

SUMMARY IN ENGLISH

The investigation relates to a near collision in connection with an exercise in aerial combat between a Swedish JAS 39 Gripen and a Norwegian F16 Fighting Falcon at F21/Kallax. During the exercise, the two-ship was monitored by Swedish Fighter Control (STRIL). The incident occurred when the aircraft were on the way home from the exercise area. The method of separation between the aircraft ordered by the flight leader was radar column with a minimum distance of 2 nautical miles. The pilot of the Norwegian aircraft was the flight leader and the Swedish pilot was the wingman.

The approach towards Luleå/Kallax was commenced with STRIL instructing the two-ship formation to fly on a certain heading, “descend to flight level 150 or below” and to contact Kallax Control on channel “Charlie Two”. The aircraft then began to descend and entered the cloud as they passed FL 160.

The flight leader has indicated that he first perceived the phrase “descend to flight level 150 or below” as a clearance, but then he became uncertain as the phrase did not contain any minimum height. Since he perceived the clearance to be incomplete, he aborted his descent at FL 150 and ordered the wingman to switch to the “chat frequency”.

Since the flight leader did not have immediate access to the frequency for Kallax Control nor recognised the expression “Charlie Two”, he asked his wingman if he had the frequency in question. The wingman first responded to the question in the negative, but then nevertheless began to look for the frequency in his knee board.

While the wingman was looking for the frequency, the flight leader chose to remain at FL 150. Unaware of this, the wingman also stayed at FL 150 with the intention of maintaining a safe height above his flight leader, whom he thought would continue to descend towards FL 70.

When the wingman had found and communicated the frequency to the flight leader, he saw on the radar information that he had lost radar contact with the flight leader.

The flight leader had in turn just announced his intention to come in for landing to Kallax Control and had been cleared for approach when he suddenly saw a dark blurred shadow in the cloud beside and slightly ahead of him. The flight leader performed a sharp evasive manoeuvre and reported “near miss” to Kallax Control. At the same time, the wingman reported “broke lock”.

The minimum distance between the aircraft has been estimated by the Norwegian pilot to be 30–60 metres. SHK’s investigation notes that there had in fact been another near collision earlier during the flight home, which was not perceived by either of the pilots. On that occasion, the distance between the aircraft is estimated to have been about 60 metres.

The event was caused by the distance to the aircraft in front not being monitored by the wingman, which resulted in the risk of collision not being noticed.

A contributing factor was that a less appropriate setting for the occasion had been chosen in the aircraft and that the consequences of this had not previously been mentioned at the division or been known to the pilot.

Another factor contributing to the event was deficiencies in the preparations and the risk analysis ahead of the exercise and that the fundamentals of Swedish mission control and the

meaning of the Swedish mission control's instructions had not been made clear to the Norwegian pilot.

An underlying cause of the event was that there were not a sufficient number of experienced pilots with time to relate their experience to less experienced colleagues at the division which has led to certain shortcomings in the flight training of the less experienced pilots.

Safety recommendations

The Swedish Armed Forces is recommended to:

- ensure that guidelines for choosing an appropriate method for radar column are produced and that training on these guide-lines is implemented. *(RM 2016:02 R1)*
- ensure that instructions for implementing major flight exercises are produced, which include the aim of systematically reducing risks in exercise activities. *(RM 2016:02 R2)*
- ensure that foreign military aircraft participating in exercises in Sweden obtain training in the Swedish conditions with integrated airspace. *(RM 2016:02 R3)*
- develop, in collaboration with the Swedish Transport Agency, appropriate regulations regarding matters including instructions from fighter controllers to pilots in airspace at the disposal of the Swedish Armed Forces for both Swedish and foreign military aviation. *(RM 2016:02 R4)*
- ensure that the relevant parts of applicable regulations are published and made available to foreign military aviation on exercise in Swedish airspace. *(RM 2016:02 R5)*
- ensure that measures are taken to methodically guarantee the transfer of previous experience from flight operations to less experienced pilots in order to complete tasks at hand with a high level of safety. *(RM 2016:02 R6)*