MULTINATIONAL AIRCRAFT MANAGEMENT

By

FREDERICK H. BARNES

The relationship between the US arms programs and the armament programs of our European NATO allies, along with their industrial base, have changed from complete European dependence on the United States at the end of World War II to almost complete independence from the United States at the present time. I would like to discuss this subject from a military, economic, and political viewpoint. I will be focusing on fighter aircraft, because it is in this area that this trend is most visible. Also, I will be discussing general trends and relationships rather than specifics and would have you realize that there is an exception to almost every subject I will cover.

At the end of World War II and until 1950, the European economy and the military establishment was in shambles. Simultaneously, the Soviet threat to Western Europe was very real; and it became necessary to rearm our NATO allies. Thus, the United States supplied arms to Europe under Grant Aid programs, for example F-86 aircraft that were American designed, manufactured, and funded. This period could be categorized as complete dependence on the US for military equipment.

During the late 1950s and into the 1960s, the European NATO military establishment was gradually recovering from the war damage, but military equipment of US design still dominated this time frame. I like to think of it as the F-104 period. During this time, our NATO allies in Denmark, Belgium, Netherlands, Norway, Greece, Turkey, and the Federal Republic of Germany (FRG) introduced the F-104 into their Air Forces. Also, European industry had recovered to a point where some of the aircraft components were made in Europe under licensed production arrangements. However, most of the aircraft were still manufactured in the United States and were provided under the Military Assistance Programs (MAP) or sold under Foreign Military Sales Programs.

Since its very beginning in 1949, the NATO nations recognized the economic and military advantages of collaborative arms development and production programs and have strongly advocated the US support of these cooperative programs. Some of the advantages cited by our NATO allies include:

- An advanced technology weapon system for each nation that it could not afford by itself.
- Reduced unit cost by economies of scale production runs.

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-- Reduced shares of the R&D cost.
-- Standardization and interoperability of equipment within NATO.
-- Uprating the technological industrial base.
-- Providing high technology employment.
-- Strengthening the internal economy.
-- Unique creative genius provided by each nation.

However, political and economic obstacles always seemed to frustrate cooperative efforts. Two events gave us new motivation toward our goal of developing high technology equipment at a reasonable cost:

-- The Two-Way Street Concept.*
-- Bucy Report (See Reference #3 at the end of this article. Fred Bucy was Chairman, Task Force on Export of US Technology).

In the mid-1970s, Dr. Thomas A. Callaghan, the father of the term "two-way street" and an authority on standardization, stressed that the lack of standardization had resulted in gross duplication of arms procurement. At that time, he estimated that NATO currently employed 23 different kinds of combat aircraft, 100 different tactical missile systems, and at least seven different types of tanks.[1] He estimated that this waste was costing the NATO allies $10 billion dollars a year. The waste was associated with redundant R&D costs, loss through failure in economies of mass production, and incalculable losses in the multiple logistics systems. Since that time, traffic on the "two-way street" has increased significantly via collaborative programs such as the F-16 multinational program, Sidewinder licensed production, and NATO AWACS. Still, a recent survey made in 1983 reveals:[2]

-- Eleven firms in seven different countries developing anti-tank weapons.

-- Eighteen firms in seven countries designing and manufacturing ground-to-air weapons.

-- Eight firms in six countries developing and manufacturing air-to-air weapons.

-- Sixteen companies in seven nations manufacturing air-to-ground weapons.

-- Ten firms spread among seven countries manufacturing ship-to-ship missiles.

Comparing data taken at different times under different conditions is not always accurate, so I shall simply note that efforts toward standardization have been instrumental in reducing the number of duplicate arms procurement in the 1960s and 70s.

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*Editor's Note: For a critical discussion of the "two-way street concept," see Neville Trotter, "The Protectionist Wedge," DISAM Journal, Volume 6, Number 3 (Spring 1984), pp. 45-51; reprinted from Air Force Magazine, Vol. 66, No. 12 (December 1983), pp. 50-53.

Until this time, although known, it was not generally appreciated that advances in technology had an extremely high price tag. This fact was clearly identified in the Bucy report published in the mid 1970s which highlighted the problem that technology advances at a constantly accelerating rate.[3] In practice, each advance was accompanied by a quantum price increase. This factor meant that in order to keep ahead of any potential adversary, we continually had to keep developing and producing newer-technology and higher-priced weapons. For example, in 1960, a first line fighter aircraft having a fly-a-way price of approximately 4.0 million dollars now costs 20.0 million in current year dollars. Projecting this trend into the future indicates procurement for the next generation of high technology fighters will place a large strain on any nation's military budget, and most single nations will be unable to afford them.

It has been estimated that the annual cost growth of fighter and attack aircraft continues at six percent a year in constant year dollars.[4] Thus, it was obvious that a solution was necessary in order to break out of the vicious circle of a cost curve rising faster than equipment technology was increasing. Increased emphasis has resulted in NATO collaborative programs.

In the United States, contrary to some opinions, both the executive and legislative branches of the government have consistently supported the goals of NATO collaborative programs to encourage increased commonality in the development and procurement of equipment. The Culver-Nunn Amendments in the Defense Appropriation Authorization Acts have directed the Secretary of Defense to establish and carry out procedures for procuring equipment in standardized and interoperable form with that of other NATO allies. DSARC [Defense Systems Acquisition Review Council] programs for all services were required specifically to include NATO RSI [Rationalization, Standardization, Interoperability] requirements in the development and production programs. President Carter's speech at a NATO summit in 1978 reaffirmed US support for improved cooperation in armaments procurement. This issue has been reiterated many times.

This trend was codified in 10 MOUs between the United States and her NATO allies, modeled on a previous US/UK agreement, signed in mid-1975.[5] These MOUs, involving the NATO governments, provide for greater cooperation in research, development, production, and procurement, to make the most rational use of their respective industrial, economic, and technological bases.

More specifically, their stated objectives included:

- -- Greater cooperation in research, development, acquisition and production.
- -- Most rational use of industrial, economic, and technological resources.
- -- The greatest possible attainable military capability at the lowest possible cost.
- -- Greater standardization and interoperability of weapon systems.

The USAF/EPG F-16 aircraft program, initiated in 1974, was the first multi-billion dollar effort specifically structured on a multinational collaborative basis. One report states, "Never before has a program of such size, such

complexity (politically, economically, industrially) and such concurrency (development, production, deployment) been undertaken as a partnership basis."[6] Perhaps one of the wisest steps was defining the aims and objectives of all the participating nations in a mid-1975 MOU. Thus, many of the critical decisions were made at program initiation rather than letting unresolved problems sit and fester. Some of the points covered:

- -- Management responsibilities including the establishment of a senior executive committee to resolve issues as they arose.
- -- Work sharing in the manufacturing of components by industries in each of the European Participating Countries for the other countries' aircraft.
- -- Offsets in the manufacturing of components for US aircraft with a US Government guarantee under "reasonably competitive" terms.
- -- Currency exchange agreements.
- -- Third country sales including EPG participation in the manufacture of components for these aircraft.

With the F-16 program, the European aircraft military/industrial complex made the transition from complete dependence on the United States to a partnership arrangement with the United States. Viewed objectively from any angle, militarily, politically, or economically, the F-16 program is an outstanding success; however, many formidable problems still have to be resolved before the vision of full NATO collaboration can be realized.

Bearing in mind the military and economic penalties imposed by the astronomical cost of high technology hardware as balanced by the benefits gained through NATO collaborative programs, the question must be asked, "Why have so few programs such as the F-16 been translated into concrete action?" One answer is that many obstacles still remain on the road to full collaboration; the easy problems have been resolved but many difficult ones remain. In a recent interview, Geoffrey Pattie, British Minister of State for Defence Procurement, listed many of the remaining obstacles that are especially irritating to our NATO allies, including:[7]

- -- The "Buy America" Act. [See Defense Acquisition Regulation (DAR) 7-104.3.]
- -- The Specialty Metals Act. [See DAR 7-104.93(a).]
- -- The unbalanced traffic on the "Two-way Street."
- -- Divisions between the executive and legislative branches of the US Government.
- -- Third country sales and obstacles to insuring European industries' participation in the manufacture of components for these systems.
- -- Continued dominance by US industry and the reluctance of the US Government to guarantee offset agreements promised by the manufacturers.

As a result of the above problems, our European allies have pursued other unique arrangements for the development and manufacture of major weapon systems. The Tornado was a classic example where the FRG, UK and Italy joined forces to develop and manufacture a new fighter aircraft. Although the Tornado is now in the Air Forces of these countries, efforts to

market the aircraft to other countries have failed because of the high acquisition cost. Other countries such as Spain selected the F/A-18 for their Air Force but have required the US manufacturers to include their industries in the manufacturing of the aircraft. They have also required the US F-18 manufacturers to provide other production and manufacturing opportunities in an effort to modernize their industries and to increase employment of the skilled workforce. In fact, most industrial nations and some less-developed countries are now demanding coproduction efforts before procuring new weapon systems from the United States. Spain, Sweden, Greece, Turkey, Israel, Egypt, Japan, and Australia are but a few examples where industrial offset arrangement were necessary before the country procured a US weapon system. In the United States, dedicated efforts have been directed toward identifying and resolving trends and impediments that inhibit collaborative programs. Reading the record of the Denoon Report, Currie Report, and US-FRG International Program Management Symposium, one recognizes many of the items listed previously that irritate our NATO allies. Many of the proposed recommendations have been approved and will soon be implemented, including:

- -- Establish DoD collaborative policy in a Project Directive.
- -- Propose waivers and reductions of US charges in collaborative programs.
- -- Promulgate "Buy America" policy in collaborative programs.

At the equipment level, the DoD Foreign Weapons Evaluation Program (FWEP) evaluates and selects foreign weapon systems for possible procurement. A recent report shows that nine European items have been approved for procurement while over forty additional European systems are presently being evaluated.[8]

In summary, the commitment to strengthen NATO forces at a reasonable price increases the probability that collaborative programs will become the rule, rather than the exception, for major weapon procurements. In such cases, it is imperative that the critical decisions be made during program initiation, as they were for the F-16, rather than leaving them to become problems handled on an ad hoc basis.

Today on both sides of the Atlantic, basic plans are being formulated for the next generation advanced technology fighter aircraft, the cost of which is certain to be much higher than today's aircraft. These costs, whether handled separately or in groups, can put a severe strain on any nation's military budget. However, the NATO allies can share the burden of these price increases by entering into a genuine collaborative program that encompasses design, development, production, and deployment. To borrow a term from space technology, the "window" is now open for collaborative planning for this weapon system. This moment should not be allowed to pass.

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Frederick Barnes has worked in Foreign Military Sales (FMS) for almost 15 years and is presently with the Naval Air Systems Command in Washington DC. For the past four years Mr. Barnes has been Project Manager for the F-18 aircraft -- spending most of his time in the area of coproduction/collaboration programs at the macro level. During his career, he has managed four aircraft for six countries.