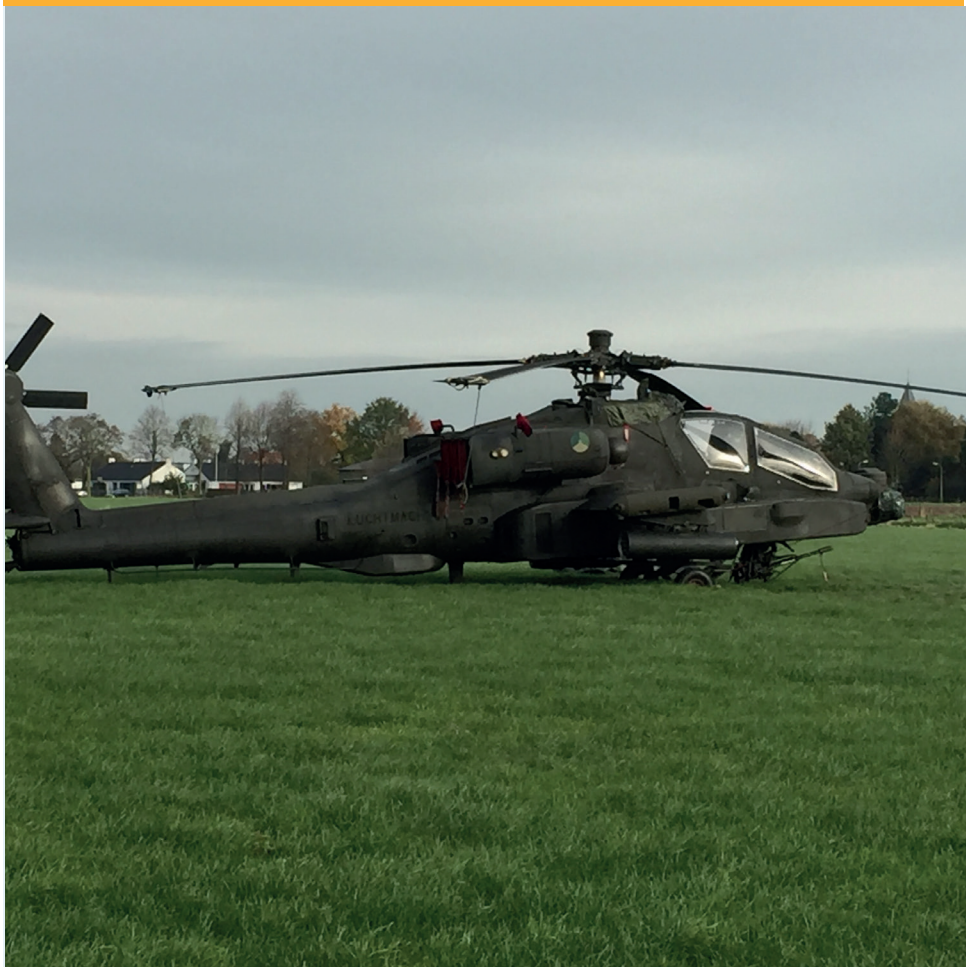
DUTCH
SAFETY BOARD

Summary

Apache wire strike during night flying



Summary

Apache wire strike during night flying

The Hague, September 2018

The reports issued by the Dutch Safety Board are public.
All reports are also available on the Safety Board's website: www.safetyboard.nl

Photo cover: Dutch Safety Board

The Dutch Safety Board

When accidents or disasters happen, the Dutch Safety Board investigates how it was possible for these to occur, with the aim of learning lessons for the future and, ultimately, improving safety in the Netherlands. The Safety Board is independent and is free to decide which incidents to investigate. In particular, it focuses on situations in which people's personal safety is dependent on third parties, such as the government or companies. In certain cases the Board is under an obligation to carry out an investigation. Its investigations do not address issues of blame or liability.

Dutch Safety Board

Chairman: T.H.J. Joustra
E.R. Muller
M.B.A. van Asselt

Secretary Director: C.A.J.F. Verheij

Visiting address: Lange Voorhout 9
2514 EA The Hague
The Netherlands

Postal address: PO Box 95404
2509 CK The Hague
The Netherlands

Telephone: +31 (0)70 333 7000

Website: safetyboard.nl
E-mail: info@safetyboard.nl

CONTENT

SUMMARY

On November 13, 2017, a night flying exercise took place with an Apache helicopter (AH-64D) of the Dutch Defense Helicopter Command in the vicinity of the town of Zoelmond in the Netherlands. Helicopter pilots of the command regularly practice flying at low altitude at night. The training flights are carried out under conditions that are as realistic as possible. Due to darkness, limited vision and low altitude at which operations are operated, these flights carry an increased risk. However, the flights are necessary for maintaining the operational status of helicopter crews.

After a number of years of deployment of the helicopters and their crews, the number of training missions for conventional missions has declined. The aim of the Defense Helicopter Command is to bring the combat-ready status back to level within two years. This requires more flying details during times of darkness. The accident flight was part of an exercise to regain the flying skills of the helicopter crews.

An Apache helicopter crew consists of two pilots; a front seater and a back seater, named after their positions in the cockpit. The front seater is the pilot in command and as such is responsible for the execution of the mission as a whole. The back seater is mainly responsible for actually flying the helicopter.

During darkness, visibility for the crew is limited because of the systems used on board. Because of the image the pilots are offered on their displays, small or thin objects such as high-voltage lines are poorly visible.

As part of the exercise, a simulated attack on a practice goal was executed. During the attack the helicopter itself was attacked by ground forces. As a first reaction to the enemy's attack, the crew started an evasive action. The enemy threat at the moment of the simulated attack was from the left, the reaction of the crew therefore was to move the helicopter to the right, and to descend to get out of sight of the enemy forces. During the evasive action, the back seater was not fully aware of the aircraft's location in relation to the high-voltage line.

During the evasive manoeuvre, the helicopter came into contact with the upper wire of the high-tension line, the lightning conductor wire, which resulted in a short-circuit in the power network. This short-circuit caused a power outage in the vicinity of the accident and caused a power outage of several hours affecting approximately 25,000 households. After the accident the helicopter landed in a nearby meadow.

When choosing the low flying area in preparation of the exercise, the presence of high-voltage lines in the area is not explicitly included in the consideration. Low-flying helicopters are faced with obstacles such as high-voltage lines and towers during an actual deployment as well. The presence of obstacles is part of a realistic exercise.

To prevent the risk of colliding with obstacles and wires, the Defence organisation has taken various mitigating measures: flying routes are pre-recced during daytime, crew members are teamed up to mix their experience, maps are used on which high-voltage lines and obstacles have been projected and highlighted, and fixed procedures for passing wires are in place. These measures were all followed during the preparation and execution of the flying exercise.

Just prior to the accident, the back seater was occupied with a great number of tasks in relation to his flying experience: he had to fly the aircraft, check the surroundings with the limited resources available and he had to manoeuvre the helicopter into the right position (as commanded by the pilot in command) to be able to use the rockets during the simulated attack on the ground troops. At the same time he had to execute an evasive manoeuvre after being attacked by enemy forces on the ground. This task load is believed to have contributed to the occurrence of the accident.

DUTCH
SAFETY BOARD

Visiting address
Lange Voorhout 9
2514 EA The Hague
T 070 333 70 00
F 070 333 70 77

Postal address
PO Box 95404
2509 CK The Hague

www.safetyboard.nl