CENTRAL INTELLIGENCE AGENCY
Directorate of Intelligence
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CONTRIBUTION TO NIE 11-14-69:

SOVIET AND EAST EUROPEAN GENERAL PURPOSE FORCES

PART II -- GROUND AND AIR FORCES

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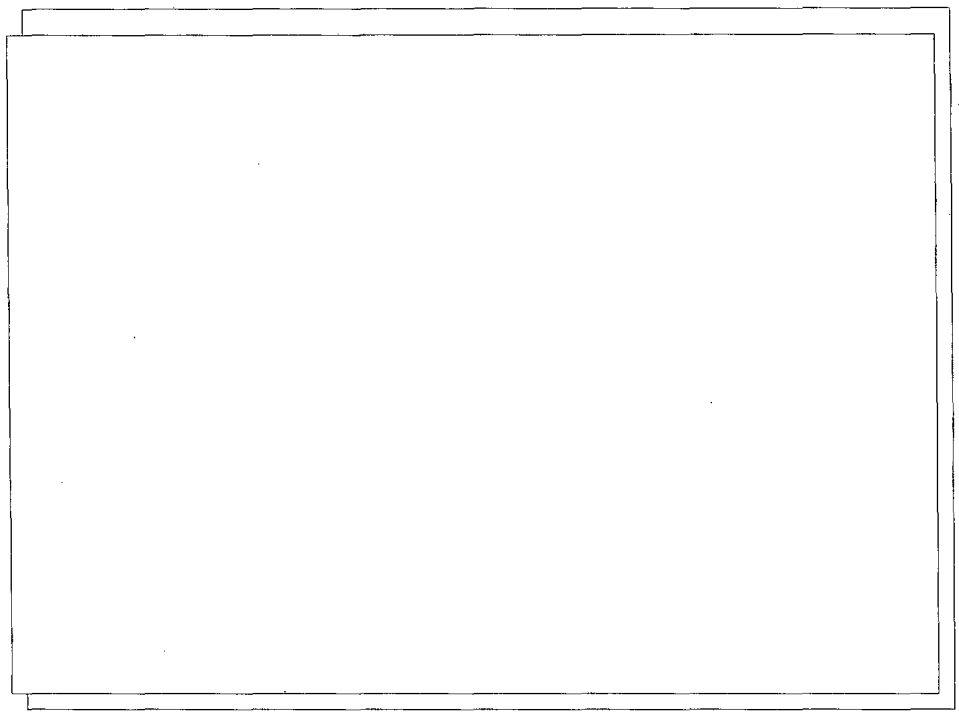

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Soviet and East European General Purpose Forces

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I. Soviet Tactical Missiles

The Soviets have probably increased the number of Frog launchers in each of their divisions in East Germany from three to four.

The majority of the Soviet Frog battalions in East Germany probably are now equipped with the Frog 7 on an eight-wheeled launcher. The Frog 7 is the newest version of the standard Soviet free-flight rocket and has a range of 48 nautical miles.

Most Soviet Frog battalions in the USSR probably still have three launchers, although a few cadre divisions may have only two in their battalions. We estimate that the Soviets will increase the number of launchers in all Frog battalions in Category IA,

Note: This completes the formal OSR contribution to NIE 11-14-69. Included are a detailed examination of Soviet tactical air forces and brief sections on tactical missiles and air defense.

Part I of the OSR contribution discussed the naval and naval air elements of the general purpose forces of the USSR and the East European Warsaw Pact countries.

IB, and II divisions to four during the next few years and that they will re-equip the battalions with the Frog 7. This process has apparently already begun, as at least one of the Baltic Military District divisions which passed through East Germany in August 1968 during the Czech crisis was observed to have four Frog 7 launchers

The number of launchers in two of the seven Soviet Scud brigades in East Germany may also have been increased recently.

the number of launchers had been increased from nine to twelve in both front-level brigades. No such increase has been reflected involving any of the five army-subordinate brigades, nor have there been any sightings to confirm a Scud increase.

II. Soviet Tactical Air Defense

The SA-4 Ganef mobile SAM system has entered operational service with the ground forces. Ganef units have been observed in overhead photography of East Germany and in the western, southwestern, and Far Eastern USSR. The information available at present is not sufficient to estimate the number of units now deployed. We believe that the SA-4 will be assigned at the field army level.

III. Soviet Tactical Air Forces

A. Present Force Levels

Aircraft operationally deployed with the Soviet Tactical Air Forces (TAF) as of 1 August 1969 are shown by location and model in Table 1 on page 12 and by primary combat role and model in Table 2 on page 13. The current total of about 3,850 aircraft is an increase of 350 above the total shown in NIE 11-14-68. Part of the increase resulted from the deployment of additional aircraft and the balance from a reassessment of the strength of existing combat units.

The buildup of forces in the Sino-Soviet border area in the past year resulted in an increase of about 100 aircraft. These are assigned to two new fighter regiments and to new reconnaissance elements.

Analysis of the combat strength of ground attack regiments indicates that the overall size of TAF since the early Sixties has been underestimated by about 7 percent. Of some 500 older model aircraft described in previous National Estimates as "collocated," about 250 are now believed to be operationally assigned to TAF and are included in the order of battle estimates. Some of the other aircraft previously included in the "collocated" category are actually trainers and others are believed to be in or awaiting transfer to flyable storage.

B. Capabilities

There has been little change in our estimate of the capabilities of Soviet tactical aviation during the past year. The increase in the number of aircraft in the air order of battle resulting from the reassessment of "collocated" aircraft has only a small effect

on our estimate of TAF's capabilities since nearly all of them are MIG-17 Frescos. The average age of these fighters is about 15 years. They have the shortest range and lowest payload of any aircraft in TAF.

The low payload capacities and short combat radii of the aircraft in TAF continue to represent the major weakness in the force's capabilities for conventional war.

Studies of tactical fighter operations indicate that the extent to which Soviet pilots receive dual training in both air defense and ground attack missions has been overstated in past National Estimates. All tactical air regiments devote the bulk of their training time to their primary mission, and the effort expended on training for a secondary mission is so small as to amount to not much more than maintaining familiarity.

Analysis of combat training of Soviet tactical fighter pilots also indicates that the amount of flying time, standards of proficiency, and performance records of these pilots in ground attack operations are below those of US tactical fighter pilots. These aspects of tactical fighter operations are discussed in detail in *Operational Training and Ground Attack Proficiency of Soviet Tactical Fighter Units*, forthcoming.

C. Aircraft Production and Delivery

No fighter regiments have been equipped with MIG-21 Fishbed interceptors or SU-7 Fitter fighter-bombers since mid-1968. Most of the production of these aircraft during this period was for export.

The increase in the number of MIG-21 aircraft in operational service shown in the tables is a result primarily of the delivery of Fishbed H reconnaissance versions. Although these aircraft retain their combat capability, to date most of them have

been assigned to elements specializing in battlefield reconnaissance. The rest of the increase in MIG-21s is a result of the confirmation of deliveries which had taken place prior to mid-1968.

Only two TAF air defense regiments have not been equipped with modern Mach 2.0 all-weather interceptors. (Excluded are the seven new fighter regiments created in the Sino-Soviet border area during the past three years, whose mission specialties--ground attack or air defense--have not been identified. The new regiments in the border area have been equipped with older MIG-17 aircraft drawn from storage.)

Deliveries of the Brewer D reconnaissance version of the twin-jet YAK-28 have continued. Production of this aircraft is continuing at a rate of three a month. In the reconnaissance version, the bomb bay has been replaced by photographic equipment and the guns have been removed, leaving the aircraft with no combat capability.

D. Future Forces

No significant change from the presently estimated force is expected in the composition or size of TAF for the next two years. We believe that the build-up of tactical air forces near the Chinese border is leveling off, and probably is at or near the planned level.

No new regiments have been established in the Far East Military District or the Transbaykal-Mongolia area since the fall of 1968. There has been no new airfield construction in these areas of a type that would indicate additional regiments are planned.

Some construction of new hard-surface airfields near the China border has been initiated in

recent months in the Turkestan MD, and any further increase in tactical air forces near the border will probably take place in this area. There is a tactical air army based in Turkestan, but most of its aircraft are not within combat radius of the China border. The new airfield construction may be for relocating part of the existing forces rather than forming additional units.

During the mid-Seventies, TAF's primary requirement will be replacement of its obsolescent MIG-17 fighters and IL-28 light bombers, which now comprise over half the ground attack and tactical strike components of the force.

Of several new fighter-type aircraft currently undergoing developmental testing in the USSR, the most likely to enter operational service with TAF is the Flogger. This single engine, variable geometry wing aircraft requires less takeoff and landing space and has a better combat radius than the SU-7 with an equal payload. It is somewhat faster than other Soviet tactical fighters and is the only Soviet fighter to have demonstrated the capability to fly at supersonic speeds at sea level. It could also be employed as a tactical interceptor with TAF air defense units. The test program for the Flogger has progressed smoothly with no known setbacks, and we expect it to enter service about 1972 as a multipurpose tactical fighter.

Extensive testing of aircraft with a vertical or short takeoff and landing (V/STOL) capability indicates that the Soviets envision a requirement for an aircraft of this type in the Seventies. At least five V/STOL test programs have been initiated during the past five years, but at present no more than two types of aircraft are actively undergoing testing.

One of these is the Flagon B, a STOL version of the Flagon A interceptor currently being delivered to strategic air defense forces. The Flagon B, however, has extremely limited range capabilities and we

do not expect it to enter service. Another STOL fighter is in the early stages of testing, but the program appears to be progressing slowly. It is unlikely that the Soviets could have a STOL fighter with satisfactory capabilities ready for service before about 1974.

Deployment of the Flogger--and possibly a STOL aircraft as well--would probably not meet all of the Soviets' requirements. Soviet military publications continue to indicate a requirement for an aircraft capable of carrying out strikes behind enemy lines at what the Soviets term "operational depth." The primary targets for such aircraft would be the enemy's mobile nuclear delivery systems. Whereas most of the responsibility for destruction of fixed targets at "operational depth" has been assumed by tactical missile forces, the Soviets have stated that mobile targets are best attacked by aircraft. The importance of these targets in Soviet eyes was indicated in an August 1968 article in *Military Thought* which stated that the first objective of Soviet forces of the front, whether in a nuclear or conventional conflict, was the destruction of the enemy's tactical nuclear capability.

At present, the tactical strike role in TAF is being filled by IL-28 Beagle and YAK-28 Brewer B/C light bombers. By the mid-Seventies the IL-28s will be about 20 years old and the YAK-28s will be about 10 years old. In addition, there is good evidence that the Soviets have been dissatisfied with the YAK-28 as a light bomber. This aircraft, originally viewed as a replacement for the IL-28, was deployed with only about half the light bomber units before production stopped.

There is only one aircraft currently under development--the Foxbat--which is suitable for effectively performing the deep tactical strike mission now assigned to the TAF light bomber units. The Foxbat is estimated to be able to carry a 4,000 to 6,000 pound payload well behind enemy lines, cruising at altitudes of about 65,000 to 75,000 feet at speeds near Mach 3.0.

The current technical assessment of the Foxbat is that it is optimized for a high altitude supersonic cruise profile. The structural characteristics of an aircraft so optimized militate against its use in a close support ground attack role. The high speed and altitude performance of the Foxbat, however, could be effectively used in a reconnaissance or nuclear strike mission. Because of this, and the indicated Soviet requirement for a tactical strike aircraft, we believe that a Foxbat variant will be developed for use in TAF.

The Foxbat is known to be under development as an interceptor, having undergone extensive air-to-air weapon system testing during the past year. There has been no evidence which can be firmly identified as testing of a tactical strike version, although there have been some unexplained activities which may be part of such testing.

The first series-produced Foxbat was probably completed about March or April of this year. The number of Foxbats detected in overhead photography in recent months has nearly tripled, with most of the increase being at the production facility, Gorkiy Airframe Plant 21. Air-to-air missiles and external fuel tanks for the Foxbat were noted at this facility for the first time in May, at the same time that the number of Foxbats began to increase.

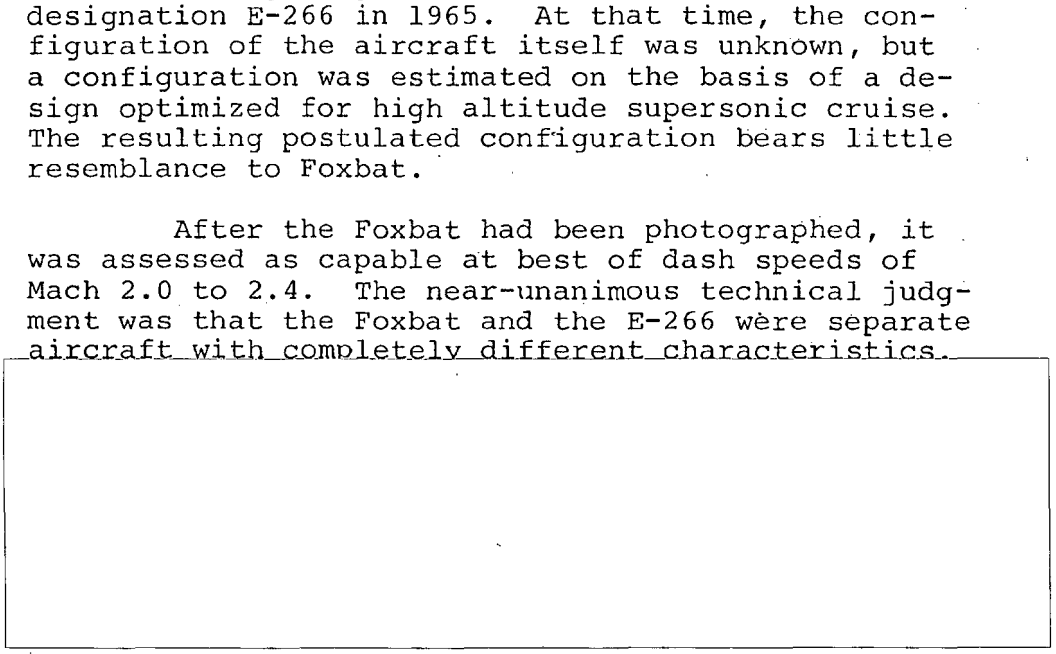
The presence of AAMs and the extensive air-to-air weapon system testing involving Foxbat in late 1968 indicate that the aircraft currently being produced is an interceptor version. We expect it to enter operational service with strategic air defense forces in 1970. Because of the apparent priority given to the interceptor version, and

we believe that a strike version of Foxbat would not be ready for operational service with TAF until about 1972.

Estimates of the probable role the Foxbat would fill in TAF should be qualified, however, by

acknowledgement of some of the conflicting interpretations of the evidence on the performance characteristics and test activity of the aircraft. The first technical assessments of the Foxbat were based on a record-setting flight made by this aircraft under the designation E-266 in 1965. At that time, the configuration of the aircraft itself was unknown, but a configuration was estimated on the basis of a design optimized for high altitude supersonic cruise. The resulting postulated configuration bears little resemblance to Foxbat.

After the Foxbat had been photographed, it was assessed as capable at best of dash speeds of Mach 2.0 to 2.4. The near-unanimous technical judgment was that the Foxbat and the E-266 were separate aircraft with completely different characteristics.



We believe that considering the Foxbat as restricted to a narrowly defined role or mission on the basis of the current technical assessment is premature. The Foxbat may not, in fact, be optimized for the high-speed, high-altitude performance demonstrated in the record flights. Tenuous indications suggest that the Foxbat may be structurally stronger than has been estimated. A Soviet aircraft last year participated in drop tests while flying at speeds near Mach 2.0 at about 30,000 feet. These speeds suggest that the aircraft was the Foxbat, which is known to have performed other drop tests. If the aircraft was the Foxbat, the low altitude at which the speed approaching Mach 2.0 was achieved would indicate greater structural strength

than is currently estimated for this aircraft. If the aircraft is structurally stronger it may have greater capabilities for tactical strikes or air-to-air combat than presently estimated.

Foxbat deployment in an interceptor role with TAF would also apparently run counter to the Soviet philosophy of using light, highly maneuverable tactical interceptors such as the MIG-21 for air-to-air combat. The MIG-21 was first tested as an interceptor, however, and training in interceptor tactics predominates in the operational training conducted by MIG-21 units. The Soviets have indicated in military journals that they see a need for a long-range battlefield interceptor capable of destroying aerial targets before they can launch air-to-surface missiles. For these reasons, the possibility that some Foxbats will be deployed with TAF in this type of interceptor role cannot be ruled out.

Table 1

Estimated Numbers of Operational Soviet Tactical Aircraft, By Location and Model
1 August 1969 and Projections for Mid-1970 and Mid-1971

Location	Total	MIG-17 Fresco	MIG-19 Farmer	MIG-21 Fishbed D/F/H	YAK-28P Firebar	SU-7 Fitter	IL-28 Beagle	YAK-28 Brewer B/C	YAK-27/28 a/ Mangrove/Brewer D
East Germany	766	112	12	333	24	176	65		44
Poland	286	74		135		37	10		30
Hungary	239	16		127		32	52	12	
Czechoslovakia	75			75					
Baltic Military District (MD)	286	62		88			40	96	
Belorussian MD	287	137	12	74		32	32		
Carpathian MD	314	112	37	37		32	32	32	32
Odessa MD	229	29		111		32	25		32
Leningrad MD	156	64		16		32	44		
Kiev MD	74			74					
Moscow MD	143			74		37			32
Transcaucasus MD	223	16		111		32	32	32	
Turkestan MD	195	85		90			20		
Far East MD	242	37		125		48	32		
Transbaykal MD b/	322	233		16			65		8
Total 1 August 1969	3,837	977	61	1,486	24	490	449	172	178
Mid-1970	3,775-3,900	1,000-900	50-0	1,475-1,625	0-25	475-500	450-425	150-200	175-225
Mid-1971	3,750-3,900 c/	1,000-900	25-0	1,475-1,625	0-25	475-500	425-390	150-200	200-250

a. The YAK-28 Brewer D is solely a reconnaissance aircraft with no combat capability and is included with reconnaissance aircraft rather than the Brewer B and C light bombers. The Fishbed H reconnaissance variant of the MIG-21 retains a combat capability and is included with the fighter variants.
b. Includes 86 MIG-17 aircraft deployed with two regiments in Mongolia.
c. The high side of the range includes some 10 Foxbat aircraft which may have entered operational service with TAF by that time.

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Table 2

Estimated Numbers of Operational Soviet Tactical Aircraft, By Primary Mission and Model
1 August 1969

Primary Mission	Total	MIG-17	MIG-19	MIG-21	YAK-28P	SU-7	IL-28	YAK-28	YAK-27/28R
Air defense	1,553	136	61	1,332	24				
Ground attack	1,304	814				490			
Light bomber	360						188	172	
Reconnaissance and reconnaissance-strike	620	27		154			261		178
Total	3,837	977	61	1,486	24	490	449	172	178

Note: Air defense and ground attack regiments of Soviet Tactical Aviation are cross-trained and have some capability for other than their primary roles. Training in other than the primary mission is usually less than 10 percent of total combat training, and performance in an alternate role would probably be considerably reduced.

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