

Paper No 10

UTILIZATION OF THE HELICOPTER IN
THE PUBLIC PROTECTION ROLE

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After the impulsion given by the Second World War to the helicopter, which then jumped from the experimental stage to operational status, it is in 1955 that in FRANCE a noteworthy progress was made by replacing the piston engine with a turbine engine.

In two decades, the Public helicopter fleet, in FRANCE, has exceeded 800 aircraft allocated as follow :

- 24 to the Public Protection Service,
- 34 to the "Gendarmerie" and the remainder to the Army.

On the Public Protection side, it is as soon as 1954 that were conducted rescue trials using a helicopter and their successful outcome led to the creation, in 1957, of the "GROUPEMENT D'HELICOPTERES du SERVICE NATIONAL de la PROTECTION CIVILE".

(Helicopter group of the National Public Protection Service).

In 1964, this group became the "GROUPEMENT AERIEN du MINISTERE de l'INTERIEUR" (Home Office Air Group), following the extension of its inventory through the purchase of an ambulance aircraft and some amphibious "water bombers".

The increase in the number of accidents occurring every year, particularly at sea and in the mountains, and the requirement for urgent casualty evacuations to the large specialized health centres have led the "Ministère de l'Intérieur" to increase progressively the helicopter inventory and multiply the number of operation bases.

At present, the GROUPEMENT AERIEN operates 24 helicopters :

11 ALOUETTE II
and 13 ALOUETTE III

These aircraft are operating from 16 bases, distributed as follow over the National territory :

- The PARIS base, created in 1956 on the ISSY-les-MOULINEAUX heliport and operating one ALOUETTE III and two ALOUETTE II.
- The LORIENT base, created in 1957, having one ALOUETTE III.
- The GRENOBLE base, created the same year, with one ALOUETTE III.
- The PERPIGNAN base, created in 1959, and flying one ALOUETTE III.
- The CLERMONT-FERRAND base, dating from 1960, with one ALOUETTE III.
- The BORDEAUX base, established in 1962, with one ALOUETTE II.
- The NICE base, also born in 1962, and operating one ALOUETTE III.

- The PAU base, also dating from 1962, with one ALOUETTE III.
- The QUIMPER base, created in 1963, flying one ALOUETTE II.
- The GRANVILLE base, established in 1963, with one ALOUETTE II.
- The LA ROCHELLE base, born in 1963, operating one ALOUETTE II.
- The MARIIGNANE base, created in 1963 and flying one ALOUETTE III.
- The ANNECY base, dating from 1964, with one ALOUETTE III.
- The STRASBOURG base, established in 1973, disposing of one ALOUETTE II.
- The AJACCIO base, created in 1975, working with one ALOUETTE III.
- The LE HAVRE base, operating since 1977 with one ALOUETTE II.

The opening of the 17th base in LILLE is scheduled for the end of this year.

Further, every year, from July to September, two seasonal detachments are ensured to reinforce the forest fire fighting system in LE LUC (Var) and LACANAU (Gironde).

Each helicopter base is allocated an "action zone", called "First call", covering a varying number of districts, which, in principle, is its "theater of operations" and a "Second call" zone covering the adjacent districts, where it acts as reinforcement or as replacement for another base.

The role of the Public Protection helicopters is mainly to bring assistance to persons in danger. These operations are carried out free of charge.

The various types of action may be classed as follow :

1. Mountain rescue

This include :

- Search of mountaineers facing difficulties or victim of an accident.
- Transport or guidance of rescue teams.
- Casualty evacuation.
- Transport of food or medicaments to snow-bound villages.
- Intervention in the event of teleferic accident.
- Search for lost aircraft.

For this rescue work, the Public Protection aircraft are in close liaison with the specialized mountain units of the "Compagnies Republicaines de Sécurité" and the "Gendarmerie".

In 1976, 292 missions of this kind were carried out during the summer and 297 in winter.

That is a total of 529 missions, amounting to 700 flying hours, which have enabled the rescue of 398 persons.

I will mention two examples which are characteristic among many others :

- On June 27th 1976, the GRENOBLE base is called to assist a groupe of climbers in difficulty in the "Col des Ecrous" and rescue 5 persons.
- On September 18th 1976, the same GRENOBLE base rescues by hoisting twenty persons emprisonned in the teleferic cabins linking LA BASTILLE to GRENOBLE. This operation has required more than two hours of hovering.

2. Sea rescue

This kind of operation includes, mainly :

- dropping of dinghies to crews and passengers of ships in trouble.
- hoisting of casualties or ill persons from ships.
- assistance to swimmers in danger.
- evacuation of tourists encircled by the tide
- re-supply of light houses.
- medical liaison with coastal islands.

The sea rescue operations are carried out in liaison with the Maritime Authorities, the Surveillance and rescue operational district centres, the rescue organisations and the beach masters.

In 1976, 182 missions were carried out in the summer period and 204 in winter.

That is a total of 386 missions, totalizing 455 flying hours, and 61 persons were rescued.

Once again, I will mention two examples :

- On July 10th 1976, off the QUIBERON coast, the LORIENT base rescues and evacuates 12 tourists trapped on a rock by the tide.
- On August 14th 1976, the GRANVILLE base informed by the Operational District Centre that a fishing boat had capsized, rescues a 6-year old child, the other occupants being rescued by ships alerted by our helicopter.

3. The ambulance missions

They cover all the evacuations by helicopter of wounded or ill persons who can not be transported, for various reasons, by road.

They are divided into "primary" (transport of a wounded or ill person from where it is to a hospital) and "secondary" or "inter-hospital" (transport from a hospital to a district or specialized hospital) missions.

Therefore, the operation bases of the "GROUPEMENT AERIEN" must be in constant liaison with, particularly, the Emergency medical assistance services, the Police, the Gendarmerie and the fire brigades, for road accidents.

In 1976, 835 primary and 1190 secondary missions have been carried out, that is a total of 2025 for 2720 flying hours, and 2029 persons have been assisted.

4. Various security missions

The Public Protection helicopters may be alerted, also, for any meeting (sport meeting, etc...) causing a large gathering of people and which may generate hazards for the participants and the public. Thus, they are ready to carry-out any ambulance mission required.

It is the case, in particular, for car and motorcycle races.

In 1976, this kind of mission has been carried-out in 18 occasions and on March 21st, a CLERMONT-FERRAND based helicopter has been able to evacuate a serious casualty from the MAGNY-COURT (Nièvre) motorcycle racing circuit.

5. Forest fire fighting

Within the scope of the forest fire fighting organization, the helicopters of the "GROUPEMENT AERIEN" provide a flying command post guiding the land and aerial fighting means. Also, they can transport equipment and personnel to locations hardly accessible.

In 1976, the flying hours accumulated in this kind of mission amounted to 1085 hours in 530 sorties

This is the summary of the activities of the Public Protection helicopters. In the field of assistance and rescue, including the ambulance missions, they have flown for 4732 hours and rescued 2594 persons.

If, to these primary missions, we add the police and general security missions and the technical assistance sorties, made, on behalf on other ministries and local organizations, it is a total of 9770 flying hours for 5752 missions which has been accumulated in 1976.

The number of missions carried-out is increasing constantly from one year to the next. It is obvious that such an activity is possible, for a large part, thanks to the quality and the devotion of the flying crews, which are composed, except for a few persons under contract, of civil servants or military men placed at our disposal by the Police and the Paris fire brigade, without forgetting the ground crews ensuring the year round the maintenance of our aircraft in the central plant in PARIS. The total strength of the GROUPEMENT AERIEN helicopter section is 150 persons.

The crews, assigned to the operation bases, at the rate of three per aircraft, ensure a permanent operational guard from sunrise to sunset. In the assistance and rescue field, they can receive calls and answer directly in an emergency, the aim being the rapidity of action. The base commander, or the pilot-in-charge, is in all cases the sole judge of the technical possibilities of the operation contemplated, his decision having to take into consideration the weather conditions, the aircraft operating limitations and the difficulties likely to be met.

But, whatever may be the availability of the crews, there are operational limitations associated with the aircraft in service, which, as already mentioned are ALOUETTE II's and III's.

A first constraint, common to both helicopter types, is the prohibition of night flying imposed on these light helicopters. Very exceptional waivers may be granted by the District Authorities when the aircraft are required for the assistance and rescue of persons in danger. And still, it is mandatory that some requirements relative, to the mission fulfillment are met, such as weather conditions allowing V.F.R. flying, pilot's qualification, helicopter equipment.

As regard the ALOUETTE II's, they are helicopters which obviously are no longer suitable for Public Protection operations, taking into account their power, speed and cabin dimensions :

a turbine engine rated at 400 H.P., an useful load of 550 kg,
a cruising speed of 160 km/hour and a transport capacity of 5 persons (pilot and crewman included), one of which being a stretcher case.

The ALOUETTE III helicopters with their turbine 880 HP engine derated at 550 HP, a cruising speed of 185 km/hour, an useful load of 940 kg and a transport capacity of 7 persons, two of which being stretcher cases, are meeting better the requirements of a Public Protection Service.

So, in a first time, our efforts are directed towards the implementation of a modernization programme of the "GROUPEMENT AERIEN" helicopter inventory, tending to replace the ALOUETTE II's by ALOUETTE III's. This programme, by standardizing the inventory, should result in savings in maintenance costs.

Further, for cost effectiveness reasons, the average flying time of one helicopter, operating from one base, being 500 hours per annum, while it would be desirable to reach the 700 hour level, we are seeking to increase our activities in the air ambulance field in close liaison with the "Emergency medical assistance services". (S.A.M.U).

It is for this purpose, that with the agreement of the "Ministry of Health", I initiated, last year, a study of the potential market in every French District for air transport and its criteria of progress, then from this data, it will possible to establish programmes of additional commitments, to be implemented according to the number and kind of requirements within the scope of an inter-ministry cooperation policy.

From this study, it has been possible to determine that, taking into account a demand for 15 000 flying hours per annum, it was economically justified to place helicopters at the disposal of the assistance services, within the scope of the S.A.M.U. organization, to carry out primary or secondary ambulance missions.

Particularly, it has been established that :

- the medical indications for the use of the helicopter were numerous, the counter-indications being overridden provided the casualty could be conditioned by the medical team before the flight.
- the permanent availability of the aircraft for assistance missions, hence its placing at the disposal of the SAMU organization, is a ruling factor in the use of the helicopter for primary casualty evacuations.

- the use of the helicopter allows the multiplication by 3 or 16 of the surface of the "SAMU" action zone, according to the aircraft type.
- the "cost/advantage" ratio is positive.

It seems that the helicopter, the best suitable for the ambulance missions, would be an aircraft of the "DAUPHIN" type, offering a higher cruising speed (250 km/hour), more space in the cabin and competitive operating costs. With the "DAUPHIN", the SAMU action zone would be multiplied by 16.

The use of the helicopter has a significant impact on the general assistance organization ; it would allow, in particular, a reduction, from 95 to 22, in the number of "Emergency medical assistance" units (SAMU), that is one per region instead of one per district.

The "cost/advantage" ratio is positive : the use of about 20 helicopters of the "DAUPHIN" type for casualty evacuations would save at least 350 human lives per year. For each aircraft, it could be expected a minimum increase of 15 human lives saved each year, the "break-even" point in the aircraft cost effectiveness being 2.5 human lives.

However, it would be necessary, first, to conduct the following experimentation : place a helicopter, for one year, at the complete disposal of 4 emergency assistance services (coastal and urban districts, mountain and open country districts). Then, it would be possible to further the knowledge of the requirements, the alert mechanism, the transport means used, the variations in the state of the various casualties and ill persons transported.

Such are the medium term future prospects of the GROUPEMENT AERIEN helicopter section, and the purpose of this lecture was to show you the amplitude of a task, often misappreciated, having as priority objective the assistance to the public, in peace time, and also the exemplary fashion in which this task was fulfilled.