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CENTRAL INTELLIGENCE AGENCY
WASHINGTON 25, D. C.

12 JUN 1962

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MEMORANDUM FOR: The Acting Director of Central Intelligence

SUBJECT : MILITARY THOUGHT (SECRET): "Reserves of Military-Transport Aviation Must Correspond to Modern Requirements", by Engineer Lieutenant-Colonel L. Sokolov-Sokolenok

1. Enclosed is a verbatim translation of an article from the SECRET Collection of the Journal "Military Thought" published by the Ministry of Defense, USSR, and distributed down to the level of division commander.

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Richard Helms

Richard Helms
Deputy Director (Plans)

APPROVED FOR RELEASE
DATE: DEC 2004

Enclosure



 

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The Joint Staff

The Assistant Chief of Staff for Intelligence,
Department of the Army

The Director of Naval Intelligence
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COUNTRY : USSR

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Reserves of Military-Transport Aviation
Must Correspond to Modern Requirements

by

Engineer Lieutenant-Colonel L. Sokolov-Sokolenok

Maneuvers and exercises being conducted by the armed forces of NATO to prevent the movement of troops and materiel along land communication routes bear out the fact that the probable enemy expects to inflict mass nuclear strikes against our rear area installations, routes of communication, and to create "barriers" and "lethal zones" with high levels of radiation.

In these conditions the need arises to assign a considerable share of the transportation of troops, equipment and various military freight to military-transport aviation. However, up to the present time, our military-transport aviation, because of the limited number and load-carrying capacity of aircraft, is unable to cope with the large number of major combat tasks assigned to it. To illustrate, we cite an example showing what a tremendous number of VTA (Voyenno-transportnaya aviatsiya) aircraft are needed for the movement by air of a motorized rifle division, and the extent to which materiel is needed for supplying a front and combined-arms army.

If we consider the load capacity of AN-8 and AN-12 aircraft to be 8 and 10 tons respectively, then in order to transport only one motorized rifle division (without tanks and with a reduced number of motor vehicles) weighing 6,500 tons for a distance of 2,000 km, without refueling at intermediate airfields, up to 580 AN-8 and 250 AN-12 aircraft will be needed.

A modern combined-arms army can use up to 25 to 30 thousand tons of various types of supplies in 4 to 5 days; a front, as a whole, more than 280 thousand tons.

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In order to partially satisfy the military-transport aviation needs of our army, it is imperative not only to increase the numerical strength of the military-transport aviation and the load-carrying capacity of the airplanes, but to use all the aviation reserves at our disposal.

In our opinion, such reserves are the civil air fleet and bomber aviation.

During recent years, military-transport aviation (VTA) and the civil air fleet (GVF) of the Soviet Union have made a big jump forward in their development. Within a short period of time the re-equipment of the aircraft pool (samoletnyy park) of the VTA and the GVF has been carried out. The obsolete aircraft LI-2, IL-12T, IL-14T, and TU-4D have been replaced by the quite modern military-transport aircraft AN-8 and AN-12. The pool of passenger aircraft has been replenished with fast, comfortable, multiplace liners, TU-104, IL-18, AN-10, and TU-114. Presently undergoing testing are the AN-24 turboprop and TU-124 turbojet passenger aircraft.

The volume of air transport of the GVF, speaking only of Soviet internal lines, will multiply over the ten-year period 1955 to 1965 by 13 to 15 times for passenger, and 4.5 to 5 times for cargo transport.

During the same period of time, the tonnage carried will multiply by 8 to 9.5 times. According to the findings of the Academy of Sciences of the USSR, it is envisaged that in 1980 air transport will carry 180 to 200 million persons on long-distance flights, which will constitute about 40 percent of the total volume of long-distance passenger travel.

Satisfying the needs of our national economy for long-distance air transport will be accomplished by a further increase in the load-carrying capacity, the net cubic capacity of the baggage and passenger compartments, and the range and speed of the aircraft and helicopters which are being built and designed.

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At the present time, all of our passenger aircraft, without exception, have their military-transport counterparts, designated for air transport of personnel, ammunition, POL, and wounded.

Thus, successes in the construction and improvement in the technical flight characteristics of airplanes and helicopters of the civil air fleet are also, to some extent, successes in the development of military-transport aviation.

As the civil air fleet has become equipped with a large number of first-class passenger aircraft, having increased load-carrying capacity, economy, and good technical flight performance, its role as a reserve of military-transport aviation has grown. Many modern Soviet passenger aircraft possess, from the military point of view, great potential capabilities. For instance, such airplanes as the IL-18, AN-10, and TU-114, in their military counterparts, can effect air transport as follows: IL-18T -- a 120-man landing force (posadochnyy desant) or 14 tons of freight; AN-10TS -- a 111-man landing force or 60 paratroopers (parashyutist-desantnik) or 14 tons of freight; and the TU-114TS -- a 247 to 281-man landing force or 30 tons of freight. In addition, all the military-transport modifications of passenger airplanes are adapted for transporting fuel. Thus, the AN-10TS airplane can simultaneously carry 37 two-hundred-liter drums and 178 twenty-liter cans; the IL-18T airplane -- 640 twenty-liter cans; the TU-114TS -- up to 133 two-hundred-liter drums.

However, the modern aircraft pool of the civil air fleet has a number of important deficiencies which sharply decrease its potential combat and operational possibilities. This, in our opinion, results from the fact that in designing a passenger airplane the possibility of using it in a military-transport role is not always taken into consideration. As a result, conversion of the majority of passenger aircraft, including the IL-18, TU-114, and AN-10, into military transports can be done only under the conditions of the stationary repair bases, or at fabricating plants (zavod-izgotovitel); if a wartime situation arises, this can cause a great expenditure of time, means, and an overloading of bases and plants.

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The high level of combat readiness of military-transport aviation is an important prerequisite to the effectiveness of its use. This requirement introduces the need to ensure swift commitment into action of its main reserve--the civil air fleet. However, swift and mass commitment of the airplane and helicopter pool of the GVF into the system of military transport is feasible only if it is equipped appropriately in good time with both universal systems of landing and transport equipment (desantno-transportnoye oborudovaniye), and with military-transport modifications of passenger airplanes converted in advance. In addition, for the most rapid utilization of the GVF as a reserve of VTA in wartime, and in order to perform special freight transport in peacetime, it would be expedient, even at the present time, to build up, in part, the airplane and helicopter pool of civil aviation with AN-8 and AN-12 "cargo" transport airplanes and MI-4 and MI-6 transport helicopters.

It is known that the layout, the design of the cabins and baggage compartments, the location and size of cargo hatches, entry doors and other special equipment of passenger aircraft, when used as military-transport and ambulance variants, must assure convenient and, in particular, fast, loading and unloading of people, combat materiel, various military cargos, and, in addition, the dropping of a parachute force. These basic requirements are not always met in the design and construction of new passenger aircraft. Thus, in spite of the comparatively large dimensions of the cargo cabin (22.5 x 2.2 x 2.3 m) and the considerable load capacity (14t) of the IL-18T airplane, the strength of the cabin floor, which permits a load of only 280 kg/m², and the small size of the entrance door (1400 x 760 mm), considerably limit the list of cargos and weapons suitable for transport. As far as the dropping of parachute forces or of small-sized parachuted cargos is concerned, the passenger aircraft TU-114, IL-18, TU-104, and TU-124, just like their military-transport modifications TU-114TS, IL-18T, TU-104TS, TU-124TS, are not suited for this.

In order to increase the combat capabilities of the military transport modifications of the passenger airplanes,

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it is imperative, in our opinion, to carry out appropriate additional work on them in the shortest possible period of time, to ensure the capability of dropping parachute forces and small-sized parachuted cargos. In addition, a thorough study must be made of the feasibility of installing removable equipment on passenger aircraft to ensure the parachute landing of suspension cabins (podvesnaya kabina) of the type P-90 and P-110K.

Due to the lack of strict standardization in the size of the baggage hatch openings and the entry doors on passenger aircraft, great difficulties are being encountered in achieving the standardization and uniformity of the various packing containers being transported. For example, the TU-104 and IL-18 aircraft, with the same maximum fuselage diameter (3.5 m), have relatively small entry doors (1300 x 700 and 1400 x 700 mm), while American aircraft of a similar type, the DC-8 and Boeing-707, with the same maximum fuselage diameter, have much larger entry doors (1600 x 880 and 1830 x 865 mm). The exact same picture can be observed in examining the openings of the baggage hatches: in the Soviet passenger aircraft TU-104, TU-114, IL-18, and AN-10 they are 1300 x 780, 1250 x 925, 1250 x 750, and 1290 x 760 mm, respectively, while in the above-mentioned American aircraft they are 2000 x 920 and 1220 x 1270 mm. Naturally, the larger size of the baggage hatch openings and entry doors increases the variety of cargo which can be transported by air, and therefore increases the combat capabilities of transport aircraft.

It is known that secure mooring of the cargos being transported is necessary, in order to avoid its shifting in flight in the cargo cabin and the baggage compartments. Unfortunately, the design bureaus of the chief designers, Comrades Antonov, Ilyushin, and Tupolev, outfit the aircraft with mooring equipment with the most varied working principles. The absence of standardization and uniformity in this matter complicates the use, industrial series production, and interchangeability of equipment between various types of aircraft.

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Our modern passenger aircraft, in their ambulance versions--are a dependable method of quickly evacuating the wounded or incapacitated. The IL-18T, AN-10TS and TU-114TS aircraft can transport 69, 73 and 216 stretcher cases, respectively. Wide use of ambulance aviation will exclude multiple-stage evacuation and will permit rapid distribution of the wounded to medical facilities in the deep rear.

However, in spite of the obvious effectiveness of using passenger aircraft for evacuation transport, there still are no unified standards nor authorized inventory of ambulance equipment to be installed in aircraft. Not a single one of our aircraft, converted into an ambulance version, has air-conditioning installed on board, which would ensure proper conditions for loading and unloading the wounded and the sick when outside temperatures are either very high or very low. As experience has shown, a great deal of time is spent for loading the wounded into the present aircraft and unloading them therefrom. For example, the loading of 69 stretcher cases into an ambulance-transport version of the IL-18 aircraft by a team of 6 men, even with the aid of a mechanized ramp (mekhanizirovanny trap), takes 90 minutes. Naturally, such excessively prolonged loading and unloading of the severely wounded, under extremely hot or cold temperatures, will result in further losses. Therefore, in order to increase the combat and utility potential of military-transport versions of passenger aircraft, it is necessary to resolve the question of installing on board the equipment for mechanized loading and for air conditioning in the cabins while sitting on hardstands.

It is obvious that military-transport aircraft and military-transport versions of passenger aircraft must have excellent take-off and landing characteristics. However, in this direction, also, far from everything has been done. Very slow progress is being made in matters of improving the aerodynamics of the wing, in the problems of jet flaps (struynny zakrylok), in installation of apparatus for thrust reversal, and in using take-off boosters (uskoritel na vzlete). The operating time of the aircraft engine and its

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dependability are not satisfactory at present. This is the basic impediment in the matter of ensuring safe flights of airplanes and lowering the cost of their operation.

An important task of the VTA, in a maneuvering war, with the clustered nature of combat operations, will be the landing of troops in the rear of the enemy, and supplying materiel to the operational and tactical landing forces and the troops operating out of touch with the main forces of the front. Operations for landing forces in the rear of the enemy, and for supplying the landing forces and troops operating out of contact with the main forces, will be conducted, as a rule, in the face of strong opposition from PVO means. Naturally, under such circumstances, the combat tasks will be performed most successfully by an aircraft which has high speed and effective defensive armament. Therefore, in order to perform the task of parachute landing of materiel, it may be necessary to call on bomber aviation in some cases.

For transport by a landing or by parachute-dropping of small cargos, bomber aircraft can be used without any additional equipment. In this case, the bomb bays are loaded with cargo in parachute-drop containers and packing containers.

Heavy and large-sized cargo and combat equipment can be transported by slightly re-equipped bombers in universal, enclosed, streamlined, parachute container-cabins, which are suspended under the fuselage or under the wings of the aircraft.

The Soviet bombers TU-2 and TU-4D can serve as an example of the use of bomber aviation for landing-transport purposes. The TU-2 aircraft, somewhat re-equipped, could transport, by external suspension under the fuselage, a GAZ-67 motor vehicle, a 120 mm mortar, or a 57 or 76 mm gun. For air transport of large-sized equipment, streamlined cabins P-73, P-90, and P-110K were used. TU-4D aircraft transported cargo up to 5 t gross weight. The same aircraft could transport and subsequently drop 29 paratroopers, with weapons and equipment.

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At the present time, for transporting and parachute dropping of various large-sized military cargo, the comparatively obsolete IL-28, TU-16 and TU-95 bombers could be used, and in case of necessity, delivery aircraft of various types. In transport by external suspension cargo cabins, the range of flight of these aircraft will be decreased by a quite acceptable amount. Thus, in the case of the TU-16 aircraft, flying with two cabins of the shape and size of the P-90 cabin, the range will be decreased by only 12 percent.

A typical feature of modern bombers is their rapid obsolescence ("moralnoye" stareniye). This peculiarity urgently demands that very serious thought be given to using them not only according to their specific responsibility, but, after appropriate minor re-equipping, as a reserve of the VTA, to fulfil the needs of air transport and parachute landings of personnel and materiel.

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