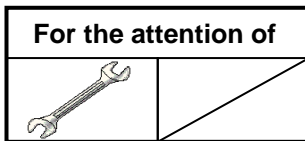


SAFETY PROMOTION NOTICE

SUBJECT: GENERAL

**Aviation Safety Recommendations for Maintenance Repair and Overhaul
(Operational / intermediate / Depot Levels) centers**



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, 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	
MBB-BK117	A-1, A-3, A-4, B-1, B-2, C-1, C-2, C-2e, D-2, D-2m, D-3, D-3m	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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Maintenance on helicopters ensures their continued airworthiness, operational availability and performance. This maintenance on such complex aircraft requires not only competencies and qualifications on behalf of the maintenance operators, but also an organizational structure which allows the implementation of the maintenance in such a way that it reduces the risk of maintenance errors.

As such, all the inherent risks linked to maintenance activities should be considered and mitigated, taking human factors into account at all levels of the entire organization.

In particular, it has been observed that recurrent interruption of maintenance tasks, rapid changes in the execution of maintenance tasks, loss of concentration, and lack of organization (anticipation), are the main factors which could lead to a maintenance error, in addition to inappropriate compliance with procedures.

This Safety Promotion Notice provides recommendations and good practices for all Maintenance Repair & Overhaul (MRO) centers performing Operational, Intermediate and Depot Level maintenance, in order to mitigate the risk of maintenance errors.

These recommendations are structured around four axes:

- Improve communications and reinforce leadership within the maintenance team and between the maintenance team and the rest of the organization, in order to foster a safety-focused culture and effective safety management
- Improve conditions in the workplace, in order to minimize hazards and ensure a safer environment for maintenance and flight operations,
- Organization Streamlining, in order to rationalize processes and procedures, and to enhance safety management efficiency and effectiveness in maintenance and flight operations,
- Increase the influence of the Safety Management System (SMS), in order to improve awareness and ensure compliance with the SMS among maintenance and flight operations personnel.

Airbus Helicopters strongly encourages you to check the adherence to these recommendations in your own organization, with the help of the Quality and Safety representatives, and to set up regular routines to check their implementation.

These recommendations will be used as a reference for future updates of the Airbus Helicopters Quality standards.

In addition, you can also refer to the following Safety Promotion Notices on Human Factors already published by Airbus Helicopters:

- SPN 3344-P-00 Enhancing Aviation Safety with proper Maintenance procedures and a Human Factor analysis campaign
- SPN 3399-P-20 Recommendations for visual inspections - Human factors approach
- SPN 3522-P-20 Recommendations for Work at Height - Human factor approach

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		Recommendations
Improve communications and reinforce leadership	Communication improvement (at any level)	The team spirit should be maintained at the highest level, by fostering interactions inside the company (during team-building events for example). With trust and team spirit will come more transparency and this will also reduce the potential tensions between the teams.
	Speak up & risk perception	Promote a Just & fair Culture within the organization, particularly by promoting the possibility to say 'no' at hangar level. Implement and deploy, at each level of the organization, a "Just and Fair culture", which: <ul style="list-style-type: none"> - acknowledges that people make mistakes - provides an atmosphere of trust in which people are encouraged to provide safety and quality-related information (e.g. incident, hazard and near-miss reports, etc.) - recognizes and rewards those people involved in this information reporting - has zero tolerance regarding intentional violation of rules and regulations.
Improve conditions in the workplace	Hangar improvements	During lower workload periods, the team should be involved to improve their work environment: reorganize the hangar (5S etc.), improve the tools and parts workflow, perform brainstorming to gather ideas for improvement and follow them in full transparency.
	Inventory of standard tools	An inventory of all standard tools should be made. Missing or nonfunctional tools should be replaced. Optimized process should be defined to accelerate the standard tools replacement, once the tools have been confirmed missing or nonfunctional.
	Hangar Layout	Spatial conflict between maintenance stakeholders working around the Aircraft should be avoided. Storage areas should be clearly identified and easily accessible.
	Safety items (Personal Protective Equipment, Access Platforms, etc.)	Increase monitoring mechanisms to facilitate operators' requests for safety materials, and initiate investigations promptly if a supervisor or SMS representative identifies any safety concerns.

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		Recommendations
Organization Streamlining	Role and Responsibilities	The objective is to avoid multitasking by segregating each role: maintenance operator performs maintenance activities, supervisor checks, scheduler prepares in relation with supervisor and maintenance operator to anticipate a realistic sequence.
	Customer relations	Actions toward customers should be done to anticipate and plan their maintenance needs in order to have a better view on the incoming activities. Delivery time commitment should be given, taking the workload of technical teams into account.
	Team collaboration	Make sure that the technical teams are involved early enough during contract negotiation, to make sure the contract will take the workload and resources available into consideration.
	Qualifications	Maintenance stakeholders' qualifications should be in adequation with the incoming maintenance activities, therefore qualification training needs should be anticipated.
	Work order anticipation	By ensuring good communication between scheduler, supervisor and maintenance operator, the work order should be anticipated as much as possible in all dimensions (spare parts availability, special tools availability, workforce availability, etc.).
	Identification while working on critical part/system	A red jacket (or equivalent) should be worn to inform that maintenance stakeholders must not be disturbed in case of maintenance on a critical part/system, particularly on reassembly and detailed inspection of components belonging to ATA 62, 63, 64, 65, 67, 71, 72, 73, 74, 75, 78 and 79, or when the task duration is greater than or equal to 30 mins, or for tasks identified as critical by the maintenance organization itself.
	Maintenance Task validation timeline	All work orders should be checked and signed-off immediately after the related tasks have been performed.
	Team awareness	An immersion in a different job (hangar, support, commercial, etc.) should be organized for employees (at least one per department), in order to be aware of the constraints affecting everyone.
	Quality stakeholders	Reinforce the role of independent and qualified quality stakeholders during the complete maintenance sequence (before the entry of the helicopter into the hangar, down to the delivery to customers)

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		Recommendations
Increase influence of SMS	<i>Safety Management System (SMS)</i>	Implement SMS as a standard practice at all levels, by training one representative per department. In the hangar, designate a representative to centralize safety needs and ensure efficient communication and coordination regarding SMS requirements.
	<i>Quality department training</i>	Enhance training of the Quality department concerning SMS and Human Factors, in order to conduct more robust investigations when stakeholders provide feedback (e.g. improve knowledge on investigation methods and tools that support investigations) or when an SMS representative identifies a hazardous work situation.