

4 RESCUE



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White Danger

Four skiers were missing after an avalanche. Chances were slim that we would be able to save them, but naturally that did not keep us from trying. To find them inside a narrow canyon we employed some unusual methods. Listen to the rescuers and pilots share their memories of the rescue.

No Escape

The western Italian Alps are finally covered by the season's first great quantity of snow. Two days of strong wind followed, the weather forecast speaks of sunny weather for the long weekend, a holiday in Italy. For the fans of the snow sports the skiing season is finally beginning, but skiing on fresh snow off prepared and marked tracks is dangerous. Seasoned mountaineers know well that it is better to ski later in winter, when the snow is well settled.

Unfortunately this advice was not considered by four friends, all experienced skiers and all specialized in ski mountaineering, one of them even a mountain guide. They organize an excursion in Pellice Valley, at the Italian-French border, to reach the border crest at 2,800 meters and then descend on skis down the steep, narrow and almost vertical canyon. They are just a few meters below the top, when a plate of snow and ice separates above them and falls into the gully. There is no escape for the four

friends, and the avalanche's full force tears them down the valley.

Early in the afternoon, the rescue mission is launched, but the time to survive an avalanche is between 30 to 60 minutes. Considering the location, distance, difference in altitude that the avalanche covered, it was obvious from the beginning that this was not a "rescue mission" but a "recovery mission".

Battle against time

Nonetheless, a task force of sixty rescuers is alerted by CNSAS (National Corps for Alpine and Speleological Rescue) and SAGF (Guardia di Finanza Mountain Rescue Team) including canine units, a mobile radio/weather station and coordination center. Three helicopters are deployed to transport people and equipment, and to monitor the area and search from the air. The helicopters are an AW139 of AirGreen, the regional HEMS operator, a Lama and an NH-500 from the nearest Guardia di Finanza Air Section on Venegono base.

Ruggero Bissetta, CNSAS rescuer, recalls: "It was a battle against time. In December, the days are the shortest of the year, and the forecast spoke of a new front that would arrive in 36-48 hours.

The AW139 took part in the first stage of the operation and was very effective in the transport role thanks to the spacious cargo cabin. It was soon joined by the two other helicopters so it was possible to deploy rescue teams already early in the afternoon. In the few hours of daylight that remained we discovered the first two missing persons. They were buried in the snow at the head of the avalanche.

The entire area was searched using a Barrivox vs2000pro ARVA (Appareil de Recherche de Victime d'Avalanche, a transceiver to locate avalanche victims) without any return signals. Just before nightfall, an object was located high up in the gully.

The first task on the next day was to identify this object. It turned out to be a boot. The problem we faced was twofold: To go there was still extremely dangerous. And if we find the third person under the snow, how do we recover him? It will take two rescuers a long time to reach the

area on foot, over a very steep slope, on an instable surface, in danger of other avalanches."

All in the Green

A solution is found between the rescuers and AW139 crew. The pilot, Ivo Airaudi (owner of AirGreen and an experienced pilot) explains: "Let me tell you, the idea to stay in a hover for a long time and winch the rescuers up and down in that dangerous "funnel" was a not an attractive prospect!

safety during the long hover (more than 10 minutes). To gain maximum liberty in movements we prepared one long line for each rescuer with a shock absorber between the winch and the line. In case of an avalanche the helicopter would have to lift us immediately. That is how we managed to uncover and recover the corpse."

Ivo Airaudi adds some aeronautical considerations: "Thanks to the AW139's extra power during the whole flight time, I was always "in



Visibility from the NH-500 is superb

We decided to first do a reconnaissance of the ravine from base to top to detect possibly dangerous heaps of snow. On some ridges the snow mass was truly impressive, so we decided to fly slowly over them at low level in the hope that our downwash and vibrations would cause the separation of unstable portions. But nothing happened. The slope was in the shadow, it was early morning, and the temperature was very much below freezing.

This was encouraging. The second step was to position two sentries in safe places from where they can observe the area. Should they notice any movement of the snow they could immediately alarm the helicopter crew."

Ruggero Bissetta: "We (the rescuers) chose to operate with two technicians simultaneously, both fastened to the hoist during the entire maneuver to assure the highest degree of

the green" and able to operate without any time limit. The AW139's flight parameters gave me the certainty to be able to maintain the hover even with OEI."

Small and Agile

During the operation I was on board the Guardia di Finanza NH-500, a small helicopter, seating two pilots and two passengers, but from the front seats the visibility is perfect and the machine is very agile and responsive. The Guardia di Finanza NH-500 fleet is aged, but as the pilot commander, Lieutenant Enzo Ciocca said, the model is a "mule", easy to maintain and fly, loved by pilots and not expensive; in the Air Section it flanks the AB-412 covering a large spectrum of operations.

Lt. Ciocca tells me: "This helicopter is fantastic for patrol and search missions. Its small dimensions and very light weight, combined with the



NH-500 small, agile, and responsive

reduced rotor downwash permit us to fly at low level near people on the ground, close to possible obstacles well inside canyons or woods." During the search we did fly from the base of the avalanche to the top of the canyon only a few meters away from the slopes. When I was dropped off near the rescuers at work, I had no particular problems with the little snow blown up by the downwash – despite the fact that I was unable to leave the helicopter hover area quickly – when I had jumped from the cabin, I plunged into the snow up to my waist.

From the helicopter we had a clear view, and the pilots gave directions to the men on the ground where to go and where not on the snow field. The aerial observation was essential, as it showed that the avalanche forked into two branches at the end of canyon, the second of which was little and not easily visible from the ground.

The fourth skier was found on the third day of the search, just in time before the arrival of new, heavy snowfall that would add four meters of fresh snow in the area of the avalanche. If we had not found the body then, we

would not have had another search opportunity until next summer.

Conclusion

It has been said many times before that the helicopter has become an essential tool for emergency operations, and this event is again a clear example.

The use of helicopters of different sizes and masses worked well to integrate their respective characteristics. The NH-500 was able to fly low level in the avalanche area with rescue teams at work on the ground, without creating problems or dangers with its downwash or noise. The heavier AW139 is irreplaceable during the delicate and long hoist maneuvers and search operations, as well as for the transport of persons and equipment. The close cooperation of the flight crews and the rescuers on the ground is extremely important to perform delicate and dangerous operations using sometimes unorthodox methods.

This is the consequence and fruit of continuous training and coordinated, compatible methods. Knowledge of and the respect for how the other team members work infuses reciprocal respect and confidence in one another, in the professionalism, the skills, and the helicopter. All of this allows to operate with great safety – and in most cases with success.

Dino Marcellino



AirGreen's AW139: irreplaceable during long hoist maneuvers