfeld
- Integration in ein erfahrenes Team
- Moderne Arbeitshilfsmittel
- Zeitgemässe Anstellungsbedingungen

Wenn Sie sich angesprochen fühlen, senden Sie Ihre Bewerbungsunterlagen an

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Previous Newsletters

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We hope that you have found this month's newsletter interesting and informative. Do not hesitate to contact us for further information.

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