



Safety recommendation no. 474

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Safety deficit	On 11 August 2011 a hazardous convergence occurred in the Emmen military aerodrome terminal area between a Mooney M20J aircraft and a Swiss Air Force Eurocopter AS532 helicopter. During the investigation it was found that the Eurocopter AS532 Cougar helicopter involved in the serious incident had no system to warn of or prevent collisions, even though this aircraft type is equipped with a modern digital cockpit. The reason for this is that for the operation of state aircraft there are waivers which allow safety equipment which has long been standard for civil aircraft in a similar category to be dispensed with. Since in Switzerland in particular, numerous military aircraft are operated for the most part in civil airspace, this lack of equipment constitutes a considerable risk for all airspace users.
Safety recommendation	Together with the Air Force, the Federal Office of Civil Aviation should ensure that those Air Force aircraft, which operate for the most part in civil airspace, are also equipped with collision alert systems that are compatible with civil standards.
Addressees	BAZL Bundesamt für Zivilluftfahrt; BAZL Bundesamt für Zivilluftfahrt
Stage of the implementation	Partially implemented. On 15 January 2020, a further discussion was held with the Air Force (AF) and with the Military Aviation Authority (MAA) with regard to this safety recommendation. The FOCA recommended that the AF install the Airborne Collision Avoidance System ACAS II, ACAS I or as a minimum Traffic Avoidance Systems (TAS) in IFR aircraft, according to their type and size. It also recommends the installation of a FLARM system for the detection of gliders and balloons until the introduction of the Mode-S transponder requirement or ADS-B (IN/OUT). The Air Force has already partially equipped its aircraft with collision warning devices compatible with civil aviation standards. Porter, Super Puma and all aircraft of the Federal Air Transport Service (LTDB) are already fitted with this technology. It is planned to equip the Cougar and EC-635 helicopter models and the PC-7, PC-9 and PC-21 aircraft in the near future. These are also the aircraft that are most likely to operate according to visual flight rules in lower airspace and that do not have their own integrated radar systems for detection. In the case of combat aircraft, the collision warning systems mentioned above are not adapted to the performance characteristics of high-performance jets and so could trigger false warnings between such jets and with other air traffic. At present, the manufacturers are not planning to integrate collision warning systems in combat aircraft.

The intention is to improve the detection of slow-moving aircraft by ensuring that any new combat aircraft procured are equipped with suitable and integrated sensors in addition to transponders and ADS-B.

The Air Force has now given assurances that collision warning devices are either installed or will be installed on Air Force aircraft that are operated mainly in civil airspace. The Federal Office of Civil Aviation hereby considers this safety recommendation to be implemented and closed.

As the FOCA itself writes, not all aircraft that operate primarily according to visual flight rules in lower airspace and that do not have their own integrated detection radar systems have yet been equipped with suitable collision warning systems, and there is no definite schedule for such technology to be installed in the remaining aircraft. There are no plans to install it in combat aircraft in the foreseeable future. As the safety deficit still exists, at least in part, the safety recommendation is assessed as 'partially implemented'.

**Investigation report concerning
the safety recommendation**

Schlussbericht
