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INTELLIGENCE MEMORANDUM

QUARTERLY ESTIMATE OF THE PRODUCTION OF AIRCRAFT
IN THE SINO-SOVIET BLOC
JANUARY-MARCH 1957

CIA/RR IM-450

30 April 1957

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FOREWORD

This memorandum is the eighth in a series to be issued on a quarterly basis summarizing production of aircraft in the Sino-Soviet Bloc. The estimates presented are issued to satisfy the requests 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 estimates from past estimates are the results of (1) the inclusion of new data on average days worked per week in Soviet aircraft plants and (2) more recent intelligence information. No interagency coordination has been attempted, and no dissemination of this memorandum outside CIA is planned.

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CIA/RR IM-450
(ORR Project 33.1659)

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QUARTERLY ESTIMATE OF THE PRODUCTION OF AIRCRAFT
IN THE SINO-SOVIET BLOC
JANUARY-MARCH 1957*

1. Trends in Production.

In the first quarter of 1957, estimated total production of aircraft, by number, in the Sino-Soviet Bloc increased about 4 percent above production in the previous quarter.** A corresponding increase also was noted in terms of airframe weight. These increases were mainly in production of fighters in the USSR, but Soviet transport aircraft also showed slight increases both in number of aircraft and in airframe weight.*** Approximately 54 percent of the aircraft produced by the Bloc during the first quarter of 1957 are believed to have been combat types.****

2. Production in the USSR.

The Soviet share of estimated total production of aircraft by the Sino-Soviet Bloc during the first quarter of 1957 remained about the same as in the previous quarter.† Of the 2,300 aircraft estimated to have been produced by the Bloc in the first quarter of 1957, about 1,800 aircraft, or approximately 80 percent, were produced in the USSR. Almost 92 percent of the estimated total production of aircraft, by airframe weight, in the Bloc took place in the USSR, thus indicating that the Satellites still are producing relatively lighter

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

** Estimated production of aircraft in the Sino-Soviet Bloc from 1954 through the first quarter of 1957 is given by number in Table 1, p. 5, below, and by airframe weight in Table 2, p. 6, below.

*** Estimated cumulative production of selected Soviet aircraft through the first quarter of 1957 is given in Table 3, p. 7, below.

**** For the purposes of this memorandum, 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 1954 through the first quarter of 1957 is given by number in Table 4, p. 8, below, and by airframe weight in Table 5, p. 9, below.

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aircraft. About 88 percent of the estimated total production of combat aircraft in the Bloc during the first quarter of 1957 is believed to have taken place in the USSR.

It is estimated that total Soviet production of combat aircraft during the first quarter of 1957 exceeded that of the US by about 36 percent in terms of numbers and by about 15 percent in terms of airframe weight.* This estimate is accounted for by a decline of about 28 percent in US production of combat aircraft in the first quarter of 1957 and by an increase of about 6 percent in Soviet production of combat aircraft during the same period.

Recent intelligence information has caused several major changes to be made in previously published estimates of Soviet production of aircraft. Estimated production of the Bear, a heavy turboprop bomber, at Plant No. 18 in Kuybyshev has been lowered again as a result of recent sightings which revealed no Bears in the area of the factory. Analysis [REDACTED] indicates a reduction in the estimated number of Badger (Tu-16) medium jet bombers produced at Plant No. 64 in Voronezh.

25X1B4d

Although there has been no significant change in the estimated cumulative production of the Camel (Tu-104) jet transport, it should be noted that Plant No. 135 in Khar'kov has been established definitely now as the site for production of the Camel since early 1956 rather than Plant No. 22 in Kazan' as previously believed. As a result of Designer O.K. Antonov's visit to England in September 1956, Plant No. 473 in Kiev is believed to be producing 10 prototypes of the Ukraina, a new 4-engine turboprop transport. The first aircraft is believed to have been completed at the plant during the fourth quarter of 1956.

Conflicting information concerning production of a new jet fighter at Plant No. 168 in Rostov precludes a positive decision as to the present activity of this plant. Until clarifying information becomes available, Plant No. 168 is being carried as a possible producer of the Faceplate, a Mikoyan-designed jet fighter.

* Production of combat aircraft in the USSR from 1954 through the first 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 1954 through the first quarter of 1957 are given by number in Table 6, p. 10, below, and by airframe weight in Table 7, p. 11, below.

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[REDACTED] have confirmed the previous estimate of production of the Bison, a heavy jet bomber, at Plant No. 23 in Moscow. [REDACTED]

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[REDACTED] there has been no change in the external configuration of the Bison since the third quarter of 1956. On 17 March 1957, seven Bisons were sighted on the factory airfield. This total represents the largest number of Bisons observed on the field to date. Accumulation of these aircraft on the airfield could be the result of bad weather which prevented takeoffs or the result of a shortage of component parts.

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

In the first quarter of 1957 the European Satellites produced an estimated total of about 370 aircraft, or approximately 16 percent of total production of aircraft in the Sino-Soviet Bloc. During this same period, Communist China is estimated to have produced 75 aircraft, all piston-engine trainers, accounting for about 3 percent of the estimated total production by the Bloc.* Czechoslovakia and Poland remain the largest producers among the Satellites, accounting for about 60 percent and 21 percent, respectively, or a combined total of about 81 percent of Satellite production of aircraft by number.

Recent sightings by the US Air Attaché to Czechoslovakia of Crate (IL-14) transports at the Prague/Letnany factory airfield for the Avia plant indicate that series production of the Crate is well under way. The current rate of production is estimated at four aircraft per month. The majority of new Crates sighted were painted with the blue trim of Aeroflot,** and three Crates carried Soviet registration numbers.

The Vodochody plant in Czechoslovakia is continuing production of the Midget (U-MIG-15) and the Fagot (MIG-15) aircraft to meet the requirements of the Sino-Soviet Bloc and to support foreign aid programs.

* Estimated production of aircraft in the European Satellites and Communist China from 1954 through the first quarter of 1957 is given by number in Table 8, p. 12, below, and by airframe weight in Table 9, p. 13, below.

** The carrier of the Main Administration of the Civil Air Fleet -- Glavnoye Upravleniye Grazhdanskogo Vozdushnogo Flota.

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It is considered likely that, during 1957, evidence will become available indicating that production of the Fresco (MIG-17) and perhaps a transport or trainer type of aircraft has been initiated at the large Mielec plant in Poland. The Hare (Mi-1) light helicopter is in production at Lublin/Swidnik.

Reports of shortages of aircraft materials and construction delays at Dresden suggest that considerable slippage will occur in the planned program for production of the Crate in East Germany. Five Crates were assembled from Soviet parts in 1956. It is anticipated that aircraft will be produced on a prototype production basis until series production can be sustained, probably after mid-1957.

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Table 1

Estimated Production of Aircraft in the Sino-Soviet Bloc, by Number a/
1954 Through the First Quarter of 1957

Type of Aircraft	Units			
	1954	1955	1956	1st Quarter of 1957
Jet bomber				
Heavy	1	21	25	7
Medium	160	360	480	110
Light	1,300	980	670	140
Turboprop bomber				
Heavy	0	8	24	6
Jet fighter				
Ground attack	4,300	3,800	3,300	890
Transport	210	0	0	0
Jet				
Turboprop	0	5	29	8
Piston	1,700	780	1,100	320
Trainer				
Jet	1,200	1,200	800	190
Piston	1,100	1,300	1,500	390
Other b/	640	390	450	120
Total	11,000	8,800	8,400	2,200
				2,300

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, seaplanes, and utility aircraft.

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Table 2

Estimated Production of Aircraft in the Sino-Soviet Bloc, by Weight a/
1954 Through the First Quarter of 1957

Type of Aircraft	Thousand Pounds of Airframe Weight			
	1954	1955	1956	1st Quarter of 1957
Jet bomber				
Heavy	110	2,300	2,800	670
Medium	8,300	18,000	24,000	5,500
Light	23,000	18,000	12,000	2,500
Turboprop bomber				
Heavy	0	720	2,200	540
Jet fighter				
Ground attack	30,000	29,000	29,000	8,600
Transport	1,700	0	0	0
Jet				
Turboprop	0	310	1,800	560
Piston	9,400	3,400	9,000	47
Trainer				
Jet	8,600	9,100	5,000	1,200
Piston	1,500	2,100	2,300	580
Other b/	6,300	4,200	4,100	940
Total	89,000	87,000	23,000	24,000

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, seaplanes, and utility aircraft.

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Table 3

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

		Units
Model	Type of Aircraft	Production to 1 April 1957
Badger	Jet medium bomber	1,100 <u>b/</u>
Beagle	Jet light bomber	6,600
Bear	Turboprop heavy bomber	45 <u>c/</u>
Bison	Jet heavy bomber	54
Camel	Jet transport	43
Crate	Piston transport	630
Farmer	Jet fighter	1,400
Flashlight	Jet all-weather interceptor	1,300
Fresco	Jet fighter	10,000
Horse	Helicopter	56
Hound	Helicopter	530
New fighter	Jet fighter	280

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. This total was given incorrectly in the last memorandum of this series, CIA/RR IM-446, Quarterly Estimate of the Production of Aircraft in the Sino-Soviet Bloc, October-December 1956, 21 January 1957, SECRET/CIA INTERNAL USE ONLY. Instead of 840 units, the figure for total production of the Badger should have been 1,000 units.

c. This figure includes seven prototypes seen in July 1955.

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Table 4

Estimated Production of Aircraft in the USSR, by Number a/
1954 Through the First Quarter of 1957

Type of Aircraft	Units			
	1954	1955	4th Quarter of 1956	1st Quarter of 1957
Jet bomber				
Heavy	1	21	25	7
Medium	160	360	480	110
Light	1,300	980	670	140
Turboprop bomber				
Heavy	0	8	24	6
Jet fighter transport	3,800	3,200	2,700	740
Jet				
Turboprop	0	5	29	8
Piston	0	0	1	1
Trainer	1,700	760	1,100	290
Jet				
Piston	1,100	920	500	120
Other b/	830	830	830	210
Total	640	380	410	99
	2,400	7,500	6,700	1,700
				1,800

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.

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Table 5

Estimated Production of Aircraft in the USSR, by Weight a/
1954 Through the First Quarter of 1957

Type of Aircraft	Thousand Pounds of Airframe Weight			
	1954	1955	1956	1st Quarter of 1957
Jet bomber				
Heavy	110	2,300	2,800	780
Medium	8,300	18,000	24,000	5,500
Light	23,000	18,000	12,000	2,500
Turboprop bomber				
Heavy	0	720	2,200	540
Jet fighter	27,000	26,000	26,000	7,100
Transport				
Trainer				
Jet	0	310	1,800	500
Turboprop	0	0	47	47
Piston	9,400	3,400	8,600	2,600
Other b/				
Jet	8,100	7,100	3,200	830
Piston	920	990	990	250
Other b/	6,300	4,200	4,100	900
Total	53,000	81,000	86,000	23,000

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.

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Table 6

US Military Aircraft Acceptances, by Number a/
1954 Through the First Quarter of 1957

Type of Aircraft	Units		
	1954	1955	1st Quarter of 1957 b/
Bomber			
Heavy	28	34	39
Medium	767	530	64
Light	106	155	14
Ground attack	860	631	101
Fighter	3,518	4,017	567
Transport	634	536	47
Trainer	1,602	1,439	187
Other c/	1,235	701	295
Total	8,750	8,043	1,314

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-March 1957, Number and Airframe Weight, March 1957, CONFIDENTIAL.

b. Includes preliminary data for March 1957.

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

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Table 7
 US Military Aircraft Acceptances, by Weight a/
 1954 Through the First Quarter of 1957

Type of Aircraft	Thousand Pounds of Airframe Weight				
	1954	1955	1956	4th Quarter of 1956	1st Quarter of 1957 b/
Bomber					
Heavy	3,304	3,853	8,442	3,707	4,386
Medium	37,296	26,377	22,525	4,387	2,484
Light	1,834	2,724	1,975	622	268
Ground attack	7,793	6,034	4,803	1,120	914
Fighter	35,390	43,161	30,588	9,116	6,724
Transport	30,614	20,697	13,104	2,061	1,702
Trainer	9,633	7,453	3,283	734	827
Other c/	4,831	4,397	5,292	1,548	1,109
Total	<u>130,695</u>	<u>114,696</u>	<u>90,012</u>	<u>23,295</u>	<u>18,414</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-March 1957, Number and Airframe Weight, March 1957, CONFIDENTIAL.

b. Includes preliminary data for March 1957.

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

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Table 8

Estimated Production of Aircraft in the European Satellites and in Communist China, by Number a/
1954 Through the First Quarter of 1957

Country	Type of Aircraft	Units				
		1954	1955	1956	4th Quarter of 1956	1st Quarter of 1957
Czechoslovakia	Jet fighter	390	240	230	70	70
	Ground attack	210	0	0	0	0
	Jet trainer	90	310	310	70	70
	Piston trainer	190	360	360	90	90
	Transport	0	18	78	27	30
	Other	0	4	30	12	12
Total		<u>880</u>	<u>940</u>	<u>1,000</u>	<u>270</u>	<u>270</u>
Poland	Jet fighter	150	310	310	79	79
	Piston trainer	60	36	36	9	9
	Light helicopter	0	0	10	6	6
Total		<u>210</u>	<u>350</u>	<u>350</u>	<u>94</u>	<u>94</u>
Rumania	Piston trainer	24	24	24	6	6
	Piston trainer	24	24	20	0	0
	Transport	0	0	5	2	3
	Piston trainer	0	23	260	74	75
Grand total		<u>1,100</u>	<u>1,400</u>	<u>1,700</u>	<u>440</u>	<u>450</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.

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Table 9

Estimated Production of Aircraft in the European Satellites and in Communist China, by Weight ^{a/}
1954 Through the First Quarter of 1957

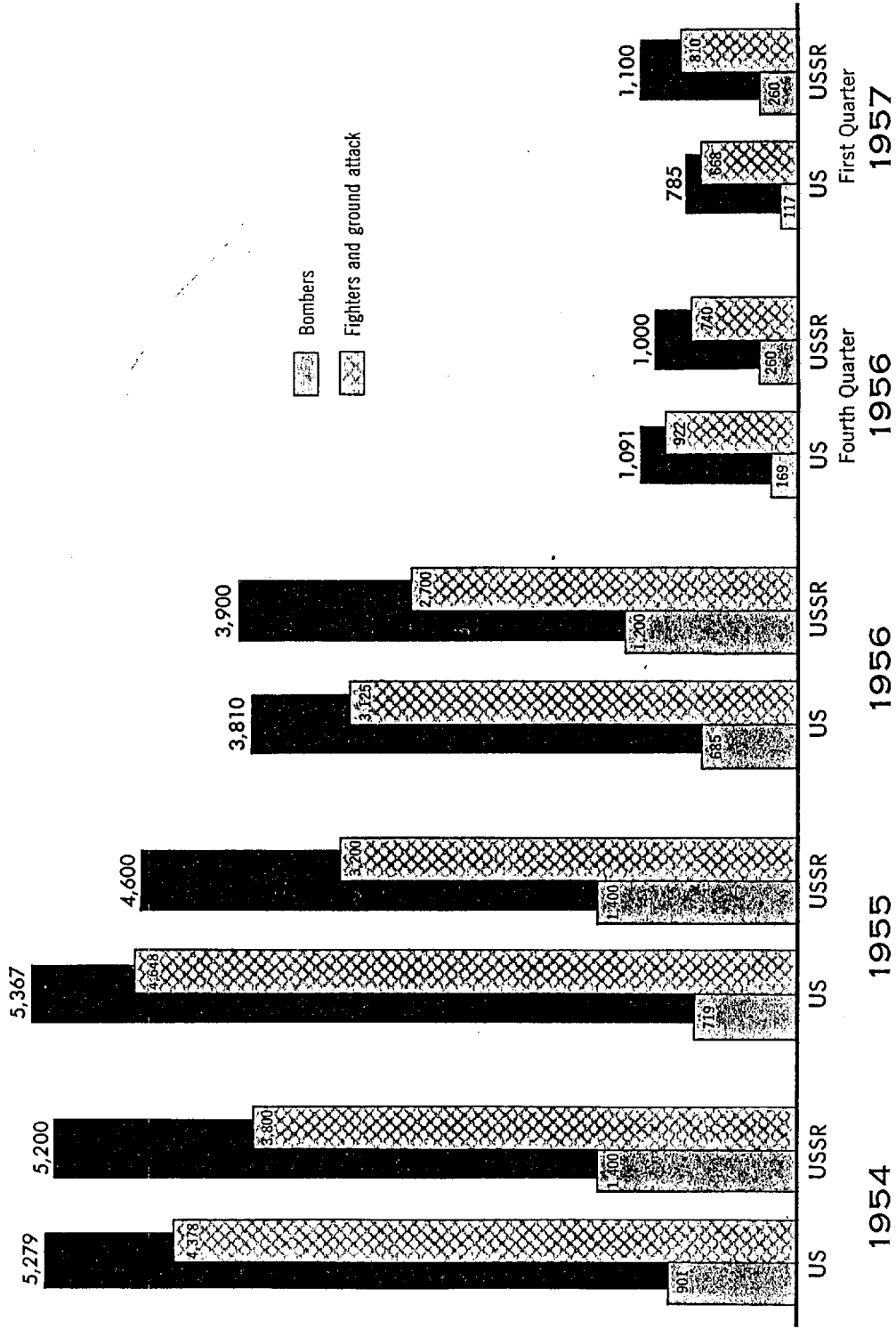
Country	Type of Aircraft	Thousand Pounds of Airframe Weight			
		1954	1955	1956	1st Quarter of 1957
Czechoslovakia	Jet fighter	2,300	1,400	1,300	410
	Ground attack	1,700	0	0	0
	Jet trainer	550	1,900	1,800	410
	Piston trainer	450	960	970	240
	Transport	0	28	350	200
	Other	0	5	42	16
Total		5,100	4,300	4,500	1,300
Poland	Jet fighter	860	1,800	1,900	470
	Piston trainer	61	37	37	9
	Light helicopter	0	0	28	17
Total		920	1,900	1,900	490
Rumania	Piston trainer	22	22	22	6
	Piston trainer	17	17	20	0
	Transport	0	0	96	38
	Piston trainer	0	23	260	75
Communist China					
Grand total		6,000	6,300	6,800	1,900
					2,000

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.

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Figure 1

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 US^a and USSR^b
PRODUCTION OF MILITARY AIRCRAFT, BY NUMBER
 1954 Through the First Quarter of 1957



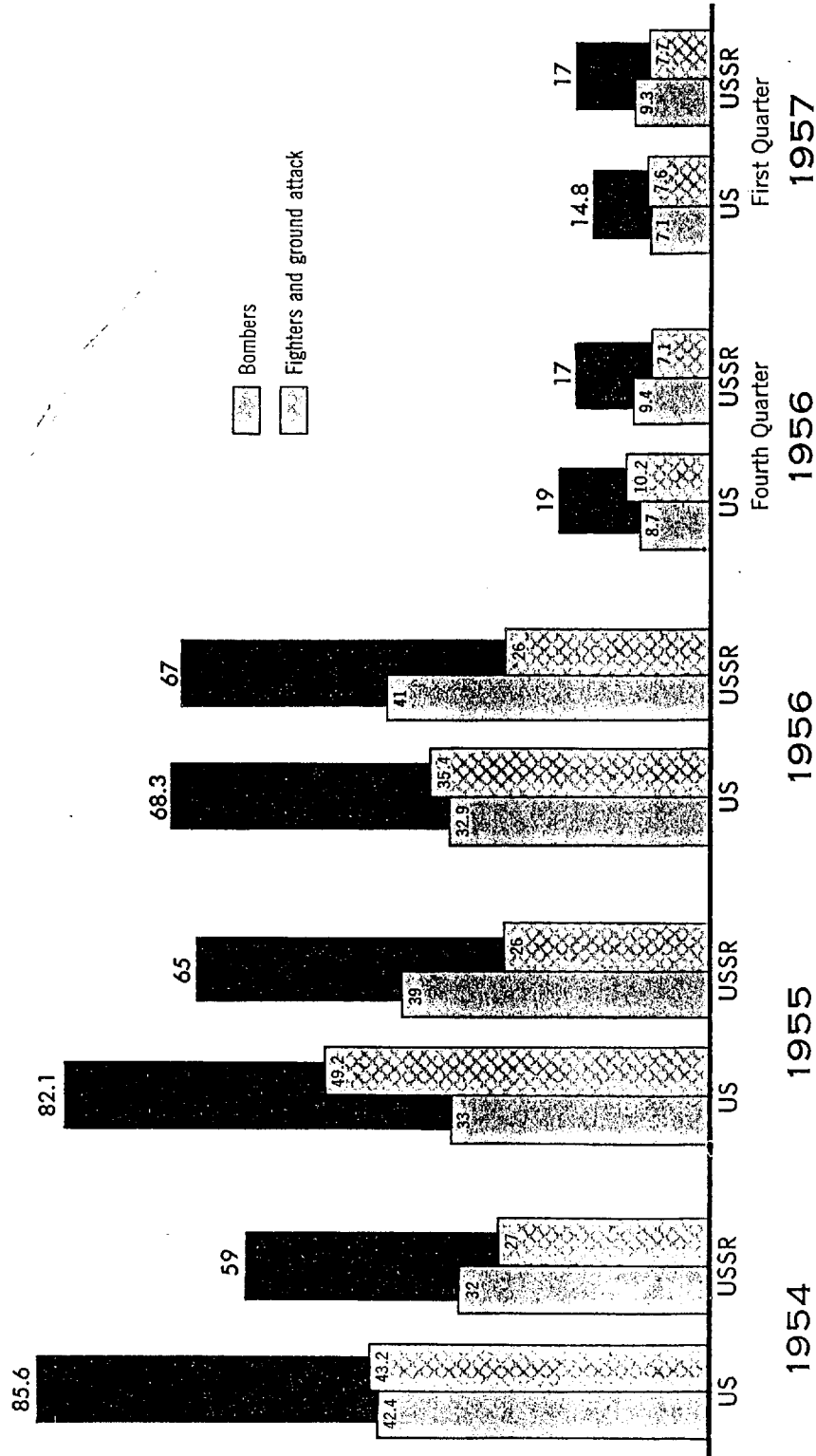
^a US totals include preliminary data for March 1957.
^b USSR totals are rounded.
^c Bombers and fighters.

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Figure 2

US^a and USSR^b
PRODUCTION OF MILITARY AIRCRAFT, BY WEIGHT^c
 1954 Through the First Quarter of 1957

(Million pounds of airframe weight)



^a US totals include preliminary data for March 1957.

^b USSR totals are rounded.

^c Bombers and fighters.

^d US figures do not include spare parts production.

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