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ESTIMATED NUMBER, VALUE, AND DISTRIBUTION
OF EXPORTS OF SOVIET AIRCRAFT
1955 THROUGH MID-1962

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FOREWORD

The purpose of this report is to estimate the number of Soviet-built aircraft, military and nonmilitary, exported from the USSR and the dollar value of these exports represented by the estimated costs of the USSR to produce them. All-source information is used to determine the exports of aircraft to countries both inside and outside the Sino-Soviet Bloc since the beginning of 1955. These estimates of exports of aircraft are tallied and the cost of producing the units is determined in order to estimate the value of the exports. The estimates of the costs of production of aircraft in the USSR are derived by analogy with US practice, taking into consideration the declining costs of series production as the number of units produced of a given model of aircraft increases.

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ESTIMATED NUMBER, VALUE, AND DISTRIBUTION
OF EXPORTS OF SOVIET AIRCRAFT
1955 THROUGH MID-1962*

Summary and Conclusions

Analysis of all available information indicates that between 1955 and the first half of 1962 approximately 4,900 Soviet-built aircraft** were exported from the USSR. Eleven countries within the Sino-Soviet Bloc are estimated to have received 3,900 of these aircraft,*** and 20 countries outside the Bloc are estimated to have received 1,100 aircraft.† These totals include both military and nonmilitary aircraft.

The estimated value of Soviet-built aircraft and initial spares exported from the USSR between 1955 and mid-1962 is \$1.9 billion.†† The value of the aircraft exported to countries within the Sino-Soviet Bloc is estimated to be \$1.4 billion,††† and the value of the aircraft exported to countries outside the Bloc is estimated to be \$500 million.‡

The value of the exports is based on the estimated cost of producing these aircraft and includes the cost of the basic airframes, engines, electronics, armament, accessories, and propellers. Initial spares are those spare parts manufactured in conjunction with the aircraft and provide the basic stock on hand with the aircraft in depots and in the pipeline. It is assumed that all exporting countries received these initial spares at the time of procurement of the aircraft, for without the initial spares the new aircraft would be of limited value to the procuring country.

For the sake of consistency and to allow for uniform comparisons, estimated values are used throughout this report. In the few instances for which "contract prices" are available for the exported aircraft, these prices are presented in the footnotes of the tables. These prices are considered in the development of the methodology for estimating the costs of production mentioned above and are discussed more thoroughly in the methodology.††

* The estimates and conclusions in this report represent the best judgment of this Office as of 1 July 1962.

** For descriptions and illustrations of all Soviet aircraft mentioned in this report see source 1/.

*** The estimated number of Soviet-built aircraft exported to countries within the Bloc is shown in Appendix A, Table 1, p. 5, below.

† The estimated number of Soviet-built aircraft exported to countries outside the Bloc is shown in Appendix A, Table 2, p. 15, below.

†† The dollar values in this report are expressed in terms of 1961 US dollars.

††† The estimated value of Soviet-built aircraft exported to countries within the Bloc is shown in Appendix A, Table 3, p. 24, below.

‡ The estimated value of Soviet-built aircraft exported to countries outside the Bloc is shown in Appendix A, Table 4, p. 29, below.

†† For methodology, see Appendix B, p. 37, below.

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APPENDIX A

STATISTICAL TABLES

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Table 1

Estimated Number of Aircraft Exported from the USSR to Countries Within the Sino-Soviet Bloc
1955 Through Mid-1962 a/*

Importing Country	Type of Aircraft	Model	Units													
			1955	1956	1957	1958	1959	1960	1961	First Half 1962	Total					
Albania b/	Jet fighter															
	Single-Jet	Fagot (MIG-15)	0	10	45	0	0	0	0	0	0	0	0	0	55	
		Fresco (MIG-17)	0	0	0	0	10	33	0	0	0	0	0	0	45	
	Transport															
	Piston	Crate (Il-14)	0	0	0	1	0	2	0	0	0	0	0	0	3	
	Trainer															
	Jet	Midget (U-MIG-15)	0	5	0	0	0	4	0	0	0	0	0	0	9	
		Subtotal	0	15	45	1	10	8	33	0	0	0	0	0	112	
	Bulgaria	Jet bomber														
		Light	Beagle (Il-28)	5	0	0	5	0	0	0	0	0	0	10	20	
Jet fighter		Fresco (MIG-17)	5	5	0	70	0	32	0	140	0	0	0	252		
		Farmer (MIG-19)	0	0	0	30	10	20	38	0	0	0	0	98		
Transport																
Turboprop	Coot (Il-18)	0	0	0	0	0	0	0	0	0	0	0	0	0		
	Piston	Crate (Il-14)	0	4	0	3 f/	0	0	0	0	0	0	0	7 g/		
		Colt (An-2)	0	0	0	0	0	0	10 h/	0	0	0	0	10		

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* Footnotes for Table 1 follow on p. 11.

Table 1

Estimated Number of Aircraft Exported from the USSR to Countries Within the Sino-Soviet Bloc
1955 Through Mid-1962 a/
(Continued)

Importing Country	Type of Aircraft	Model	Units										
			1955	1956	1957	1958	1959	1960	1961	First Half 1962	Total		
Bulgaria (Continued)	Helicopter	Hound (Mi-4)	0	0	0	0	5	0	0	0	0	14	19
	Subtotal		10	2	0	108	15	22	48	165	407		
Communist China	Jet bomber												
	Medium	Badger (Tu-16) Beagle (IL-28)	0 160	0 81	0 54	0 15	2 0	0 0	0 0	0 0	0 0	0 0	2 310
	Piston bomber												
	Medium	Bull (Tu-4)	0	10	0	0	0	0	0	0	0	0	10
	Jet fighter												
	Single-Jet	Fagot (MIG-15) Fresco (MIG-17)	265 40	145 100	160 165	20 140	0 45	0 0	0 0	0 0	0 0	0 0	590 490
	Twin-Jet	Farmer (MIG-19)	0	0	0	10	45	0	0	0	0	0	55
	Transport												
	Turboprop	Coot (IL-18)	0	0	0	0	4	1	0	0	0	0	5
	Piston	Cab (Mi-2) Coach (IL-12) Crate (IL-14) Colt (An-2)	18 3 6 4	0 1 15 0	0 0 7 20	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	18 4 28 24
	Trainer												
	Jet	Midget (U-MIG-15)	50	0	75	15	0	0	0	0	0	0	140

Table 1
Estimated Number of Aircraft Exported from the USSR to Countries Within the Sino-Soviet Bloc
1955 Through Mid-1962 a/
(Continued)

Importing Country	Type of Aircraft	Model	Units											
			1955	1956	1957	1958	1959	1960	1961	First Half 1962	Total			
Communist China (Continued)	Reconnaissance	Madgev (Be-6)	5	0	5	0	0	0	0	0	0	0	0	10
	Subtotal		551	352	486	200	296	1	0	0	0	0	0	1,686
Czechoslovakia	Jet bomber	Beagle (Il-28)	20	20	10	15	0	0	0	0	0	0	0	65
	Jet fighter													
	Single-jet 1/ Twin-jet	Fresco (MIG-17)	15	20	15	20	55	16	55	0	0	0	0	196
		Farmer (MIG-19) Firebar	0	0	0	15	15	12	56	0	0	0	0	98
	Transport													
	Jet	Camel (Tu-104)	0	0	3	0	0	1	0	0	1	0	0	5
	Turboprop Piston	Coot (Il-18) Grate (Il-14) Colt (An-2)	0 2 ✓ 0	0 0 0	0 0 5	0 0 4	0 0 3	4 0 3 ✓	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 15
Helicopter	Hound (Mi-4)	0	10	0	0	0	0	0	0	0	0	0	0	12
East Germany	Subtotal		37	50	33	54	73	36	127	3	3	3	3	413
	Jet bomber	Beagle (Il-28)	0	0	0	0	0	0	0	0	0	0	0	10
	Jet fighter													
	Single-jet 2/ Twin-jet	Fresco (MIG-17) Farmer (MIG-19)	0 0	0 0	55 0	45 0	40 10	22 4	0 0	0 0	0 0	0 0	0 0	162 24

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Table 1

Estimated Number of Aircraft Exported from the USSR to Countries Within the Sino-Soviet Bloc
1955 Through Mid-1962 a/
(Continued)

Importing Country	Type of Aircraft	Model	Units							Total			
			1955	1956	1957	1958	1959	1960	1961		First Half 1962		
East Germany (Continued)	Transport												
	Turboprop	Coot (Il-18)	0	0	0	0	0	0	4 <u>ee/</u>	0	0	2 <u>bb/</u>	6
	Piston	Crate (Il-14) Colt (Ant2)	2 <u>cc/</u> 0	2 <u>dd/</u> 23 <u>ff/</u>	0	0	0	0	0	0	0	0	4 <u>ee/</u> 23
	Helicopter <u>gg/</u>	Hound (MI-4)	0	0	0	11 <u>hh/</u>	0	0	0	0	0	0	11
	Subtotal		2	25	55	56	50	30	10	12			240
Hungary	Jet bomber												
	Light	Beagle (Il-28)	3	0	0	2	0	0	0	0	0	0	5
	Jet fighter												
	Single-jet <u>ii/</u>	Fresco (MIG-17) Fishbed (MIG-21) Farmer (MIG-19)	5 0 0	5 0 0	45 0 0	0 0 0	0 0 0	0 0 6	0 0 6	9 12 6	2 0 0	0 0 0	66 12 <u>jj/</u> 12
	Twin-jet		0	0	0	0	0	0	0	0	0	0	
Transport													
	Turboprop	Coot (Il-18)	0	0	0	0	0	2	1 <u>kk/</u>	0	0	0	3
	Piston	Crate (Il-14) Colt (An-2)	0 0	1 <u>ll/</u> 0	1 <u>mm/</u> 0	7 0	0 2	1 <u>nn/</u> 2 <u>oo/</u>	0 0	0 0	0 0	0 0	10 4
	Subtotal		8	6	46	2	2	11	28	2			112

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Table 1

Estimated Number of Aircraft Exported from the USSR to Countries Within the Sino-Soviet Bloc
1955 Through Mid-1962 a/
(Continued)

Importing Country	Type of Aircraft	Model	Units							Total		
			1955	1956	1957	1958	1959	1960	1961		First Half 1962	
Mongolia	Transport											
	Piston pp/	Colt (An-2)	0	0	0	0	8	11	7	0	0	26
	Helicopter	Hound (Mi-4)	0	0	0	0	0	0	1 <u>gg/</u>	0	0	1
	Subtotal		0	0	0	0	8	11	8	0	0	27
North Korea	Jet bomber											
	Light	Beagle (Il-28)	0	25	0	25	0	0	0	0	0	50 <u>ii/</u>
	Jet fighter											
	Single-jet	Fagot (MIG-15) Fresco (MIG-17) Farmer (MIG-19)	40 0 0	35 50 0	135 0 0	0 0 0	0 70 0	0 90 0	0 0 0	0 0 10	0 0 0	210 <u>ss/</u> 210 10
Transport												
	Piston	Cab (Li-2) Crate (Il-14) Creek (Yak-12) Colt (An-2)	0 0 0 1 <u>uu/</u>	10 5 0 0	5 0 0 0	0 0 3 <u>tt/</u> 0	0 8 0 1 <u>vv/</u>	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	15 13 3 2
	Trainer											
	Jet Piston	Midget (U-MIG-15) Max (Yak-18)	10 0	5 0	10 0	0 0	0 2 <u>vv/</u>	0 0	0 0	0 0	0 0	25 2

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Table 1
Estimated Number of Aircraft Exported from the USSR to Countries Within the Sino-Soviet Bloc
1955 Through Mid-1962 a/
(Continued)

Importing Country	Type of Aircraft	Model	Units											
			1955	1956	1957	1958	1959	1960	1961	First Half 1962	Total			
North Korea (Continued)	Helicopter	Hound (Mi-4)	0	0	0	10	10	0	0	0	0	0	0	20
	Subtotal		51	130	150	38	91	90	0	10	0	0	260	
	Transport													
North Vietnam	Piston xx/ Crate (il-14) Colt (An-2)		0	0	1 YV/ 0	0	2 ZZ/ 0	0	0	0	0	2 AAA/ 0	0	1 7 ccc/
	Trainer													
	Piston	Max (Yak-18)	0	10	0	0	0	0	0	0	0	0	0	10
	Helicopter	Hare (Mi-1) Hound (Mi-4)	0	0	0	0	0	3	0	2	0	2 ddd/ 0	0	2 5
Poland	Subtotal		0	10	1	2	2	2	4	2	4	3	25	
	Jet bomber													
	Light	Beagle (Il-28)	5	0	5	0	5	0	6	0	6	0	21	
Jet fighter	Single-jet eee/ Twin-jet	Presco (MIG-17) Farmer (MIG-19)	10	30	0	0	0	0	0	0	0	0	40 fff/ 51	
	Transport		0	0	0	0	20	4	27	0	0	0	51	
	Turboprop	Coot (Il-18)	0	0	0	0	0	0	5	0	5	0	5	

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Table 1

Estimated Number of Aircraft Exported from the USSR to Countries Within the Sino-Soviet Bloc
1955 Through Mid-1962 a/
(Continued)

Importing Country	Type of Aircraft	Model	Units							Total			
			1955	1956	1957	1958	1959	1960	1961		First Half 1962		
Poland	Transport (Continued)												
	Piston	Cab (LI-2) Crate (IL-14)	0 1 <u>111</u> /	2 <u>hhh</u> / 1 <u>kkk</u> /	0 0	0 18	0 3	0 0	0 0	0 0	0 0	0 0	2 <u>111</u> / 23 <u>111</u> /
	Subtotal		<u>16</u>	<u>33</u>	<u>2</u>	<u>18</u>	<u>28</u>	<u>4</u>	<u>38</u>	<u>0</u>	<u>0</u>	<u>142</u>	
	Jet bomber												
Rumania	Light	Beagle (IL-28)	15	0	0	0	0	0	0	0	0	15	
	Jet fighter												
	Single-jet <u>mmmm</u> / Twin-jet	Fresco (MIG-17) Farmer (MIG-19)	0 0	0 0	0 0	30 5	5 0	33 1	18 24	0 0	0 0	86 30	
	Transport												
	Turboprop Piston	Coot (IL-18) Crate (IL-14)	0 0	0 0	0 3 <u>ppp</u> /	0 0	0 0	0 0	0 0	2 <u>nnn</u> / 0	1 <u>ooo</u> / 0	3 3 <u>qqq</u> /	
	Subtotal		<u>15</u>	<u>0</u>	<u>3</u>	<u>35</u>	<u>2</u>	<u>34</u>	<u>44</u>	<u>1</u>	<u>137</u>		
	Total exports		<u>690</u>	<u>630</u>	<u>824</u>	<u>524</u>	<u>378</u>	<u>279</u>	<u>340</u>	<u>196</u>	<u>3,861</u>		

a. Most of the information used in this table was derived from source 2/. Individual source references are given for other pertinent information.

b. All the aircraft in Albania are estimated to have been produced in the USSR, for all the Albanian pilots were trained in the USSR. 3/

c. Fagot and Midget aircraft in Bulgaria are estimated to have been produced by Czechoslovakia. 4/

d. Although Bulgaria is slated to get two Coot aircraft in 1962, only one is believed to have been delivered.

Table I
Estimated Number of Aircraft Exported from the USSR to Countries Within the Sino-Soviet Bloc
1955 Through Mid-1962
(Continued)

- e. [redacted] reported that one Coot was delivered on 22 April 1962, [redacted]
- f. 6/ [redacted]
- g. This total does not include an unknown amount of Crate aircraft built by East Germany. [redacted] Bulgaria had Crate aircraft with a capacity for 26 passengers. This statement indicates that these aircraft were built in East Germany, for the Soviet-built Il-14 and Il-14M aircraft had passenger capacities of 18 and 24 persons, respectively, whereas the Czechoslovak-built Avil-14 had a capacity of 32 passengers and the East German Il-14P aircraft had a capacity of 26 passengers. 7/
- h. 8/ [redacted]
- i. 9/ [redacted]
- j. The total of Beagle aircraft in Communist China does not include 150 Beagle aircraft delivered before 1955.
- k. The total of Fagot aircraft in Communist China does not include 750 Fagot aircraft delivered before 1955.
- l. The total of Fresco aircraft in Communist China does not include the number of Fresco aircraft built by Communist China.
- m. The total of Farmer aircraft in Communist China does not include the number of Farmer aircraft built by Communist China.
- n. 10/ [redacted]
- o. The total of Cab aircraft in Communist China does not include 52 Cab aircraft delivered before 1955. 11/
- p. The four Coach aircraft in Communist China are in the Chinese Civil Fleet. Thirty-four military Coach aircraft were delivered before 1955. 12/
- q. The total of Crate aircraft in Communist China does not include aircraft produced by Czechoslovakia and East Germany delivered after 1957. 13/
- r. 14/ [redacted]
- s. The total of Colt aircraft in Communist China does not include Colt aircraft built in Communist China and assigned after early 1958. 15/
- t. Fagot aircraft in Czechoslovakia are estimated to have been produced by Czechoslovakia.
- u. 16/ [redacted]
- v. 17/ [redacted]
- w. 18/ [redacted]
- x. Crate aircraft in Czechoslovakia after 1955 are estimated to have been produced by Czechoslovakia.
- y. 19/ [redacted]
- z. Evidence indicates that Fagot and Midget aircraft in East Germany were supplied by Czechoslovakia and that the Fresco aircraft were supplied by the USSR. 20/
- aa. 21/ [redacted]
- bb. 22/ [redacted]
- cc. 23/ [redacted]
- dd. 24/ [redacted]
- ee. The total of Crate aircraft in East Germany does not include Crate aircraft produced by East Germany.

Table 1

Estimated Number of Aircraft Exported from the USSR to Countries Within the Sino-Soviet Bloc
1955 Through Mid-1962
(Continued)

- ff. 25/ Nineteen Hare helicopters produced in Poland were delivered to East Germany in 1958. 26/
- gg. 27/
- hh. 28/
- ii. Hungary received approximately 200 Soviet-built Fagot aircraft before 1955. 28/
- jj. 29/
- kk. 30/
- ll. 31/
- mm. 32/
- nn. 33/
- oo. 34/
- pp. 35/ Crate aircraft in Mongolia appear to have been supplied by Czechoslovakia. 35/
- qq. 36/
- rr. The total of Beagle aircraft in North Korea does not include Beagle aircraft received before 1955.
- ss. The total of Fagot aircraft in North Korea does not include Fagot aircraft received before 1955.
- tt. 37/
- uu. 38/
- vv. 39/
- ww. 40/
- xx. A total of five Cab aircraft in North Vietnam appears to have been supplied by Communist China. 41/
- yy. This Crate aircraft was a gift made in 1957 from the USSR to North Vietnam. Subsequent Crate aircraft were purchased from East Germany and Czechoslovakia. 42/
- zz. 43/
- aaa. 44/
- bbb. This total is a minimum figure. Three shipments of Colt aircraft were delivered from the USSR to North Vietnam for assembly there early in 1962. 45/
- ccc. The total of Colt aircraft in North Vietnam does not include at least one additional Colt delivered from Communist China in 1958. 46/
- ddd. Although not identified as Hare aircraft, these helicopters are estimated to be Hare aircraft the overhaul of two Hare engines -- the first mention of Hare aircraft in North Vietnam. 47/
- eee. Fagot aircraft in Poland are estimated to have been produced in Poland.
- fff. Fresco aircraft in Poland after 1956 are estimated to have been produced in Poland, for production of Fresco aircraft in Poland was well underway in 1957. 48/
- ggg. 49/
- hhh. 50/
- iii. The total of Cab aircraft in Poland does not include Cab aircraft obtained before 1955.

Table 1
Estimated Number of Aircraft Exported from the USSR to Countries Within the Sino-Soviet Bloc
1955 Through Mid-1962
(Continued)

JJ. 51/
 KK. 52/
 LL. The total of Cate aircraft in Poland does not include 12 Cate aircraft produced in East Germany. 53/
 MM. Fagot aircraft in Rumania were supplied before 1955. Some evidence exists to indicate that the Midget trainer aircraft in Rumania were supplied by Czechoslovakia. 54/
 NN. 55/
 OO. 56/
 PP. 57/
 QQ. The total of Cate aircraft in Rumania does not include Cate aircraft believed to have been supplied by Czechoslovakia and East Germany. 58/

TABLE 6

Estimated Number of Aircraft Exported from the USSR to Countries Outside the Sino-Soviet Bloc
1955 Through Mid-1962
(Continued)

Importing Country	Type of Aircraft	Model	1955	1956	1957	1958	1959	1960	1961	First Half 1962	Total	
Cuba (Continued)	Transport											
	Piston	Crate (Il-14) Colt (An-2)									14 10	
	Helicopter	Hare (Mi-1) Hound (Mi-4)									10 12	
	Subtotal										22	
	Egypt	Jet bomber										
		Medium Light	Badger (Tu-16) Beagle (Il-28)									14 50
		Jet fighter										
		Single-Jet PD/ Twin-Jet	Fresco (MiG-17) Fishbed (MiG-21) Farmer (MiG-19)									98 20 38
		Transport										
	Ethiopia	Piston	Crate (Il-14)									40 ^{xx/}
Trainer												
Jet Piston		Mascot (U-11-28) Moose (Yak-11) Max (Yak-18)									4 25 30	
Helicopter		Hare (Mi-1) Hound (Mi-4)									4 6	
Subtotal											129	
Transport												
Piston		Crate (Il-14)										
Jet bomber												
Light		Beagle (Il-28)										1 2

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Table 2
Estimated Number of Aircraft Exported from the USSR to Countries Outside the Sino-Soviet Bloc
1955 Through Mid-1962
(Continued)

Importing Country	Type of Aircraft	Model	1955	1956	1957	1958	1959	1960	1961	First Half 1962	Total	Units
Finland (Continued)	Helicopter	Hare (MI-1)										4
		Hound (MI-4)										3
	Subtotal											2
Ghana	Transport											
	Turboprop	Coot (IL-18) Cub (An-12)										8 III/
	Subtotal											1
Guinea	Transport											2
	Turboprop Piston PBP/	Coot (IL-18) Colt (An-2)										3
	Helicopter	Hound (MI-4)										3
India	Subtotal											1
	Transport											1
	Turboprop Piston	Cub (An-12) Crate (IL-14)										8
Indonesia	Helicopter	Hound (MI-4)										25
	Subtotal											13
	Jet bomber											16
	Medium Light	Badger (Tu-16) Beagle (IL-28) <u>asan/</u>										26
	Jet fighter											2
	Single-jet Twin-jet	Fishbed (MIG-21) Farmer (MIG-19)										9 dddd/ 13 <u>SSSES/</u>
	Transport											
	Piston	Crate (IL-14)										21

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Estimated Number of Aircraft Exported from the USSR to Countries Outside the Sino-Soviet Bloc
1955 Through Mid-1962
(Continued)

Importing Country	Type of Aircraft	Model	1955	1956	1957	1958	1959	1960	1961	First Half 1962	Total	Units
Indonesia (Continued)	Helicopter	Hound (Mi-4)										22
	Subtotal											22
	Transport											93
Iran	Piston	Crate (Il-14)										1
	Jet bomber											16
Iraq	Light	Beagle (Il-28)										35
	Jet fighter											16
	Single-jet	Fresco (MiG-17)										3
	Twin-jet	Farmer (MiG-19)										2
	Transport											5
	Turboprop	Cub (An-12)										16
Mali	Piston	Crate (Il-14)										3
	Helicopter	Colt (An-2)										2
	Subtotal											93
	Transport											3
	Turboprop	Coot (Il-18)										4
Morocco	Piston	Crate (Il-14)										4
	Helicopter	Colt (An-2)										5
	Subtotal											13
	Jet fighter											1
	Single-jet	Fresco (MiG-17)										13
	Trainer											12
	Jet	Midget (U-MIG-15)										2

Table 2
Estimated Number of Aircraft Exported from the USSR to Countries Outside the Sino-Soviet Bloc
1955 Through Mid-1962
(Continued)

Importing Country	Type of Aircraft	Model	1955	1956	1957	1958	1959	1960	1961	First Half 1962	Total
Morocco (Continued)	Helicopter	Hound (Mi-4)	cccc								5
	Subtotal										12
Nepal	Transport										1
	Piston	Crate (IL-14)									1
	Helicopter	Hound (Mi-4)									1
	Subtotal										2
Syria	Jet bomber										4
	Light	Beagle (IL-28)									4
	Jet fighter										50
	Single-jet	hhhhh/ Fresco (MiG-17)									4
	Transport										4
	Piston	Crate (IL-14)									6
	Trainer										1
	Piston	Max (Yak-18)									6
	Helicopter	Hare (Mi-1) Hound (Mi-4)									1
	Subtotal										11
Yemen	Piston bomber										24
	Attack	Beast (IL-10)									4
	Transport										4
	Piston	Crate (IL-14)									4

Estimated Number of Aircraft Exported from the USSR to Countries Outside the Sino-Soviet Bloc
1955 Through Mid-1962
(Continued)

Importing Country	Type of Aircraft	Model	1955	1956	1957	1958	1959	1960	1961	First Half 1962	Total
Yemen (Continued)	Trainer										
	Piston	Moose (Yak-11)									3
	Helicopter	Hare (Mi-1)									4
		Hound (Mi-4)									3
	Subtotal										38
Yugoslavia	Transport										
	Piston	Crate (Il-14)									6
	Helicopter	Hound (Mi-4)									4
	Subtotal										10
	Total exports										1,070

a. 59/
b. 60/
c. 61/
d. Fagot aircraft have been reported in Afghanistan even though the latest report of [redacted] likewise reveals no Fagot aircraft. 68/
e. 63/
f. 64/
g. 65/
h. 66/
i. [redacted]
j. These seven aircraft have been reported by one source as Coach aircraft -- which is believed to be in error [redacted] 68/
k. [redacted]
l. 70/
m. 71/
n. 72/
o. 73/
p. 74/
q. 75/
r. 76/
s. 77/
t. 78/
u. 79/
v. 81/

Table 2
Estimated Number of Aircraft Exported from the USSR to Countries Outside the Sino-Soviet Bloc
1955 Through Mid-1962
(Continued)

x. <u>82/</u>	
y. <u>83/</u>	
z. <u>84/</u>	
aa. <u>85/</u>	
bb.	
cc.	
dd.	It is possible that some Fresco as well as Fagot aircraft are in Cuba, but the weight of evidence indicates that most, if not all, of the single-jet fighters are Fagot aircraft. <u>88/</u>
ee. <u>89/</u>	
ff. <u>90/</u>	
gg. <u>91/</u>	
hh.	
ii.	eight Colt aircraft are active in Cuba. <u>92/</u>
jj. <u>93/</u>	
kk. <u>94/</u>	
ll. <u>95/</u>	
mm. <u>96/</u>	
nn. <u>97/</u>	Through July 1962.
oo. <u>98/</u>	
pp.	Fagot and Midget aircraft were received with the Beagle aircraft in the same consignment from Czechoslovakia. It is assumed that the MIG aircraft were produced in Czechoslovakia because they were assembled by Czechoslovak technicians, whereas the Beagle aircraft were assembled by Soviet technicians. <u>100/</u>
qq. <u>101/</u>	The Beagle aircraft are known to be produced only in the USSR.
rr. <u>102/</u>	
ss. <u>103/</u>	
tt. <u>104/</u>	
uu. <u>105/</u>	
vv. <u>106/</u>	
ww. <u>107/</u>	
xx.	Grate aircraft delivered after 1957 are believed to have been built in Czechoslovakia. <u>108/</u>
yy. <u>109/</u>	
zz. <u>110/</u>	
aaa. <u>111/</u>	
bbb. <u>112/</u>	
ccc.	According to , five or more Hare helicopters had been delivered, but the been delivered as of December 1958. <u>114/</u>
ddd.	
eee.	
fff. <u>117/</u>	
ggg. <u>118/</u>	
hhh. <u>119/</u>	
iii. <u>120/</u>	
jjj. <u>121/</u>	
kkk. <u>122/</u>	
lll.	

87/ The aircraft may have returned to the USSR in the fall of 1960.

[REDACTED] that at least

estimates that a total of four Hare helicopters had

6/

23/

Table 2

Estimated Number of Aircraft Exported from the USSR to Countries Outside the Sino-Soviet Bloc
1955 Through Mid-1962
(Continued)

nnnn.	127/
nnn.	126/
ooo.	125/
ppp.	124/
qqq.	123/
rrr.	122/
sss.	121/
ttt.	120/
uuu.	119/
vvv.	118/
www.	117/
xxx.	116/
yyy.	115/
zzz.	114/
aaaa.	113/
bbbb.	112/
cccc.	111/
dddd.	110/
eeeee.	109/
ffff.	108/
ggggg.	107/
hhhhh.	106/
iiii.	105/
jjjj.	104/
kkkk.	103/
llll.	102/
mmmm.	101/
nnnn.	100/
oooo.	99/
pppp.	98/
qqqq.	97/
rrrr.	96/
ssss.	95/
tttt.	94/
uuuu.	93/
vvvv.	92/
wwww.	91/
xxxx.	90/
yyyy.	89/
zzzz.	88/
aaaaa.	87/
bbbbb.	86/
ccccc.	85/

1136/

n. 141/

144/

148/

including associated equipment. 159/

Table 2
Estimated Number of Aircraft Exported from the USSR to Countries Outside the Sino-Soviet Bloc
1955 Through Mid-1962
(Continued)

ddddd.	167/	
ceeee.	168/	
fffff.	169/	1 reportedly ordered two 14-passenger helicopters (Hound) from the USSR fo
sssss.	170/	
hhhhh.	171/	Czechoslovakia supplied Syria with Czechoslovak-built Pagan and Midget aircraft in 1956-57. 171/
jjjjj.	172/	Subsequent C-47 aircraft were delivered from Czechoslovakia and/or East Germany. 173/
kkkkk.	173/	
lllll.	174/	Six Max aircraft were received in Syria from the USSR by September 1957. 174/
mmmmm.	175/	
nnnnn.	176/	
ooooo.	177/	
ppppp.	178/	
qqqqq.	179/	
rrrrr.	180/	
sssss.	181/	
ttttt.	182/	
uuuuu.	183/	
	184/	

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Estimated Value of Aircraft, Including Initial Spares, a/* Exported from the USSR to Countries
Within the Sino-Soviet Bloc
1955 Through Mid-1962

Importing Country	Type of Aircraft	Model	Million 1961 US \$												
			1955	1956	1957	1958	1959	1960	1961	First Half 1962	Total				
Albania	Jet fighter														
	Single-jet	Fagot (MiG-15) Fresco (MiG-17)	0 0	1.9 0	7.5 0	0 0	0 2.5	0 0.45	0 6.8	0 0	0 0	9.3 9.7			
	Transport														
	Piston	Crate (Il-14)	0	0	0	0.51	0	0.82	0	0	0	1.3			
	Trainer														
	Jet	Midget (U-MiG-15)	0	1.1	0	0	0	0.78	0	0	0	1.9			
	Subtotal		0	3.0	7.5	0.51	2.5	2.1	6.8	0	0	22			
	Jet bomber														
	Light	Beagle (Il-28)	3.7	0	0	3.5	0	0	0	0	0	4.6	12		
	Jet fighter														
Bulgaria	Single-jet	Fresco (MiG-17)	1.5	1.5	0	20	0	7.2	0	0	26	55			
	Twin-jet	Farmer (MiG-19)	0	0	0	16	5.1	9.2	16	0	0	46			
	Transport														
	Turboprop	Coot (Il-18)	0	0	0	0	0	0	0	0	2.2	2.2			
	Piston	Crate (Il-14) Coit (An-2)	0 0	2.5 0	0 0	1.5 0	0 0	0 0.99	0 0	0 0	0 0	4.1 0.99			
	Helicopter	Hound (Mi-4)	0	0	0	0	1.1	0	0	0	3.0	3.9			
	Subtotal		2.2	4.0	0	40	6.2	16	17	35	120				
	Jet bomber														
	Medium	Badger (Tu-16) Beagle (Il-28)	0 120	0 67	0 42	0 11	4.9 0	0 0	0 0	0 0	0 0	4.9 240			
	Piston bomber														
Medium	Bull (Tu-4)	0	13	0	0	0	0	0	0	0	13				

* The footnote for Table 3 follows on p. 28.

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Table 3
Estimated Value of Aircraft, Including Initial Spares, a/ Exported from the USSR to Countries
Within the Sino-Soviet Bloc
1955 Through Mid-1962
(Continued)

Million 1961 US \$

Importing Country	Type of Aircraft	Model	1955	1956	1957	1958	1959	1960	1961	First Half 1962	Total	
Communist China (Continued)	Jet fighter											
	Single-jet	Fagot (MiG-15)	54	27	27	3.0	0	0	0	0	110	
	Twin-jet	Fresco (MiG-17)	12	30	47	39	11	0	0	0	0	140
		Farmer (MiG-19)	0	0	0	5.2	23	0	0	0	0	28
	Transport											
	Turbo-prop Piston	Coot (Il-18)	0	0	0	0	15	3.5	0	0	0	19
		Cab (Il-2)	4.0	0	0	0	0	0	0	0	0	4.0
		Coach (Il-12)	0.80	0.24	0	0	0	0	0	0	0	1.0
		Crate (Il-14)	4.2	9.5	3.8	0	0	0	0	0	0	17
		Colt (An-2)	0.44	0	2.1	0	0	0	0	0	0	2.5
Trainer												
Jet	Midget (U-MiG-15)	11	0	17	3.3	0	0	0	0	0	31	
Reconnaissance	Madge (Be-6)	11	0	6.8	0	0	0	0	0	0	17	
Subtotal		220	150	140	61	54	3.5	0	0	0	620	
Czechoslovakia	Jet bomber	Beagle (Il-28)	15	17	7.8	11	0	0	0	0	50	
	Jet fighter											
	Single-jet Twin-jet	Fresco (MiG-17)	4.5	5.9	4.2	5.6	14	3.6	11	0	0	49
		Farmer (MiG-19)	0	0	0	7.8	7.6	5.5	23	0	0	44
		Firebar	0	0	0	0	0	0	14	0	0	14
	Transport											
	Jet Turbo-prop Piston	Camel (Tu-104)	0	0	19	0	0	4.5	0	0	3.6	27
		Coot (Il-18)	0	0	0	0	0	14	6.7	0	6.7	27
		Crate (Il-14)	1.4	0	0	0	0	0	0	0	0	1.4
		Colt (An-2)	0	0	0.52	0.41	0.30	0.32	0	0	0	1.5
Helicopter	Hound (Mi-4)	0	2.6	0	0	0	0	0.40	0	0	3.0	
Subtotal		21	25	31	24	22	28	55	10	220		
East Germany	Jet bomber	Beagle (Il-28)	0	0	0	0	0	0	0	4.6	4.6	
	Light											

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Table 3
 Estimated Value of Aircraft, Including Initial Spares, a/ Exported from the USSR to Countries
 Within the Sino-Soviet Bloc
 1955 Through Mid-1962
 (Continued)

Importing Country	Type of Aircraft	Model	Million 1961 US \$												
			1955	1956	1957	1958	1959	1960	1961	First Half 1962	Total				
East Germany (Continued)	Jet fighter														
	Single-jet	Fresco (MiG-17)	0	0	15	13	10	5.0	0	0	0	0	0	0	43
	Twin-jet	Farmer (MiG-19)	0	0	0	0	5.1	1.8	4.1	0	0	0	0	0	11
	Transport														
	Turboprop	Coot (Il-18)	0	0	0	0	0	14	0	0	0	6.7	0	0	21
	Piston	Crate (Il-14)	1.4	1.3	0	0	0	0	0	0	0	0	0	0	2.7
		Colt (An-2)	0	2.5	0	0	0	0	0	0	0	0	0	0	2.5
	Helicopter	Hound (Mi-4)	0	0	0	2.4	0	0	0	0	0	0	0	0	2.4
	Subtotal			3.7	15	15	15	21	4.1	4.1	11	11	11	11	87
	Jet bomber														
Hungary	Light	Beagle (Il-28)	2.2	0	0	1.4	0	0	0	0	0	0	0	0	3.6
	Jet fighter														
	Single-jet	Fresco (MiG-17)	1.5	1.5	13	0	0	0	0	0	0	0.37	0	0	18
	Twin-jet	Fishbed (MiG-21)	0	0	0	0	0	0	0	0	0	0	0	0	7.2
	Transport	Farmer (MiG-19)	0	0	0	0	0	2.8	2.5	0	0	0	0	0	5.2
	Turboprop	Coot (Il-18)	0	0	0	0	0	0	0	0	0	0	0	0	10
	Piston	Crate (Il-14)	0	0.63	0.54	3.6	0	7.0	3.3	0	0	0	0	0	5.1
		Colt (An-2)	0	0	0	0	0.20	0.41	0	0	0	0	0	0	0.40
	Subtotal		3.7	2.1	13	2.0	0.20	10	15	0.37	0.37	0.37	0.37	0.37	50
	Transport														
Mongolia	Piston	Colt (An-2)	0	0	0	0	0.81	1.1	0.69	0	0	0	0	0	2.6
	Helicopter	Hound (Mi-4)	0	0	0	0	0	0	0.20	0	0	0	0	0	0.20
	Subtotal		0	0	0	0	0.81	1.1	0.89	0	0	0	0	0	2.8

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Table 3

Estimated Value of Aircraft, Including Initial Spares, a/ Exported from the USSR to Countries
Within the Sino-Soviet Bloc
1955 Through Mid-1962
(Continued)

Importing Country	Type of Aircraft	Model	Million 1961 US \$								Total	
			1955	1956	1957	1958	1959	1960	1961	First Half 1962		
North Korea	Jet bomber		0	21	0	18	0	0	0	0	0	38
	Light	Beagle (Il-28)										
	Jet fighter											
	Single-jet	Fagot (MiG-15)	8.2	6.5	22	0	0	0	0	0	0	37
		Fresco (MiG-17)	0	15	0	0	18	0	0	0	0	53
	Twin-jet	Farmer (MiG-19)	0	0	0	0	0	0	0	0	3.7	3.7
	Transport											
	Piston	Cab (Li-2)	0	2.0	0.90	0	0	0	0	0	0	2.9
		Crate (Il-14)	0	3.2	0	0	3.7	0	0	0	0	6.8
		Crtek (Yak-12)	0	0	0	0.13	0	0	0	0	0	0.13
	Colt (An-2)	0.11	0	0	0	0.10	0	0	0	0	0.21	
Trainer												
Jet	Midget (U-MiG-15)	2.3	1.1	2.2	0	0	0	0	0	0	5.6	
Piston	Max (Yak-18)	0	0	0	0	0.051	0	0	0	0	0.051	
Helicopter	Hound (Mi-4)	0	0	0	2.2	2.1	0	0	0	0	4.3	
Subtotal		11	48	25	20	24	20	20	0	3.7	150	
North Vietnam	Transport											
	Piston	Crate (Il-14)	0	0	0.54	0	0	0	0	0	0	0.54
		Colt (An-2)	0	0	0	0.20	0	0	0	0.20	0	0.70
	Trainer											
	Piston	Max (Yak-18)	0	0.25	0	0	0	0	0	0	0	0.25
	Helicopter	Hare (Mi-1)	0	0	0	0	0	0	0.18	0	0	0.18
		Hound (Mi-4)	0	0	0	0.66	0	0	0.41	0	0	1.1
	Subtotal		0	0.25	0.54	0.67	0	0.41	0.38	0	0.30	2.7
	Jet bomber											
	Light	Beagle (Il-28)	3.7	0	3.9	0	3.2	0	0	3.1	0	14
Poland												

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Table 3
 Estimated Value of Aircraft, Including Initial Spares, ^{a/} Exported from the USSR to Countries
 Within the Sino-Soviet Bloc
 1955 Through Mid-1962
 (Continued)

Importing Country	Type of Aircraft	Model	Million 1961 US \$												
			1955	1956	1957	1958	1959	1960	1961	First Half 1962	Total				
Poland (Continued)	Jet fighter														
	Single-jet	Fresco (MiG-17)	3.0	8.9	0	0	0	0	0	0	0	0	0	0	12
	Twin-jet	Farmer (MiG-19)	0	0	0	0	10	0	1.8	0	11	0	0	0	23
	Transport														
	Turboprop Piston	Coot (Il-18) Cab (Il-2) Crate (Il-14)	0 0 0.70	0 0.40 0.63	0 0 0	0 0 9.2	0 0 1.4	0 0 0	0 0 0	0 0 0	0 0 0	17 0 0	0 0 0	0 0 0	17 0.40 12
	Subtotal		7.4	2.9	3.9	2.2	15	1.8	31	0	0	0	0	78	
Rumania	Jet bomber														
	Light	Beagle (Il-28)	11	0	0	0	0	0	0	0	0	0	0	0	11
	Jet fighter														
	Single-jet	Fresco (MiG-17)	0	0	0	8.4	1.3	7.5	3.7	0	0	0	0	21	
	Twin-jet	Farmer (MiG-19)	0	0	0	2.6	0	0.46	9.9	0	0	0	0	13	
Transport															
	Turboprop Piston	Coot (Il-18) (Crate (Il-14)	0 0	0 0	0 1.6	0 0	0 0	0 0	0 0	6.7 0	3.3 0	0 0	0 0	10 1.6	
	Subtotal		11	0	1.6	11	1.3	7.9	20	3.3	0	0	0	56	
	Total value		230	240	240	190	140	110	150	65	1,400			1,400	

a. Data are rounded to two significant digits. Because of rounding, components may not add to the totals shown. Initial spares are those spare parts which are manufactured in conjunction with the aircraft and which provide the basic stock on hand with the aircraft, in depots, and in the pipeline.

Table 4

Estimated Value of Aircraft, Including Initial Spares, a/* Exported from the USSR to Countries Outside the Sino-Soviet Bloc 1955 Through Mid-1962

Importing Country	Type of Aircraft	Model	Million 1961 US \$					Total				
			1955	1956	1957	1958	1959		1960	1961	First Half 1962	
Afghanistan	Jet bomber											
	Light	Beagle (Il-28)										32
	Jet fighter											
	Single-jet	Fresco (MIG-17)										31
	Transport											
	Piston	Grate (Il-14) Creek (Yak-12) Colt (An-2)										6.0 0.049 0.50
	Trainer											
	Jet	Midget (U-MIG-15)										
	Piston	Moose (Yak-11) Max (Yak-18)										1.3 1.1 0.30
	Helicopter	Hare (Mi-1) Hound (Mi-4)										0.12 2.3
	Subtotal											12
Burma	Transport											
	Piston	Crate (Il-14)										0.67

* Footnotes for Table 4 follow on p. 36.

Table 4

Estimated Value of Aircraft, Including Initial Spares, a/ Exported from the USSR to Countries Outside the Sino-Soviet Bloc 1955 Through Mid-1962 (Continued)

Importing Country	Type of Aircraft	Model	Million 1961 US \$						Total		
			1955	1956	1957	1958	1959	1960		1961	First Half 1962
Cambodia	Transport										
	Piston	Crate (IL-14)									0.74
	Helicopter	Hound (Mi-4)									0.20
	Subtotal										<u>0.94</u>
Congo	Transport										
	Piston	Crate (IL-14)									<u>0.41</u>
Cuba	Jet fighter										
	Single-jet	Fagot (MIG-15)									3.8
	Twin-jet	Farmer (MIG-19)									4.9
	Transport										
EGYPT	Piston	Crate (IL-14)									28
	Helicopter	Colt (An-2)									0.99
		Hare (Mi-1)									0.92
	Subtotal										<u>41</u>
EGYPT	Jet bomber										
	Medium	Badger (Tu-16)									23
	Light	Beagle (IL-28)									37

Table 4
Estimated Value of Aircraft, Including Initial Spares, a/ Exported from the USSR to Countries
Outside the Sino-Soviet Bloc
1955 Through Mid-1962
(Continued)

Importing Country	Type of Aircraft	Model	Million 1961 US \$						Total					
			1955	1956	1957	1958	1959	1960		1961	First Half 1962			
Egypt (Continued)	Jet fighter													
	Single-jet	Fresco (MiG-17)											27	
	Twin-jet	Fishbed (MiG-21)											12	
		Farmer (MiG-19)											16	
	Transport													
	Piston	Crate (Il-14)											23	
	Trainer													
	Jet Piston	Mascot (U-11-28)												3.0
		Moose (Yak-11) Max (Yak-18)												1.7
	Helicopter	Hare (Mi-1)												0.76
Hound (Mi-4)													0.42	
	Subtotal												1.3	
													<u>140</u>	
Ethiopia	Transport													
	Piston	Crate (Il-14)											0.41	
Finland	Jet bomber													
	Light	Beagle (Il-28)											1.1	

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Estimated Value of Aircraft, Including Initial Spares, a/ Exported from the USSR to Countries
Outside the Sino-Soviet Bloc
1955 Through Mid-1962
(Continued)

Importing Country	Type of Aircraft	Model	Million 1961 US \$									
			1955	1956	1957	1958	1959	1960	1961	First Half 1962	Total	
Finland (Continued)	Helicopter	Hare (Mi-1) Hound (Mi-4)										0.36 0.60
	Subtotal											2.0
Ghana	Transport											
	Turboprop	Coot (Il-18) Cub (An-12)										27 3.6
	Subtotal											31
Guinea	Transport											
	Turboprop Piston	Coot (Il-18) Colt (An-2)										10 0.30
	Helicopter	Hound (Mi-4)										0.21
	Subtotal											11
India	Transport											
	Turboprop Piston	Cub (An-12) Crate (Il-14)										29 9.4
	Helicopter	Hound (Mi-4)										2.6
	Subtotal											41

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Table 4

Estimated Value of Aircraft, Including Initial Spares, a/ Exported from the USSR to Countries
Outside the Sino-Soviet Bloc
1955 Through Mid-1962
(Continued)

Importing Country	Type of Aircraft	Model	Million 1961 US \$					Total					
			1955	1956	1957	1958	1959		1960	1961	First Half 1962		
Indonesia	Jet bomber												
	Medium	Badger (Tu-16)										42	
	Light	Beagle (Il-28)										0.92	
	Jet fighter												
	Single-jet	Fishbed (MIG-21)										5.2	
	Twin-jet	Farmer (MIG-19)										5.2	
	Transport												
	Piston	Crate (Il-14)											11
	Helicopter	Hound (Mi-4)											4.5
		Subtotal											69
Iran	Transport												
	Piston	Crate (Il-14)											0.54
Iraq	Jet bomber												
	Light	Beagle (Il-28)											10
	Jet fighter												
	Single-jet	Fresco (MIG-17)											8.8
	Twin-jet	Farmer (MIG-19)											7.3

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Table 4

Estimated Value of Aircraft, Including Initial Spares, a/ Exported from the USSR to Countries Outside the Sino-Soviet Bloc 1955 Through Mid-1962 (Continued)

		Million 1961 US \$									
Importing Country	Type of Aircraft	Model	1955	1956	1957	1958	1959	1960	1961	First Half 1962	Total
Iraq (Continued)	Transport										
	Turboprop Piston	Cub (An-12) Grate (Il-14) Colt (An-2)									11 0.92 0.49
	Helicopter	Hound (Mi-4)									3.3
	Subtotal										<u>42</u>
Mali	Transport										
	Turboprop Piston	Coot (Il-18) Grate (Il-14) Colt (An-2)									10 1.5 0.50
	Helicopter	Hound (Mi-4)									0.20
	Subtotal										<u>12</u>
Morocco	Jet fighter										
	Single-jet Trainer	Fresco (MIG-17)									2.5
	Jet Helicopter	Midget (U-MIC-15) Hound (Mi-4)									0.35 0.99
	Subtotal										<u>3.8</u>

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Table 4

Estimated Value of Aircraft, Including Initial Spares, 2/ Exported from the USSR to Countries Outside the Sino-Soviet Bloc 1955-Through Mid-1962 (Continued)

Importing Country	Type of Aircraft	Model	Million 1961 US \$						Total			
			1955	1956	1957	1958	1959	1960		1961	First Half 1962	
Nepal	Transport											
	Piston	Crate (Il-14)										0.51
	Helicopter	Hound (Mi-4)										0.20
	Subtotal											<u>0.71</u>
	Jet bomber											2.5
Syria	Light	Beagle (Il-28)										
	Jet fighter											14
	Single-jet	Fresco (MiG-17)										
	Transport											2.0
	Piston	Crate (Il-14)										
Yemen	Trainer											0.15
	Piston	Max (Yak-18)										0.10
	Helicopter	Hare (Mi-1) Hound (Mi-4)										1.3
	Subtotal											<u>20</u>
	Piston bomber											2.0
Yemen	Attack	Beast (Il-10)										
	Transport											1.7
	Piston	Crate (Il-14)										

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Table 4

Estimated Value of Aircraft, Including Initial Spares, a/ Exported from the USSR to Countries
Outside the Sino-Soviet Bloc
1955 Through Mid-1962
(Continued)

Importing Country	Type of Aircraft	Model	Million 1961 US \$					Total				
			1955	1956	1957	1958	1959		1960	1961	First Half 1962	
Yemen (Continued)	Trainer											
	Piston	Moose (Yak-11)										0.19
	Helicopter	Hare (Mi-1) Hound (Mi-4)										0.38 0.68
	Subtotal											4.2
Yugoslavia	Transport											
	Piston	Crate (Il-14)										3.2
	Helicopter	Hound (Mi-4)										0.82
	Subtotal											4.1
	Total value											500

a. Data are rounded to two significant digits. Because of rounding, components may not add to the totals shown. Initial spares are those spare parts which are manufactured in conjunction with the aircraft and which provide the basic stock on hand with the aircraft, in depots, and in the pipeline.

b. Through July 1962.

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APPENDIX B

METHODOLOGY

1. Numbers of Aircraft Exported

To determine the exports of Soviet aircraft from 1955 through the first half of 1962, an analysis was made for each recipient country by year, using information [redacted] and tourist observations; defectors' statements of officials of the procuring countries and of the USSR; Air Order of Battle data; unclassified newspaper and magazine articles; [redacted] and related publications of CIA, DIA, NSA, Air Force, State, Army, Navy, [redacted] [redacted]

At times it was necessary to make assumptions based on the known production of aircraft to determine what country supplied a given aircraft. For example, because Czechoslovakia was in series production of Crate aircraft in 1956, Crate aircraft received by the military and civil services of Czechoslovakia after 1955 are assumed to have been supplied from indigenous production of Crate aircraft.

[redacted] much of the data concerning the Satellites is derived from the Air Order of Battle supplied jointly by the US Air Force and the Navy. The Air Order of Battle data are supplemented by other significant information when possible in order to improve the accuracy of the estimate.

2. Value of Aircraft Exported

Because of the dearth of accurate information regarding the "contract value" of exports of Soviet aircraft and because of the practice of the USSR of giving favorable prices and terms to underdeveloped countries, the approach used in this report concerning the value of the exported aircraft is to use the estimated cost of the USSR to produce the exported aircraft.

The methodology for estimating the cost of production of Soviet aircraft is explained in detail in source 185/. In brief the costs of the airframes are derived from estimates supplied by US aircraft companies regarding what it would cost them to produce selected Soviet airframes using Soviet production techniques. The costs of other Soviet airframes are developed from budget and contract information obtained from the USAF Air Materiel Command and US aircraft companies.

Similar techniques were used to determine the costs of the airframe accessories, propulsion equipment, armaments, electronics, and initial spares. In computing the costs of the USSR to produce aircraft, the above factors were used to determine the costs of each model of aircraft by airframe plant, taking into consideration the effect of the learning curve, which, as a general rule, reduces the costs of production of the airframe by 20 percent each time that production is doubled.

To determine the value of the aircraft exported, the number of units of each model of aircraft estimated to have been exported in a given year was

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multiplied by the average cost of that aircraft, including spares, produced during that year at the airframe plant which produced the most aircraft of that particular model. Where the aircraft is no longer in production, the average cost of the aircraft, including spares, was taken from the cost of the last year of production of that aircraft at the airframe plant which produced the greatest quantity of that model. This average cost of the last year of production is depreciated 10 percent each year until the equity of the recipient country in the aircraft is 100 percent.

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APPENDIX C

GAPS IN INTELLIGENCE

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Appendix D
Source References

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APPENDIX D

SOURCE REFERENCES

Evaluations, following the classification entry and designated "Eval.," have the following significance:

<u>Source of Information</u>	<u>Information</u>
Doc. - Documentary	1 - Confirmed by other sources
A - Completely reliable	2 - Probably true
B - Usually reliable	3 - Possibly true
C - Fairly reliable	4 - Doubtful
D - Not usually reliable	5 - Probably false
E - Not reliable	6 - Cannot be judged
F - Cannot be judged	

"Documentary" refers to original documents of foreign governments and organizations; copies or translations of such documents by a staff officer; or information extracted from such documents by a staff officer, all of which may carry the field evaluation "Documentary."

Evaluations not otherwise designated are those appearing on the cited document; those designated "RR" are by the author of this report. No "RR" evaluation is given when the author agrees with the evaluation on the cited document.

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