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Special Operations Aviation in NATO

A Vector to the Future

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Adrian T. Bogart III, with Introduction by Walter M. Herd

Preface

Rick Newton's perceptive paper on the need to develop a prudent and workable "vector" for NATO Special Operations Forces (SOF) air (airplanes) and aviation (helicopters) components is timely. It can be argued that the historic relationship between the United States and its traditional NATO allies is at a crossroads. A Fulda Gap type scenario of NATO fighting a major theater war is not only unlikely without a credible conventional threat but also untenable given the current political and public-opinion environment within Europe. Therefore, NATO operations for the foreseeable future will entail operations like those conducted over the past decade in the Balkans or its current mission in Afghanistan—smaller scale military operations.

These operations will consist primarily of conventional military forces. However, the role of SOF will be extremely important, especially as NATO operates outside its traditional European zone of operations. The need to work with non-NATO forces and allies will increasingly require SOF capabilities. These SOF requirements will operate across the full spectrum of SOF capabilities and, logically, will need to include a robust and capable air component.

Rick's cogent argument regarding the complexity and technological prowess required of this SOF air and aviation capability is especially important to comprehend when discussing SOF air development. All NATO members will not need to produce SOF air and aviation that can operate on the cutting edge of technology. They will need to develop SOF air and aviation with the right emphasis on dedicated air assets, specialized selection and training of air personnel, and integration into the respective country's other SOF operations. This will expand NATO SOF capability and improve the alliance's performance in the types of mission it is most likely to face in the future.

Michael C. McMahon, Lt Col, USAF
Director, JSOU Strategic Studies Department

Foreword

Special operations air/aviation in NATO is coming of age. Within the alliance, NATO member nations have devoted significant resources to enhance the capabilities and maintain the relevance of their ground and maritime Special Operations Forces (SOF). That has not always been the case with the special operations air and aviation elements, though. The good news is that times are changing. It is encouraging to note that air-oriented SOF within NATO are growing in numbers and in capabilities. This bodes well for our alliance as we transform defense capabilities to enable an expeditionary force.

Out-of-area military operations by NATO and its member states in the past half decade—for example, Kosovo, Afghanistan, and Sudan—have demonstrated the need for organic special operations air/aviation forces. But they have also shown that not all special operations air assets need to be highly capable, complex airplanes and helicopters. Many missions can be safely accomplished by highly trained crews using conventional, unmodified aircraft. Time and again, SOF aviators have reaffirmed the validity of a SOF truth, "Humans are more important than hardware." It was SOF aviators, flying conventional aircraft better than their non-SOF counterparts—more precisely, in harsher environments, mitigating the risks, and using conventional equipment in innovative ways—that proved it is the person, not the technology, that defines special operations.

This monograph offers one path to consider as NATO's air and aviation forces develop their special operations capabilities. Organic, technologically sophisticated aircraft are expensive to purchase and maintain. The people who fly and maintain these complex aircraft also become highly specialized resources that are difficult to sustain. "A Vector to the Future" suggests a measured approach to developing a NATO SOF air capability. It proposes a minimum standard for a nation to certify its proffered aviation resources as special operations, yet acknowledges that some nations will choose to invest in sophisticated aircraft and specially trained crews. The monograph shows how the minimum standard facilitates *interoperability* and sets a course (vector) for development.

This monograph raises questions and proposes solutions, but it is not the final answer. Much more work admittedly remains. It will

be the SOF airmen who create the doctrine, interoperability guides, NATO standardization agreements, and tactical planning guides who will complete development. This monograph begins that process. It remains to NATO's SOF airmen to do the hard, often thankless, work that ensures air/aviation becomes a mature element of NATO's joint special operations team.

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Chief, Special Operations Branch
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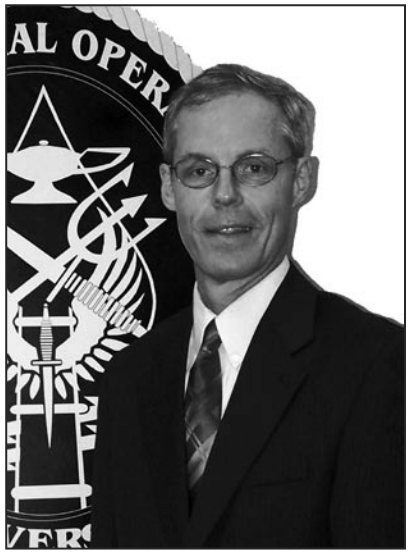
About the Author

Richard Newton teaches irregular warfare and special operations planning and force integration for the Joint Special Operations University. His specialty areas include counterinsurgency, campaign planning, command and control, and special air warfare. An adjunct faculty member at the U.S. Army School for Advanced Military Studies at Fort Leavenworth, Kansas and the Joint Advanced Warfighting School at Norfolk, Virginia, Mr. Newton also teaches joint special operations theory, doctrine, and planning at the Service Staff Colleges and the NATO School.



Mr. Newton is a graduate of the U.S. Air Force Academy, Army Command and General Staff College, and Army School for Advanced Military Studies. He holds a Master's of Military Art and Science. Before his retirement from active duty as a U.S. Air Force lieutenant colonel, he served as Director of Operations of the 6th Special Operations Squadron and the U.S. Air Force Special Operations School. Earlier military duties included operational flying assignments (both special operations and combat rescue) in Korea, Florida, New Mexico, and Iceland; he has 2,500 flying hours in the CH/HH-3 Jolly Green Giant, UH-1 Huey, Alouette, and Gazelle.

Mr. Newton is the author of numerous articles on unconventional air operations and doctrine, including "A Question of Doctrine" and "A U.S. Air Force Role in Counterinsurgency Support," both published in *Air Power Journal*. He also wrote *Reinventing the Wheel: Structuring Air Forces for Foreign Internal Defense*, the lead paper in the U.S. Air Force Future of the Air Force series and "The Second Chindit Expedition: A Case Study in Tactical Air Supply" in *Airlift* magazine.

Special Operations Aviation in NATO—A Vector to the Future

> Special operations forces are able to achieve relative superiority over the enemy if they prepare a simple plan, which is carefully concealed, repeatedly rehearsed, and executed with surprise, speed, and purpose.
>
> — William McRaven, *Spec Ops, Case Studies in Special Operations Warfare: Theory and Practice*[1]

Introduction

What defines special operations aviation and what should be its role in NATO? How might the member nations collaborate to develop equipment, standardize tactics and procedures, and create the command and control structure needed to ensure that SOF aviation properly supports NATO's Special Operations Forces (SOF) and conventional air forces? How might the nations balance national needs versus alliance requirements? Difficult questions all, but issues the community of special operations airmen must address in order to optimize scarce defense resources and improve NATO's collective abilities to combat global terrorism. This paper proposes a vector to the future of special air warfare in a NATO

Figure 1. EH-101 Special Operations Version. The Agusta Westland EH-101 is being considered by a number of nations as their future special operations helicopters due to its large capacity (30 combat troops or 5 tons), long range (750 nautical miles), aft ramp, advanced avionics, and aerial refueling capability. (Source is www.agustawestland.com.)

context, suggesting both an azimuth and an incremental series of steps along that azimuth, for the nations of the alliance to improve SOF air capabilities and thereby effectively support joint operations.[2]

In the past 10 years, the nations of the trans-Atlantic alliance have made significant and often bold commitments to their ground and maritime SOF. Special operations aviation, however, has lagged behind for reasons that range from policy concerns and bureaucratic inertia to resource constraints. NATO's reorientation toward expeditionary operations, the war on terrorism, and increased recognition of SOF's special utility in many crisis and contingency operations have led many nations' political leaders to re-examine their defense priorities. National and alliance leaders are starting to recognize that the very capable ground and maritime SOF their nations created are of limited utility when confined to garrison because appropriate transportation assets are unavailable or do not exist. The components of SOF are interdependent—what we do and how we do it are inherently joint, and success results in large measure because of the trust each component has in the other.

Defining Special Operations Aviation

NATO defines *special operations* as "… activities conducted by specially organized, trained, and equipped military forces to achieve military, political, economic, or informational objectives by unconventional military means in hostile, denied, or politically sensitive areas."[3] MC 437/1, *NATO Special Operations Policy*, goes on to describe the differences between conventional and special operations in terms of the operational techniques employed, the modalities of employment, and the degree of physical and political risk. The fact that MC 437/1 does not use technological sophistication as the determining factor is important as we attempt to set an azimuth for special operations aviation. Furthermore, the MC 437/1 definition and corresponding characteristics of special operations are not limited to any one environment—land, sea, or air. Still, conventional wisdom in many of the member nations has led to a perception that SOF are only those specialized forces in the ground and maritime components.[4]

Correspondingly NATO defines special air operations as "… air activities conducted by specially organized, trained, and equipped forces to achieve military, political, economic, or psychological objectives by unconventional military means … during peace, crisis, and conflict, independently or in coordination with operations of conventional or in support of special operations forces."[5] This reference to special air operations is the only one to be found in current NATO doctrine, and it is listed in the Allied Joint Publication (AJP) 01(B), *NATO Joint Doctrine* "Air Operations" chapter, rather than in the "Special Operations" chapter or in MC 437/1. Future NATO doctrine, notably AJP 3.5, Special Operations (draft), must address this shortfall. MC 437/1, AJP 01(B), and the range of NATO doctrinal and policy documents must adequately address special air operations—an easy, but necessary, first step along the SOF aviation vector to the future.

AJP 01(B) defines supporting air operations as enhancing all types of joint operations and in all environments.[6] That distinction serves as an important point of departure in the process of defining the special operations environment. Special *air operations* are considered a subset of *supporting air operations*. Additional subcategories of supporting air operations include surveillance and reconnaissance, air transport, air-to-air refueling, and combat search and rescue (CSAR)—all potential special air operations, though not always special air operations conducted by aircraft. Some air-centric special operations are conducted by *battlefield airmen*[7] who provide the necessary linkage between ground and air activities, ensuring that the contributions of air power are appropriately integrated into the ground fight. Notably, although not considered a supporting air operation by AJP 01(B), close air support or air attack by fixed- or rotary-wing aircraft in a special operations context can also be included as a supporting air activity.

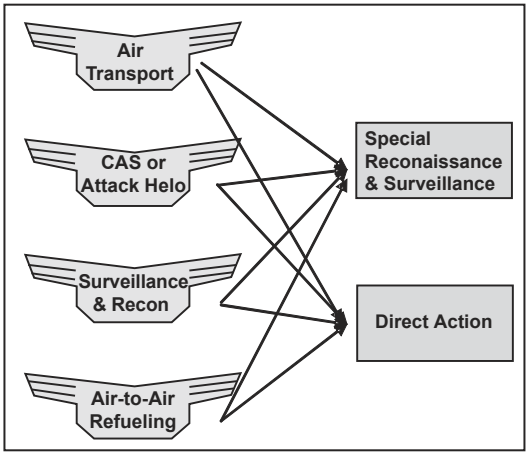


Figure 2. SOF Supporting Air Operations.

If one combines the generalized definition of special air operations from AJP 01(B) with the principle tasks assigned to SOF, then adds the required capabilities for a troop-contributing nation to qualify as a NATO special operations force found in MC 437/1, it is not difficult to determine the characteristics and required capabilities for NATO's special operations aviation. (See Figure 2.) The challenge, though, is specifying NATO's desired special air warfare capabilities in a forum easily accessed and utilized by member nations seeking guidance to develop their special operations aviation. The community of SOF airmen needs to establish the minimum capabilities and standards that will define SOF air in the future—another step along the vector.

Defining the Current and Future Environment

SOF aviation conducts supporting air operations to enable other ground and maritime special operators to conduct the three principle tasks of NATO special operations—direct action, special reconnaissance and surveillance, and military assistance. SOF air and aviation also has a role performing those same three principle missions. This is where the divergence between flying operations and supporting air operations often occurs.

The supporting air activities for special operations tend to be very generic in character and include activities such as drop zone and landing zone reconnaissance and certification, airfield surveys, forward refueling and rearming, terminal attack control of joint fires, advanced trauma and pararescue medical support for CSAR, and air traffic control. What makes these activities "special" is that they are conducted in the same hostile, denied, or austere environments, alongside and in support of ground and maritime SOF.

Airmen in this ground-centered environment must demonstrate the same levels of physical and tactical capability as their counterparts. This tends to be the easy part of special air operations, however. NATO member nations have shown they know how to select, train, and sustain specialized forces. It is the airmen's technical skills, combined with their ability to seamlessly integrate into the tactical teams that make them special operators. Thus, the suggestion is that the simplest contribution by airmen to special operations, in an alliance context, should be in the realm of air-to-ground coordina-

tion—joint terminal attack controllers, drop zone and landing zone reconnaissance and certification, pararescue medical support, and forward area refueling and rearming. Special operations battlefield airmen can, and should, be the integrating element that brings the full weight of airpower to bear in any special operation. As was demonstrated over and over again during operations these past 5 years in Afghanistan, the addition of special operations battlefield airmen to the SOF patrols, teams, or detachments yields awesome results.

The flying part of special operations aviation is the most difficult to achieve because of resources, manpower, and fiscal considerations. MC 437/1 requires that a national special operations task group possess the ability to infiltrate and exfiltrate using ***air*** [emphasis added], land, and sea means into and out of the opera-

Figure 3. Special Operations C-130 and Chinook. C-130 transloads fuel and personnel to a Chinook at an austere landing zone. (Used by permission from U.K. MOD.)

tional area, ideally utilizing organic transportation assets in order to qualify as a NATO special operations force.[8] This statement does not specify any standards for those transportation methods, though. Depending upon one's view, this statement might be interpreted in a purely technological sense and thus is limited to only those aircraft with all the "bells and whistles" that allow airplanes and helicopters

to fly extremely long distances, at night, low level, in high threat environments, undetected, and protect themselves from all manner of defenses that would seek to prevent such intrusion.

Sadly, this perception is not uncommon. One must ask, though, whether the MC 437/1 requirement for organic air transportation capable of successfully infiltrating, resupplying, and extracting Special Forces teams is better defined, not in terms of technology but rather by the operational techniques, modalities of employment, and the degree of risk. As with most issues in the special operations business, the answer is, "It depends." SOF operate in and amongst a range of threats and environments, so logically SOF aviation resources could reasonably span the range of tactical and technological capabilities. To illustrate this point, it is interesting to look at the course the U.S. Air Force Special Operations Command (AFSOC) has taken.

The U.S. has invested heavily in modified C-130 Hercules, adding terrain following/terrain avoidance radar, threat warning and countermeasures systems, forward looking infrared systems, in-flight refueling systems, and a strengthened airframe for high speed, low level precision airdrops. The crews train extensively to be able to fully utilize the capabilities of their technologically advanced aircraft. The resulting MC-130 Combat Talons are technological marvels capable of successfully inserting and resupplying Special Forces teams in a sophisticated air defense environment. But these Combat Talons are also expensive to procure, to operate, and to maintain. Looking at the same issue from a personnel perspective, the program to convert a qualified Hercules aircrew member into a Combat Talon crew member is time consuming and expensive. Even when just considering equipment and people costs, one can understand why a nation like the U.S. can only sustain a relatively small fleet of Combat Talons when compared to the total number of C-130s flown by the U.S. Air Force.

Because Combat Talons are organic special operations aircraft, SOF commanders tend to use "their" MC-130s for the entire range of airlift missions to support SOF. What has been discovered, however, is that after years of flying at a wartime operational tempo, AFSOC is "flying the wings off" its Combat Talons. Examining the missions being flown, a statistically significant number could have easily been done by non-SOF Hercules or other conventional cargo aircraft. The

problem, though, is the understandable desire to support special operations brethren using organic resources rather than pushing non-special operations air support requirements into the theater airlift system. The unintended consequence of the "we take care of our own" attitude is that the specialized mission aircraft are wearing out. To address the conventional intra-theater airlift needs of the joint special operations force, AFSOC recently added a squadron of C-130s and a squadron of light support aircraft, U-28s, to the 16th Special Operations Wing at Hurlburt Field.[9] The resulting mix of specialized and conventional aircraft demonstrates AFSOC's ability to fulfill the policy guidance in MC 437/1, but saves the specialized aircraft for the most demanding, high threat missions and environments.

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In order for land or maritime Special Forces to conduct special reconnaissance and direct action operations in hostile, denied, or politically sensitive areas, SOF aviation must be capable of conducting supporting air operations—air transport (AT), close air support/attack helicopter (AH), surveillance and reconnaissance (SR), and air-to-air refueling (AAR) in those same hostile, denied, or politically sensitive areas. While most would begin by defining hostile and denied areas in terms of the threats posed by enemy air defense systems, recent operations have shown that environmental extremes can sometimes present more difficult challenges to special air operations than adversaries' weapon systems.

As an example, conducting air transport operations to meet the Special Forces' primary needs of insertion, extraction, and resupply in the extreme altitudes of Afghanistan's Hindu Kush Mountains has proven to be a daunting environmental challenge and has highlighted severe shortfalls in current and projected special operations aircraft. Aircraft, especially helicopters, optimized for operations on the plains of Central Europe, find it very difficult to fly at these extreme altitudes and high temperatures. Likewise, the operating ranges required during recent operations have led many NATO nations to reevaluate the requirement for in-flight refueling capabilities on their special operations helicopters.

Capabilities Required to Qualify as NATO SOF

The capabilities required to qualify as NATO SOF aviation must be based upon the criteria from MC 437/1, Annex D, and also stated in terms of the supporting air operations previously described. Special air operations must first be able to support the principle special operations tasks: special reconnaissance and surveillance (SRS) and direct action (DA). Air support to SRS and DA is the most technologically and environmentally challenging. The issues associated with military assistance in an aviation context are beyond the scope of this paper, but must be addressed in the future as special operations aviation matures and grows in the alliance.

The defining characteristic of special operations aviation is rightly our ability to successfully conduct discreet, covert, or low visibility operations throughout the depth and breadth of the battlespace. The most difficult requirement for special operations aviation to meet is the ability to perform their supporting air operations—AT, AH, SR, and AAR—in a medium to high threat tactical environment, either through the use of on-board defensive systems and/or specialized tactics.

To qualify as NATO SOF aviation, the recommendation is to require the ability to fly fixed- and rotary-wing aircraft, low level, in formation, to a precise location, meeting strict time-on-target criteria, using night vision devices (NVD). In addition, fixed-wing special operations aircraft must be capable of landing and taking off from austere airfields with minimum runway lighting using NVDs. This standard for operational techniques and modalities of employment enables special air operations in low to medium threat environments. As a vector for the future, this minimum standard for special air operations provides the rationale for dedicated aircraft, rigorous training programs, additional flying hours, aircraft modifications, committed aircrews, and many other training, personnel, and equipment issues associated with special air operations.

NATO's special operations airmen owe it to the rest of the special operations community to establish and sustain a standard for operations and employment that sets them apart from the conventional forces and one the entire special operations community can depend on. In addition, establishing a standard is something that needs to be done quickly. My personal experience with European special

Figure 4. Battlefield Airmen in Action. Special operations terminal attack controller marking a target for a strike by conventional air power. (Used by permission.)

operators from most of the member nations and all the different armed services in the past 4 years indicates that they want and need published NATO standards, whether in AJPs or in NATO Standardization Agreements (STANAGs) to guide the member nations' leadership as they develop and equip air and aviation forces for special operations.

If the minimum standard for special air and aviation forces in NATO is defined by the performance of the aircrews (multi-aircraft formations, at night, low level, using NVDs, to a strict time-on-target criteria), then a second, higher level of capability would be defined by the defensive and extended range systems that enable successful flight operations in medium to high threat air defense environments. If a nation chooses to invest in sophisticated avionics, defensive systems, and extended range equipment, the alliance is enhanced, but the added capability is not based upon an alliance requirement and does not establish a new, higher standard or category of national special operations air and aviation contributions. Better capability is desired and encouraged, but it cannot be a limiting standard when qualifying national aviation contributions to SOF. What the recommended minimum NATO standard does provide is a requirement for future SOF aviation STANAGs to address interoperability and employment considerations when employing aircraft with dissimilar capabilities.

The likely future operating environment, characterized by a distributed, non-contiguous battlespace, will not require every special operations aircraft to possess the full suite of defensive systems and airspace penetration aids. It is reasonable to assume that NATO and its member nations will take some risk and accept a range of defensive capabilities among special operations aircraft, from a basic systems capability of flares and chaff to very sophisticated electronic

countermeasures. While taking such risks will likely necessitate a recurring commitment for aviation task groups from those member nations possessing the more sophisticated aircraft, this is not unlike the situation the alliance already finds itself with conventional aviation. For example, among fighter aircraft, some alliance members still fly 1960s era F-4 Phantoms while others fly the most modern F-16s. It is the joint force commander's senior airman who apportions aircraft to missions based upon threat and aircraft capabilities. The same would be true for SOF aircraft—the senior special operations airman would be responsible for matching SOF aircraft with missions, optimizing aircraft capabilities against threats and environmental conditions.

Fielding a diverse force will require NATO standards for interoperability and employment, yet it also offers great opportunities. It becomes the task of the special operations planners, airmen, and commanders to effectively employ the range of capabilities found among the special operations aviation task groups contributed by the nations to an operation.

Figure 5. Agusta Westland NH-90 Special Operations Version. The NH-90 gives nations the ability to lift 20 combat loaded troops. It is being produced in a special operations version. (Source is www.agustawestand.com.)

Aircraft, especially helicopters, suffer at high altitudes and high temperatures. For example, to safely operate in altitudes typical of the Himalayas or the Andes or in the extreme temperatures found in Saharan deserts or Southeast Asian jungles, aircraft are often forced to sacrifice range or payload. Planners and leaders must balance the requirements for capacity with the need for specialized capability. At times, the special operations community has proven to be its own worst enemy. For example, when aircraft designs have been optimized for high altitude and high temperature performance, special operators have shown a tendency to add avionics, electronic support systems, and armament to increase capability, but in the process they sacrifice capacity. This tendency is another reason the nations should consider a range of performance and capabilities for special operations. Less technologically sophisticated aircraft, in some situations, may be the equipment of choice when operating at the extreme limits of aircraft performance.

Expanding on the theme introduced in McRaven's book, *Spec Ops*, it will be the specially selected, trained, and sustained *airmen* who train extensively and realistically, rehearse repeatedly, and thus fly their equipment better than anyone else to execute their tasks with surprise, speed, and purpose. Those dedicated and committed special operators (who happen to be airmen) then achieve extraordinary results when less capable airmen would have failed.

How Much is Enough and How Do We Get There?

Developing and sustaining a special aviation force is neither easy nor inexpensive. The collective experience of the U.S. and the U.K. provide ample evidence of this claim. Over the years, however, certain truths have emerged. First, special air operations require specially selected and trained aviators. Special air operations are not missions any aviator can perform. Whether fixed wing or rotary wing, and flying the most capable or conventional aircraft, the demands of special operations can only be met by people who want to do this work and are willing to sacrifice to do it better than anyone else.

There are countless anecdotes of extraordinary airmen who pushed themselves and their aircraft to the limits in order to achieve special operations success. Jimmy Doolittle's Tokyo Raiders, the U.S. Army Air Corps air commando's 1944 assault into Burma to support

the British Chindits, and the glider pilots who landed the German assault teams on Ft Eban Emael in Belgium are three of these special operations conducted by airmen who found innovative solutions to seemingly impossible problems. They did not have the advantage of Combat Talons or SOF Chinooks. Instead, they trained and rehearsed to such high standards that when it came time to execute their missions, they flew their airplanes, helicopters, or gliders better than anyone ever thought possible. Therefore, I would also recommend that organic special operations air and aviation units have dedicated airmen and aircraft that train to higher standards and meet the minimal qualifications for special operations aviation (fixed- and rotary-wing aircraft, in formation, to a precise location, low level, meeting strict time-on-target criteria, using NVDs).

Instead, they trained and rehearsed to such high standards that … they flew their airplanes, helicopters, or gliders better than anyone ever thought possible.

Setting these two factors as the minimum standard for qualification as special operations aviation has direct impact on all the supporting air operations for SOF. The air transport implications are fairly simple to understand as this is the only aviation requirement specified in MC 437/1. If, however, a nation chooses to invest in the other supporting air operations for SOF—AH; AAR; SR; intelligence, surveillance, target acquisition, and reconnaissance (ISTAR); or CSAR—then the minimum standard to be considered SOF still applies. Any other aircraft and airmen dedicated to SOF by their nations must meet the same two conditions specified above to qualify as NATO SOF. The price of entry into the special operations "club" is meeting these standards. As we have seen in the U.S., U.K., and France, the challenge is selecting the best aviators through a rigorous assessment and selection program, then developing a demanding sustainment program with the commensurate additional flying time and logistics support.

The NATO military establishment's responsibilities include placing airmen on strategic and operational level NATO special operations staffs, publishing allied joint doctrine and STANAGs, and sponsoring both field and command post exercises that provide opportunities to strengthen the bonds between and interoperability of our different national SOF. If the contributing nations develop robust tactical-

level special air operations capabilities, NATO must design, develop, and field the necessary means of commanding and controlling the proffered SOF aviation resources at the theater level.

The process begins with placing SOF airmen on the joint special operations staffs at Supreme Headquarters Allied Powers Europe (SHAPE). This first step is easy, but results in minimal, if any, operational capability to integrate special operations air and aviation into a theater-wide operation. The increase in operational planning and integration will come as the special operations staffs at the joint force commands and NATO's future Special Operations Component Command (SOCC) headquarters are supplied with SOF airmen who can articulate the functions, requirements, command and control, and potential of SOF air and aviation during contingency operations planning, operation plan development, and execution of operations.

The command and control of special air operations will be exercised through a Special Operations Air Task Group (SOATG). The role, functions, organization, and command authority of the SOATG is currently being addressed in the draft AJP 3.5 (Special Operations). The SOATG will provide the special operations component commander a single air manager to optimize the employment of assigned and augmenting air assets.

One key aviation staff function that will need attention (and resources and manpower) soon is the Special Operations Liaison Element (SOLE) to the Joint Force Air Component Commander (JFACC). It was a hard lesson, but the U.S. learned that the special operations liaison to the JFACC cannot be done with an ad hoc team. In order to learn from and apply the lessons of the U.S. experience, NATO needs a small cadre of special operations airmen who live with the air component commands day to day during peacetime and serve as the NATO special operations component commander liaison.

During contingency operations, this standing cadre forms the nucleus around which a robust special operations liaison element is formed after augmentation by the troop-contributing nations. The return for NATO's investment of people and resources to a standing SOLE will nearly always be better support from the conventional airmen, usually the result of the goodwill and working relationship established during routine activities and exercises.

The U.S. model for the SOLE is instructive; Special Operations Command Europe has a four-person SOLE stationed with the 16th

Air Force at Ramstein Air Base, Germany and the warfighting headquarters for the JFACC in U.S. European Command. If NATO were to adopt this model, its SOLE could be collocated with CC-Air10 at Ramstein Air Base. SHAPE is in the initial stages of developing a SOCC headquarters. The requirement for a NATO SOLE is best identified now, as an integral part of the SOCC headquarters, rather than trying to add it as an additional requirement later.

SOF Air C2 Lessons Learned

- During NATO Exercise Allied Action 05, NATO's 10-person SOLE was divided among three locations: with the JFACC, at the JFACC-Rear, and with the JFACC-Forward in the deployed Combined Air Operations Center. Dividing the small staff among three locations made it nearly impossible to conduct 24-hour operations and to ensure SOF representation at all the required meetings, working groups, and boards.
- The Combined Joint Special Operations Task Force (CJSOTF)/J3-Air, staffed by non-SOF airmen, served as the commander's advisors for the tasking and employment of SOF air assets. The SOLE director, a SOF airman but a liaison officer and not in the chain of command, was forced to intervene on occasion to ensure appropriate utilization of joint special operations aviation resources.[11]

Conclusion

What then should be the vector for SOF air and aviation? The azimuth should be the two elements that define special operations aviation and achieve parity with the ground and maritime forces: 1) flying aircraft in formation, low level, to a precise location, meeting strict time-on-target criteria, using NVDs and 2) dedicated aircraft and aircrew members. These minimum and generalized standards provide sufficient guidance for nations to develop assessment, selection, and training programs for special operations airmen and to design, develop, and field specialized aircraft. This approach does not detract from a nation's desire to field a small nucleus of organic, very sophisticated aircraft as a core around which to develop an array of SOF aviation capabilities. Quite the contrary, it encourages a group of highly trained and specially managed aviators who can be called upon to support special operations to a SOF standard when the threat or the environment might not justify the utilization of the most technologically advanced aircraft.

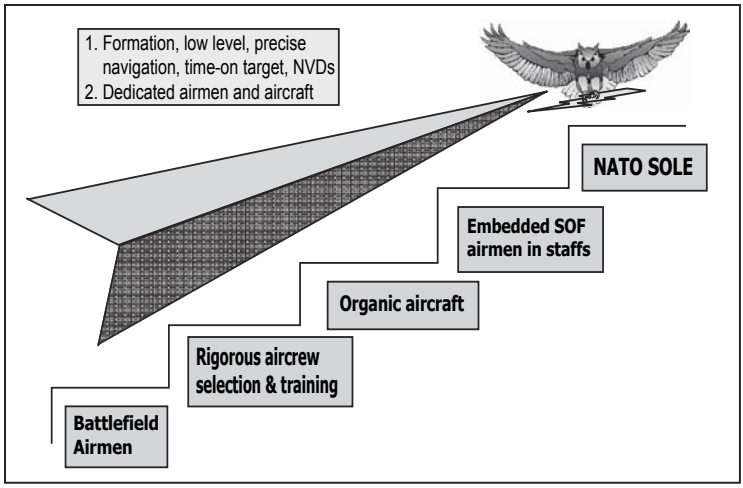

Figure 6. Vector for SOF Air and Aviation.

The incremental steps (the velocity in the aeronautical definition of a vector) would begin with selecting and training battlefield airmen to fight alongside the ground and maritime SOF and who would bring the full range of conventional and special operations air power to bear in support of DA and SRS missions. A second step, or concurrently as a parallel first step, would be the selection and training of airmen able to fly their aircraft to meet or exceed the minimum standards recommended for inclusion in MC 437/1, AJP 01(B), and any future special operations STANAGs. The third level of magnitude along the SOF aviation vector is growing a technologically more sophisticated level of aviation capability. Recognizing that this has serious resource implications, it will be difficult for some nations to attain and sustain this echelon. This stage is also the break between national and alliance responsibilities. Establishing a level of aircraft capabilities, initially determined by compatibility with night vision systems, but also having the secure communications and information sharing tools, such as Have Quick radios and Link data terminals, will go a long way towards establishing, equipping, and manning a NATO SOF air and aviation force.

The final two levels of scale along the vector—embedded SOF airmen on NATO staffs and establishing a permanent NATO SOLE—are in the realm of the joint force commands and a SOCC headquarters. Ensuring that SHAPE and the joint force commands have SOF airmen integrating special operations into plan development,

force structure decisions, and transformation is the necessary initial step towards developing special operations air as an operational level capability. Creating and resourcing a NATO SOLE completes the vector to the future. This course achieves parity of capability among all the special operations elements in NATO and ensures the alliance has the wherewithal to employ SOF as the joint force it is intended to be.

Endnotes

1. William H. McRaven, *Spec Ops: Case Studies in Special Operations Warfare: Theory and Practice*, Novato, CA: Presidio Press, 1995, page 381.
2. The word *vector* is intentional as it indicates both a heading and a magnitude. The intent of this paper is to offer readers a viable vector for capable special operations aviation in the alliance. The proposed answer suggests a range of capabilities, rather than an all-or-nothing solution.
3. MC 437/1, *NATO Special Operations Policy*, April 2006, page 1-1, paragraph 4.
4. Of the 26 member-nations in NATO, only the U.S., U.K., France, and Italy have dedicated organic aircraft and units to conduct or support special air operations (as of July 2006). These personnel assigned to these units train to a higher standard, fly more often than their conventional counterparts, and are kept in a higher state of readiness in order to maintain their skills at the higher level and respond to unforeseen national requirements.
5. AJP 01(B), *Allied Joint Doctrine*, December 2002, page 7-5, paragraph 0704f(5). Although a bit dated, it remains the only NATO document currently defining special air operations. While AJP 3.3, *Joint Air and Space Operations Doctrine*, does address special air operations, it is out of date (July 2000) and does not reflect current employment concepts and doctrinal focus of SOF. The future AJP 3.5, Special Operations doctrine, will address special operations aviation and special air operations.
6. AJP 01(B), paragraph 7-4, paragraph 0704f.
7. "Battlefield airmen" is a convenient U.S. term that describes those airmen focused on integrating air support into the operations of ground units. Typically, the skill sets considered as battlefield airmen in the special operations community include special operations terminal attack controllers, combat controllers, and pararescue specialists, although nations may choose to include other career fields in order to meet national requirements.
8. MC 437/1, Annex D, page D-1.
9. The U-28A is the military version of the Pilatus PC-12, a single engine utility aircraft with short field landing and takeoff capabilities. Source is 319th Special Operations Squadron fact sheet, found at www.hurlburt.af.mil/library.
10. CC-Air at Ramstein AB, Deutschland, is one of two air component commands in NATO. The other is CC-Air at Izmir, Turkey. These are NATO operational level headquarters charged with planning, coordinating, and directing conventional air operations for the alliance.
11. Based upon the author's observations as Chief of Plans in the SOLE during Allied Action 05.