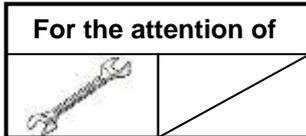


SAFETY PROMOTION NOTICE

SUBJECT: GENERAL

Foreign Object Damage prevention



AIRCRAFT CONCERNED	Version(s)	
	Civil	Military
EC120	B	
AS350	B, BA, BB, B1, B2, B3, D	L1
AS550		A2, C2, C3, U2
AS355	E, F, F1, F2, N, NP	
AS555		AF, AN, SN, UF, UN, AP
EC130	B4, T2	
SA365 / AS365	C1, C2, C3, N, N1, N2, N3	F, Fs, Fi, K, K2
AS565		MA, MB, SA, SB, UB, MBe
SA366		GA
EC155	B, B1	
SA330	J	Ba, L, Jm, S1, Sm
SA341	G	B, C, D, E, F, H
SA342	J	L, L1, M, M1, Ma
ALOUETTE II	313B, 3130, 318B, 318C, 3180	
ALOUETTE III	316B, 316C, 3160, 319B	
LAMA	315B	
EC225	LP	
EC725		AP
AS332	C, C1, L, L1, L2	B, B1, F1, M, M1
AS532		A2, U2, AC, AL, SC, UE, UL
EC175	B	
H160	B	
EC339		KUH/Surion
BO105	C (C23, CB, CB-4, CB-5), D (DB, DBS, DB-4, DBS-4, DBS-5), S (CS, CBS, CBS-4, CBS-5), LS A-3	CBS-5 KLH, E-4
MBB-BK117	A-1, A-3, A-4, B-1, B-2, C-1, C-2, C-2e, D-2, D-3	D-2m, D-3m
EC135	T1, T2, T2+, T3, P1, P2, P2+, P3, EC635 T1, EC635 T2+, EC635 T3, EC635 P2+, EC635 P3, T3H, P3H, EC635 T3H, EC635 P3H	

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The International Aerospace Quality Group (IAQG) has published guidance material on the prevention of Foreign Object Damage (FOD).

<https://iaqg.org/standard/9146-fod-prevention/>

This material is a timely reminder of the challenges of FOD prevention. A summary of the prevention and mitigation strategies is provided.

If you want to share your experience or ask for materials, you can contact us at:

contact.aviationsafety.ah@airbus.com

Scope

FOD poses a very real risk to the safety of rotorcraft operations. The prevention of FOD is a transversal activity that spans not just operations but also involves logistics, cleaning services, suppliers, engineering, facilities management, apron management, and third parties such as passengers & customers. Effective FOD prevention is an integral part of a positive Safety Culture of any company.

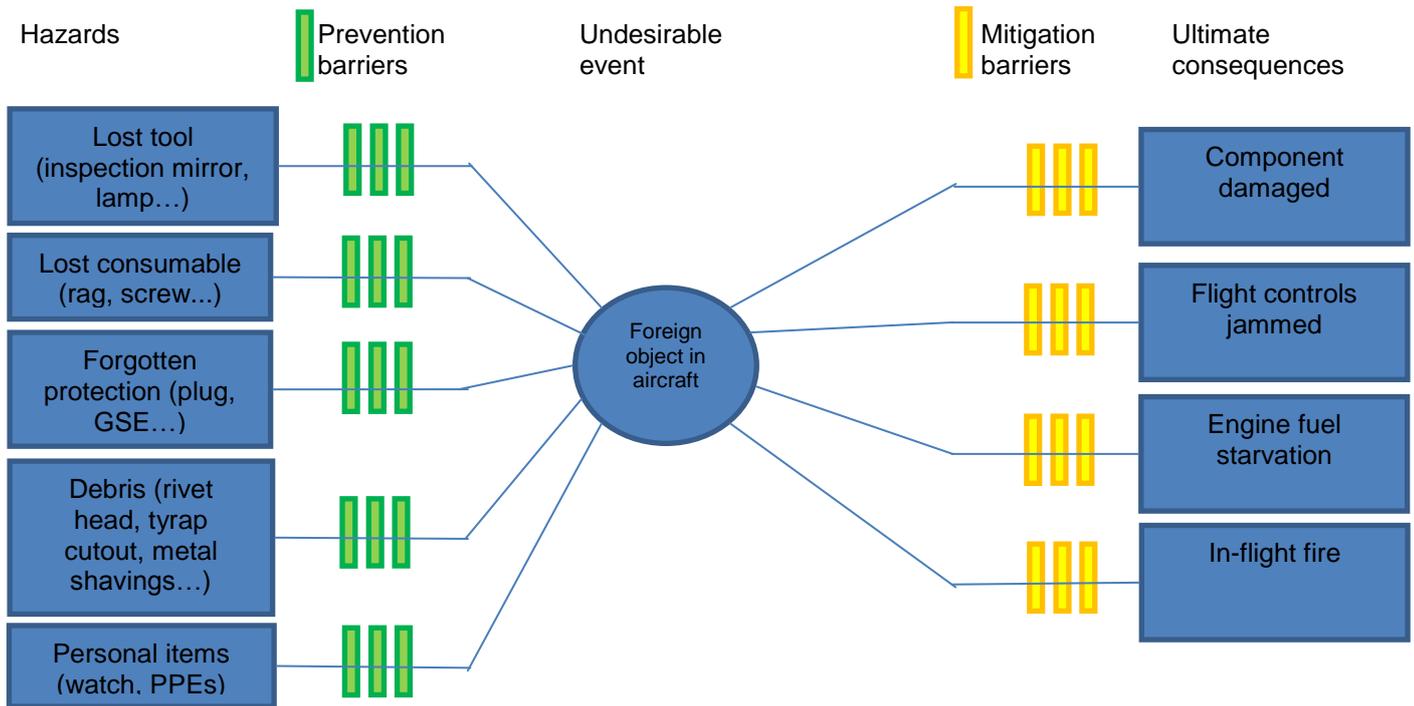
The FOD Prevention Program shall include the consideration of the following elements:

- Creation of a positive culture to identify FOD sources/hazards and establish effective mitigations,
- Training on FOD hazards for different operational job roles and best practices,
- Governance with clearly defined roles and responsibilities, detection and reporting strategies, continuous improvement and process adherence,
- Requirements for FOD awareness for third party contractors,
- Cockpit and cabin FOD hazards during operations,
- Consideration of landing site hazards and blown debris,
- Serviceability of airfield operating surfaces to reduce concrete debris hazards,
- Serviceability of vehicles and ground support equipment,
- Designation of FOD-free areas for operations, maintenance and production activities,
- Tool accountability and control,
- Consumables, hardware, personal items - accountability and control,
- Product protection during assembly and production activities,
- Housekeeping and clean-as-you-go.

Risk Management

The following bow tie aims to summarize some of the hazards that can lead to accidents involving FOD. It is not exhaustive and you should create customized ones for each undesirable event identified in your activities. The bow tie system is very visual and can be very useful to disseminate information on risk management strategies.

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For instance tool checks, self-inspections, cleanliness, anti-FO means...

Ground runs, Pre-flight check, double inspections, training for emergency procedures, FO awareness...

Non-exhaustive example of FOD prevention bow tie

Examples of best practices

Red Tape - anti-tampering devices

This anti-tampering red tape can be used to seal off doors and hatches. Once the tape has been set, any attempt to remove it will trigger selective discoloration, revealing the "void open" message. This will help ensure that the area gets checked again before flight.



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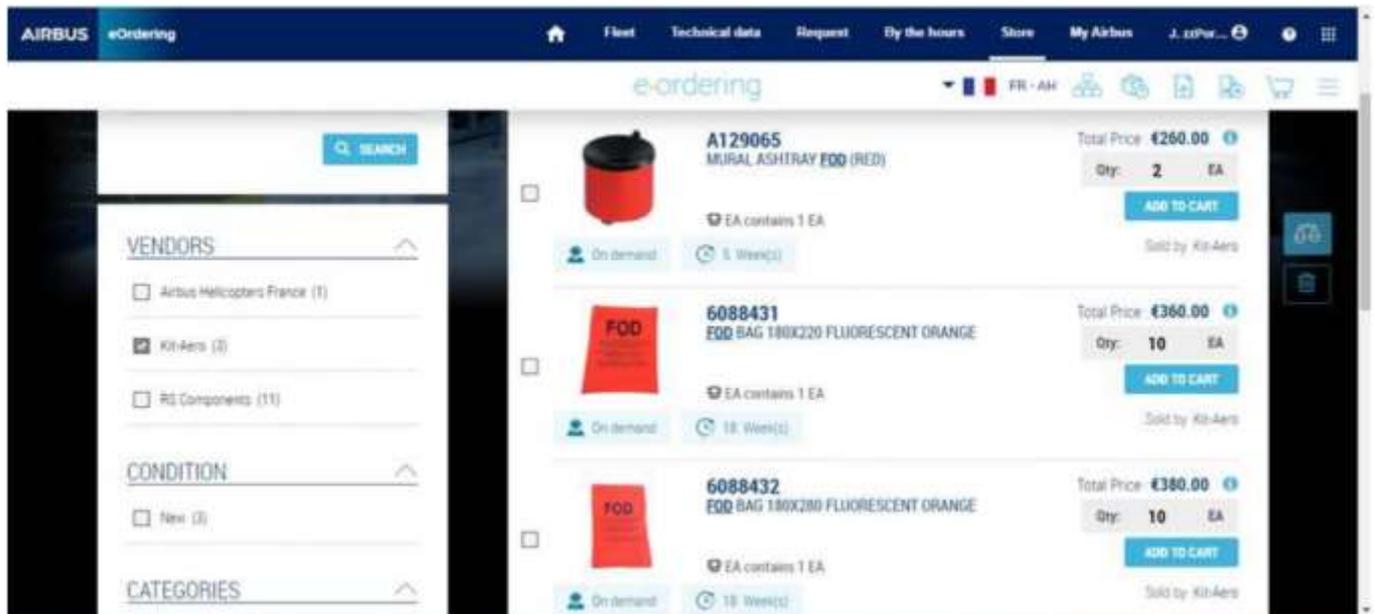
Shadow Boards - easily identify missing items

Some tasks lend themselves to “foolproofing”, with simple box designs and easy-to-check rules. Some examples are given for the AS365 (Safety Information Notice 2964-S-00) and the H175 (Safety Information Notice 3145-S-12).



FOD bins

Assembly and maintenance technicians can be equipped with sealable bags to store all the FOs found during their shift. This supports the "clean as you go" mindset. Such bags can be procured on Airbus World.



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RFID tool stores or visual inventory

Some tool providers provide tool storage solutions that automate inventory. All tools are equipped with an RFID tag. The tool store keeps track of which tools have been taken by whom and can provide a report to confirm whether all tools have been put back in store and whether release of an aircraft to the flight line is allowable. Similar strategies can be setup with foam cutouts to allow for easy visual detection of missing tools in the tool storage.



FOD walks

Organizing events in the flight line to collect FODs, so-called "FOD walks", is a good way to raise awareness to the challenge.



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FOD Control Areas



Risk area

- FOD risk area shall be considered as 'sacred' with mandatory rules. IT IS NOT OPEN TO ALL
- All BUs shall perform risk assessment
- 3 levels with appropriate rules
- Enhanced marking



FOD Officer nomination + Posters



FOD Visual markings

Level 3: CRITICAL

Taxiing area, Apron, Flight testing / flight line, Transmission assemblies repair workshop

Level 2: SENSITIVE

Assembly line, Manufacturing of complex parts, Aircraft disassembly or painting, or installing upholstery components, Maintenance / retrofit line
Warehouses in which complex equipment / sub-systems can be unpackaged and packaged

Level 1: AWARENESS

Manufacturing workshop for simple structure components, Equipment repair shop except dynamic assemblies, Warehouses in which FOD sensitive equipment is protected.

Access control



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Cleanliness standards - 5S



Cleanliness = Safety

“ The prevention of FOD begins with the cleanliness of our collective working areas. Let's respect our standards (housekeeping, clean as you go, ...). Aviation Safety is a top priority for Airbus Helicopters and FOD is a main risk for Aviation Safety. We count on you to avoid FOD!
Florence Verlut, Executive Vice President Aviation Safety & Quality

Remove debris immediately

In risky and difficult to access areas, with dedicated equipment (compressed air, suction).

Place all waste and FO/FOD

In appropriate FOD containers and receptacles (red bins, orange bags, etc.) reserved for manufacturing waste.

Carefully check

- The systematic protection of open areas prior to any work,
- The removal of all unused tools, components or parts, guards and accessories (stool).

Clean your work area

- Before leaving your workstation (break or end of shift),
- Continuously throughout ongoing operations,
- At the end of operations and prior to any inspection.

FOD Prevention programme: in MyCES DIR-019 and MET-022

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