

3901

~~S-E-C-R-E-T~~

**CIA HISTORICAL REVIEW PROGRAM
RELEASE AS SANITIZED
1999**

QUARTERLY ESTIMATE OF THE PRODUCTION OF AIRCRAFT
IN THE SINO-SOVIET BLOC
JULY-SEPTEMBER 1957

CIA/RR IP-570

4 November 1957

CENTRAL INTELLIGENCE AGENCY

Office of Research and Reports

~~S-E-C-R-E-T~~

WARNING

THIS MATERIAL CONTAINS INFORMATION AFFECTING THE NATIONAL DEFENSE OF THE UNITED STATES WITHIN THE MEANING OF THE ESPIONAGE LAWS, TITLE 18, USC, SECS. 793 AND 794, THE TRANSMISSION OR REVELATION OF WHICH IN ANY MANNER TO AN UNAUTHORIZED PERSON IS PROHIBITED BY LAW.

~~S-E-C-R-E-T~~

FOREWORD

This report is the tenth in a series to be issued on a quarterly basis summarizing production of aircraft in the Sino-Soviét Bloc. The estimates presented are issued to satisfy the request of consumers for the most recent estimates of production of aircraft in the Bloc and are intended to supersede those contained in previous ORR publications. Changes in the present estimate from past estimates are the results of more recent intelligence information.

f

- iii -

~~S-E-C-R-E-T~~

~~S-E-C-R-E-T~~

CONTENTS

	<u>Page</u>
1. Trends in Production	1
2. Production in the USSR	1
3. Production in the European Satellites and in Communist China	4

Tables

1. Estimated Production of Aircraft in the Sino-Soviet Bloc, by Number, 1955 Through the Third Quarter of 1957	6
2. Estimated Production of Aircraft in the Sino-Soviet Bloc, by Weight, 1955 Through the Third Quarter of 1957	7
3. Estimated Production of Aircraft in the USSR, by Number, 1955 Through the Third Quarter of 1957	8
4. Estimated Production of Aircraft in the USSR, by Weight, 1955 Through the Third Quarter of 1957	9
5. Estimated Cumulative Production of Selected Aircraft in the USSR, Through the Third Quarter of 1957	10
6. US Military Aircraft Acceptances, by Number, 1955 Through the Third Quarter of 1957	11
7. US Military Aircraft Acceptances, by Weight, 1955 Through the Third Quarter of 1957	12
8. Estimated Production of Aircraft in the European Satellites, by Number, 1955 Through the Third Quarter of 1957	13
9. Estimated Production of Aircraft in the European Satellites, by Weight, 1955 Through the Third Quarter of 1957	14

- v -
~~S-E-C-R-E-T~~

~~S-E-C-R-E-T~~

Charts

- Figure 1. US and USSR: Production of Military Aircraft,
by Number, 1955 Through the Third Quarter
of 1957 Inside
Back Cover
- Figure 2. US and USSR: Production of Military Aircraft,
by Weight, 1955 Through the Third Quarter
of 1957 Inside
Back Cover

SECRET

QUARTERLY ESTIMATE OF THE PRODUCTION OF AIRCRAFT
IN THE SINO-SOVIET BLOC
JULY-SEPTEMBER 1957*

1. Trends in Production.

In the third quarter of 1957, estimated production of aircraft, by number, in the Sino-Soviet Bloc decreased approximately 12 percent from production in the previous quarter.** In terms of airframe weight, a decrease of about 6 percent was noted in Bloc production from the second quarter of 1957. These decreases were a result of lowered production of fighter aircraft occasioned by plant changeovers to production of newer types of fighters. Slightly more than 44 percent of the aircraft produced by the Bloc during the third quarter of 1957 are believed to have been combat types.***

2. Production in the USSR.

The Soviet share of estimated total production by the Sino-Soviet Bloc during the third quarter of 1957 decreased about 5 percent from that of the previous quarter.**** Of the 1,700 aircraft estimated to have been produced by the Bloc in the third quarter of 1957, about 1,300 aircraft, or approximately 75 percent, were produced in the USSR. About 90 percent of the estimated total production of aircraft in the Bloc, by airframe weight, took place in the USSR, again indicating that the Satellites produce relatively lighter aircraft than the USSR. Of the estimated total production of combat aircraft in the Bloc during the third quarter of 1957, almost 87 percent is believed to have been produced in the USSR.

* The estimates and conclusions contained in this report represent the best judgment of ORR as of 1 October 1957.

** Estimated production of aircraft in the Sino-Soviet Bloc from 1955 through the third quarter of 1957 is given by number in Table 1, p. 6, below, and by airframe weight in Table 2, p. 7, below.

*** For the purposes of this report, combat types include bomber, fighter, and ground-attack aircraft. Other aircraft such as helicopters and transports have uses under both combat and noncombat conditions.

**** Estimated production of aircraft in the USSR from 1955 through the third quarter of 1957 is given by number in Table 3, p. 8, below, and by airframe weight in Table 4, p. 9, below.

~~S-E-C-R-E-T~~

It is estimated that total US production of combat aircraft during the third quarter of 1957 exceeded that of the USSR by almost 30 percent in terms of numbers and by about 32 percent in terms of airframe weight. Decreased production of fighter aircraft in the USSR accounts for most of the difference in favor of the US.*

Recent intelligence information has made several major changes necessary in previously published estimates of Soviet production of aircraft. Analysis of information at Moscow Airframe Plant No. 23 indicates that probably 8 Bisons were produced at the plant during the first quarter of 1957, 9 during the second quarter, and 9 during the third quarter. Although the estimated cumulative production of 74 Bisons** has not changed as a result there is a change in the previously published estimate stating that 9 Bisons were produced during the first quarter of 1957 and 8 during the second quarter. the plant airfield revealed one Bison with a short nose and a dihedral in the horizontal stabilizer. This the first evidence of a possible change in configuration since June 1956. Although little intelligence is available regarding the Bear (Tu-95) heavy turboprop bomber, production of the Bear is estimated to be continuing at the rate of six aircraft per quarter at Kuybyshev Airframe Plant No. 18. Estimated cumulative production of the Bear is now 57 aircraft. Production of the Badger (Tu-16) jet medium bomber is believed to be continuing at a constant rate at Kuybyshev Airframe Plant No. 1 and at Kazan' Airframe Plant No. 22. Production of the Badger at Voronezh Airframe Plant No. 64 is believed to have ceased during the third quarter of 1957. Observation of the Voronezh East Airfield revealed no aircraft in the area. In addition, Voronezh Airframe Plant No. 64 is believed to have initiated series production of a new transport and therefore should have phased out production of Badger aircraft.

The increased emphasis placed by the USSR on the development of transport aircraft again was apparent in July 1957 when four new-type transports were exhibited at Vnukovo Airfield in Moscow. Of these,

* Production of combat aircraft in the USSR from 1955 through the third quarter of 1957 is compared with that in the US by number in Figure 1, inside back cover, and by airframe weight in Figure 2, inside back cover. For additional comparison, US military acceptances from 1955 through the third quarter of 1957 are given by number in Table 6, p. 11, below, and by airframe weight in Table 7, p. 12, below.
** Estimated cumulative production of selected Soviet aircraft through the third quarter of 1957 is given in Table 5, p. 10, below.

~~S-E-C-R-E-T~~

two are believed to be currently in series production in the USSR -- the Tu-104A tourist version of the 2-engine jet transport Camel (Tu-104) and the 4-engine turboprop transport Cat (Ukraine). It is estimated that the Tu-104A is in production at Omsk Airframe Plant No. 166 and at Khar'kov Airframe Plant No. 135, both of these plants having been identified previously as production sites for Camel aircraft.

the Tu-104A which recently brought the Soviet UN delegation to New York the aircraft was constructed at Khar'kov Airframe Plant No. 135. Voronezh Airframe Plant No. 64, which reportedly was to begin production of transport aircraft in 1957, is estimated to have begun series production of a new type of transport, possibly the Cat, in July 1957. Seven prototypes of the Cat are estimated to have been completed at Kiev Airframe Plant No. 473 by the end of the third quarter of 1957. The 4-engine jet transport Cooker (Tu-110) and the 4-engine turboprop transport Coot (Il-18) also were exhibited at Vnukovo, but neither is believed to be in series production as of 1 October 1957.

The prototype of the Coot reportedly was constructed at Moscow Airframe Plant No. 30.

Moscow Airframe Plant No. 30 probably has decreased its output of the Crate (Il-14) piston transport in the past year, it is possible that the plant may be preparing for series production of the Coot.

at Rostov Airframe Plant No. 168 confirm that the plant is not engaged in production of aircraft. described the factory airfield as "disused" and the assembly area buildings as closed. Rostov Airframe Plant No. 168 in September 1957 revealed no change within the plant area or in the condition of the airfield. Production of the Fresco (MIG-17) jet fighter at Tbilisi Airframe Plant No. 31 is estimated to have ceased during the second quarter of 1957. the plant area and the adjoining airfield have revealed apparent inactivity at the plant and no aircraft on the airfield. It is estimated that Tbilisi Airframe Plant No. 31 has begun series production of a new type of fighter, probably of Mikoyan design.

At that time, 12 swept-tail fighter-size aircraft were in the plant area. Although the impression was that these aircraft were Farmers (MIG-19's), could not rule out the possibility that they might have been a new type of aircraft such as the Fitter or the Faceplate. Since series production of some of the new jet fighters which were shown for the first time at the Tushino Air Show of June 1956 has long been expected in Soviet

~~S-E-C-R-E-T~~

airframe plants, it is estimated that Gor'kiy Airframe Plant No. 21 also has started series production of a new jet fighter. Although not identified as to type, based on the past association of the plant with Mikoyan fighters, the aircraft probably is of Mikoyan design.

3. Production in the European Satellites and in Communist China.

In the third quarter of 1957 the European Satellites produced an estimated total of about 420 aircraft, or approximately 25 percent of the total production of aircraft in the Sino-Soviet Bloc.* Czechoslovakia and Poland are still the largest producers among the Satellites, accounting for about 70 percent and 20 percent, respectively, or a combined total of almost 91 percent of Satellite production of aircraft by number.

... were received during the third quarter of 1957, allegedly revealing activities by the Czechoslovaks relating to the production of a more modern jet fighter than the Fagot (MIG-15). The Farmer (MIG-19) is the type most frequently mentioned. Although on what appears to be a reduction in the number of Fagots produced by the Prague/Vodochody jet fighter plant, no new type of aircraft has been observed at the plant. Until information is received which will clarify production activities at Vodochody, it is estimated that during the third quarter of 1957 the Czechoslovaks substantially reduced production of the Fagot. It is estimated that production of the Midget (U-MIG-15) jet trainer is continuing at previously estimated rates. Production of the Crate (Il-14) piston transport is believed to be continuing at a steadily accelerating rate.

Production of the Fresco (MIG-17) jet fighter at the Mielec Airframe Plant in Poland is estimated to have begun in November 1956. Although the plant had long been expected to enter the Fresco program,

... revealed 12, and possibly 24, Frescos on the plant airfield. Production of Fagot aircraft at the plant is estimated to have ceased during the first quarter of 1957.

East German production of Crate transports during the third quarter of 1957 is estimated to have continued to be restricted by

* Estimated production of aircraft in the European Satellites from 1955 through the third quarter of 1957 is given by number in Table 8, p. 13, below, and by airframe weight in Table 9, p. 14, below.

- 4 -

~~S-E-C-R-E-T~~

~~S-E-C-R-E-T~~

slow deliveries of supplies and by difficulties in overcoming some technological obstacles. A modest expansion of plant facilities at the Dresden/Klotzsche Aircraft Plant, a C-47 production site, is continuing. It is believed, however, that this expansion will not affect the rate of production of aircraft significantly in the foreseeable future.

Hungarian production of Max (Yak-18) trainers is estimated to have been resumed during the second quarter of 1957 after an interruption in production occasioned by the Hungarian uprising in October 1956. Production is estimated to have increased slightly during the third quarter of 1957.

indicates that Communist China probably has not been engaged in domestic production of aircraft. It was previously estimated that the facility of Nan-chang was producing the Max trainer. that the activity at this facility probably was final assembly or parts supplied by the USSR rather than domestic production of the aircraft. It is believed that the Nan-chang plant is used currently as a repair facility for jet aircraft rather than as a production site.

concerning the jet aircraft industry of China has been received during the third quarter of 1957. The Chinese claimed to have exhibited large numbers of "China-made" jet aircraft on the 30th anniversary of the Peoples Liberation Army in August 1957. Although it is estimated that these aircraft probably were assembled rather than produced in China, it is believed that the Chinese Communists will produce the Fresco domestically before the end of 1957. Considering the high degree of interest in the aviation program in China and the repeated claims of production, however, it is possible that the Chinese actually may enter series production of the Fresco somewhat earlier.

- 5 -

~~S-E-C-R-E-T~~

Table 1

Estimated Production of Aircraft in the Sino-Soviet Bloc, by Number a/
1955 Through the Third Quarter of 1957

Type of Aircraft	Units				
	1955	1956	1st Quarter of 1957	2d Quarter of 1957	3d Quarter of 1957
Jet bomber					
Heavy	21	25	8	9	9
Medium	350	470	120	120	110
Light	790	330	64	44	18
Turboprop bomber					
Heavy	8	24	6	6	6
Jet fighter Transport	3,800	3,300	880	830	600
Jet	6	27	9	9	9
Turboprop	0	3	3	3	9
Piston	740	1,100	310	300	280
Trainer					
Jet	1,200	800	200	210	210
Piston	780	800	200	210	220
Other b/	400	500	150	180	210
Total	<u>8,100</u>	<u>7,500</u>	<u>1,900</u>	<u>1,900</u>	<u>1,700</u>

a. Figures are rounded to two significant digits. Totals are derived from unrounded figures and do not always agree with the sum of the rounded components.

b. Helicopters, gliders, seaplanes, and utility aircraft.

Table 2

Estimated Production of Aircraft in the Sino-Soviet Bloc, by Weight ^{a/}
1955 Through the Third Quarter of 1957

Type of Aircraft	Thousand Pounds of Airframe Weight				
	1955	1956	1st Quarter of 1957	2d Quarter of 1957	3d Quarter of 1957
Jet bomber					
Heavy	2,300	2,800	890	1,000	1,000
Medium	18,000	24,000	5,900	6,100	5,600
Light	14,000	6,000	1,200	800	330
Turboprop bomber					
Heavy	720	2,200	540	540	540
Jet fighter Transport	29,000	30,000	8,200	7,800	6,000
Jet	370	1,700	560	560	560
Turboprop	0	94	120	120	1,600
Piston	3,100	9,800	2,900	2,700	2,600
Trainer					
Jet	9,100	5,000	1,300	1,300	1,300
Piston	1,600	1,600	400	410	420
Other ^{b/}	4,000	3,900	920	960	890
Total	<u>82,000</u>	<u>87,000</u>	<u>23,000</u>	<u>22,000</u>	<u>21,000</u>

a. Figures include production of spare parts and are rounded to two significant digits. Totals are derived from unrounded figures and do not always agree with the sum of the rounded components.

b. Helicopters, gliders, seaplanes, and utility aircraft.

Table 3

Estimated Production of Aircraft in the USSR, by Number a/
1955 Through the Third Quarter of 1957

Type of Aircraft	1955	1956	Units		
			1st Quarter of 1957	2d Quarter of 1957	3d Quarter of 1957
Jet bomber					
Heavy	21	25	8	9	9
Medium	350	470	120	120	110
Light	790	330	64	44	18
Turboprop bomber					
Heavy	8	24	6	6	6
Jet fighter Transport	3,200	2,900	790	720	500
Jet	6	27	9	9	9
Turboprop	0	3	3	3	9
Piston	740	1,100	290	280	240
Trainer					
Jet	920	500	130	130	130
Piston	340	360	90	90	90
Other b/	380	400	120	130	130
Total	6,800	6,100	1,600	1,500	1,300

a. Figures are rounded to two significant digits. Totals are derived from unrounded figures and do not always agree with the sum of the rounded components.
b. Helicopters, gliders, and seaplanes.

S-E-C-R-E-T

Table 4

Estimated Production of Aircraft in the USSR, by Weight a/
1955 Through the Third Quarter of 1957

Type of Aircraft	Thousand Pounds of Airframe Weight				
	1955	1956	1st Quarter of 1957	2d Quarter of 1957	3d Quarter of 1957
Jet bomber					
Heavy	2,300	2,800	890	1,000	1,000
Medium	18,000	24,000	5,900	6,100	5,600
Light	14,000	6,000	1,200	800	330
Turboprop bomber					
Heavy	720	2,200	540	540	540
Jet fighter Transport	26,000	27,000	7,600	7,100	5,300
Jet	370	1,700	560	560	560
Turboprop	0	94	120	120	1,600
Piston	3,100	9,500	2,600	2,300	2,000
Trainer					
Jet	7,100	3,200	830	860	870
Piston	400	430	110	110	110
Other b/	4,000	3,800	870	890	760
Total	76,000	81,000	21,000	20,000	19,000

a. Figures include production of spare parts and are rounded to two significant digits. Totals are derived from unrounded figures and do not always agree with the sum of the rounded components.

b. Helicopters, gliders, and seaplanes.

Table 5

Estimated Cumulative Production of Selected Aircraft in the USSR a/
Through the Third Quarter of 1957

Model	Type of Aircraft	Production to 1 October 1957	Units
Badger	Jet medium bomber	1,300	
Beagle	Jet light bomber	6,000	
Bear	Turboprop heavy bomber	57 <u>b/</u>	
Bison	Jet heavy bomber	74	
Camel	Jet transport	60	
Crane	Piston transport	850	
Farmer	Jet fighter	2,500	
Flashlight	Jet all-weather interceptor	1,700	
Fresco	Jet fighter	10,000	
Horse	Helicopter	43	
Hound	Helicopter	590	
New fighter	Jet fighter	14	
New transport	Turboprop transport	18	

- a. Figures are rounded to two significant digits.
b. This figure includes seven prototypes seen in July 1955.

Table 6

US Military Aircraft Acceptances, by Number a/
1955 Through the Third Quarter of 1957

Type of Aircraft	1955	1956	1st Quarter of 1957			2d Quarter of 1957			3d Quarter of 1957 b/		
			Units	Units	Units	Units	Units	Units	Units	Units	Units
Bomber											
Heavy	34	75	32	35	55						
Medium	530	505	67	50	48						
Light	155	105	14	0	0						
Ground attack	631	469	110	94	60						
Fighter	4,017	2,656	604	728	677						
Transport	536	362	47	56	54						
Trainer	1,439	843	191	183	192						
Other c/	701	1,098	296	311	373						
Total	8,043	6,113	1,361	1,457	1,459						

a. The source of these figures is the Office of the Assistant Secretary of Defense (Supply and Logistics), Statistics Branch, US Military Aircraft Acceptances, 1953 - September 1957, Number and Airframe Weight, September 1957, CONFIDENTIAL.

b. Includes preliminary data for September 1957.

c. Helicopters, flying boats, amphibians, and lighter-than-air.

Table 7

US Military Aircraft Acceptances, by Weight a/
1955 Through the Third Quarter of 1957

Type of Aircraft	1955	1956	Thousand Pounds of Airframe Weight		
			1st Quarter of 1957	2d Quarter of 1957	3d Quarter of 1957 b/
Bomber					
Heavy	3,853	8,442	3,598	3,936	6,177
Medium	26,377	22,525	2,649	1,693	1,757
Light	2,724	1,975	268	0	0
Ground attack					
Fighter	6,034	4,803	985	1,061	911
Transport	43,161	30,588	7,143	8,463	7,999
Trainer	20,697	13,104	1,703	2,357	2,321
Other c/	7,453	3,283	867	832	963
	4,397	5,292	1,113	1,159	1,357
Total	<u>114,696</u>	<u>90,012</u>	<u>18,326</u>	<u>19,501</u>	<u>21,485</u>

- a. The source of these figures is the Office of the Assistant Secretary of Defense (Supply and Logistics), Statistics Branch, US Military Aircraft Acceptances, 1953 - September 1957, Number and Airframe Weight, September 1957, CONFIDENTIAL.
- b. Includes preliminary data for September 1957.
- c. Helicopters, flying boats, amphibians, and lighter-than-air.

Table 8

Estimated Production of Aircraft in the European Satellites, by Number a/
1955 Through the Third Quarter of 1957

Country	Type of Aircraft	Units				
		1955	1956	1st Quarter of 1957	2d Quarter of 1957	3d Quarter of 1957
Czechoslovakia	Jet fighter	240	220	75	75	45
	Jet trainer	310	310	75	75	75
	Piston trainer	360	360	91	91	91
	Transport	0	13	12	15	24
	Other	22	95	30	40	60
Total		<u>940</u>	<u>1,000</u>	<u>280</u>	<u>300</u>	<u>300</u>
Poland	Jet fighter	330	260	23	36	55
	Piston trainer	36	36	9	9	9
	Light helicopter	0	10	4	9	21
Total		<u>370</u>	<u>300</u>	<u>36</u>	<u>54</u>	<u>85</u>
Rumania	Piston trainer	24	24	9	12	18
Hungary	Piston trainer	24	20	0	10	15
East Germany	Transport	0	5	3	6	6
Grand total		<u>1,400</u>	<u>1,400</u>	<u>330</u>	<u>380</u>	<u>420</u>

a. Figures are rounded to two significant digits. Totals are derived from unrounded figures and do not always agree with the sum of the rounded components.

Table 9

Estimated Production of Aircraft in the European Satellites, by Weight a/
1955 Through the Third Quarter of 1957

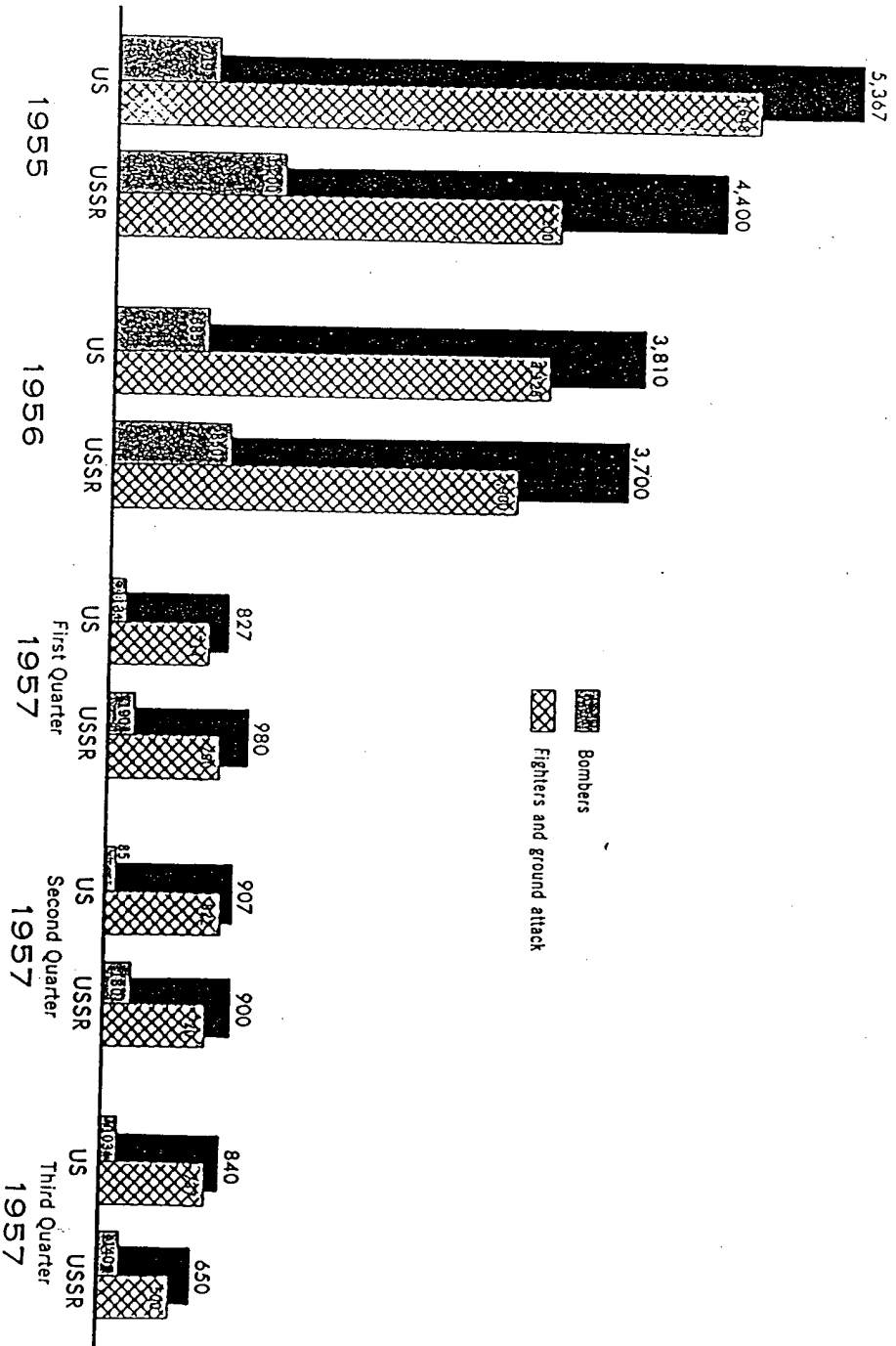
Country	Type of Aircraft	Thousand Pounds of Airframe Weight		
		1955	1956	1st Quarter of 1957
Czechoslovakia	Jet fighter	1,400	1,300	440
	Jet trainer	1,900	1,800	460
	Piston trainer	1,100	1,100	270
	Transport	0	220	210
	Other	33	140	41
Total		<u>4,500</u>	<u>4,600</u>	<u>1,400</u>
Poland	Jet fighter	2,000	1,500	160
	Piston trainer	37	37	9
	Light helicopter	0	28	11
Total		<u>2,000</u>	<u>1,600</u>	<u>180</u>
Rumania	Piston trainer	22	22	8
Hungary	Piston trainer	17	20	0
East Germany	Transport	0	86	52
Grand total		<u>6,500</u>	<u>6,300</u>	<u>1,700</u>
			<u>1,900</u>	<u>2,100</u>

a. Figures include production of spare parts and are rounded to two significant digits. Totals are derived from unrounded figures and do not always agree with the sum of the rounded components.

~~SECRET~~

US^a and USSR^b PRODUCTION OF MILITARY AIRCRAFT,^c BY NUMBER 1955 Through the Third Quarter of 1957

Figure 1



^a US totals include preliminary data for September 1957.

^b USSR totals are rounded.

^c Bombers and lighters.

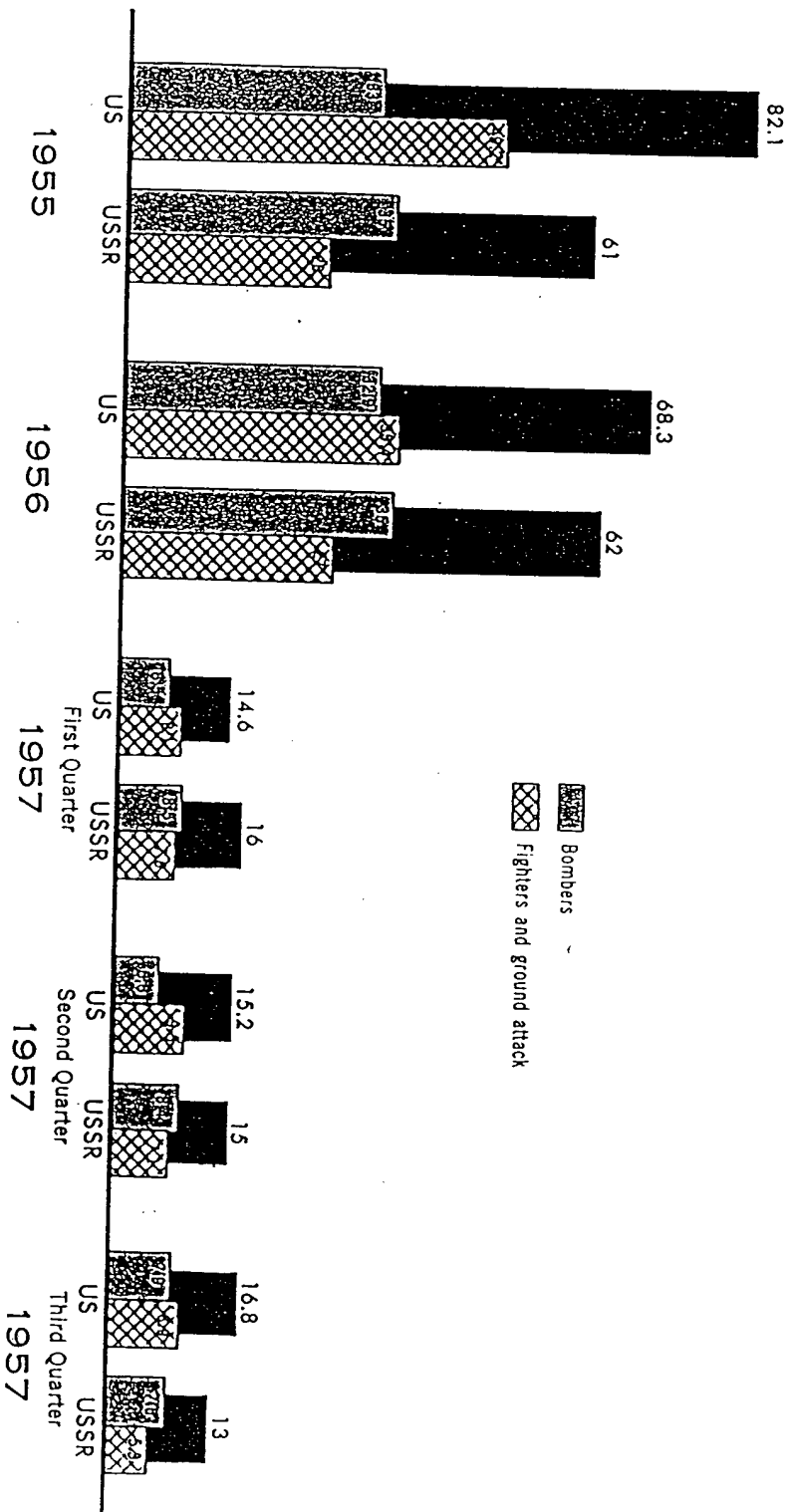
~~SECRET~~

~~SECRET~~

PRODUCTION OF MILITARY AIRCRAFT,^c BY WEIGHT^d 1955 Through the Third Quarter of 1957

Figure 2

(Million pounds of airframe weight)



^aUS totals include preliminary data for September 1957.
^bUSSR totals are rounded.
^cBombers and fighters.
^dUS figures do not include production of spare parts

~~SECRET~~

~~S-E-C-R-E-T~~

~~S-E-C-R-E-T~~