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imagery analysis report

BACKFIRE Production From 1969 to Mid-1983, USSR (S)

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Z-12080/83
IAR-0052/83
AUGUST 1983
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BACKFIRE PRODUCTION FROM 1969 TO MID-1983, USSR (S)

INTRODUCTION

1. This study has been prepared in response to recent concern within the Intelligence Community that the BACKFIRE production rate may have exceeded 30 aircraft per year. (S/WN)

2. Premier Brezhnev, on June 16, 1979, handed President Carter the following statement:

"The Soviet side informs the US side that the Soviet TU-22M airplane, called BACKFIRE in the USA, is a medium-range bomber, and that . . . it will not increase the production rate of this airplane as compared to the present rate." Reports indicate that Premier Brezhnev verbally confirmed that the Soviet BACKFIRE production rate would not exceed 30 per year.[1] (U)

3. To determine whether the Soviets exceeded the production rate of 30 BACKFIREs per year, selected imagery has been reviewed in an attempt to establish the number and model of BACKFIREs produced since the initial identification in 1969. Because the interpretability and quantity of usable imagery has been substantially higher during the summer months than during other periods of the year, only imagery acquired during June through July from 1969 to 1983 has been examined. Since 1977, NPIC's confidence in monitoring BACKFIRE production and subsequent deployments has markedly increased with more frequent and usable coverage. The tables in this report, based solely on imagery-derived analysis, provide NPIC's estimate of numbers of BACKFIRE aircraft in the Soviet inventory on 15 July of each year. In this report, only BACKFIREs confirmed on imagery are presented; however, some aircraft have been produced for structural test purposes, and some have probably crashed. While crashed aircraft have not been included in the cumulative totals, they have been accounted for as operational aircraft in the yearly totals prior to the crashes. This report covers the period from 15 June 1969 to 15 July 1983. Included are three annotated photographs, two tables, and two charts. (S/WN)

DISCUSSION

4. The earliest identification of specific models of BACKFIRE aircraft was made at Kazan Airframe Plant Gorbunov 22, the production plant, or at the Flight Test Centers (FTCs) at Ramenskoye and Akhtubinsk. The next observations were at training airfields (Nikolayev/Kulbakino and Ryazan/Dyagilevo) and, finally, at operational airfields. Numbers of BACKFIRE aircraft at the production plant, at the FTCs, and at the training airfields have generally remained constant after series production has begun, while numbers of newly produced aircraft at operational Soviet Strategic Aviation (SSA) and at Soviet Naval Aviation (SNA) bases have, as expected, continuously increased. (S/WN)

5. One BACKFIRE A (Figure 1), the prototype model, was initially observed at Kazan Airframe Plant Gorbunov 22 [redacted] 25X1
[redacted] Two additional BACKFIRE As 25X1
were subsequently observed at Ramenskoye FTC in mid-1970. One was first observed at Akhtubinsk FTC in April 1971. BACKFIRE As have never been seen at an operational base; however, two to six BACKFIRE As were at Ryazan/Dyagilevo Airfield, the SSA training base, from 1973 through 1981. Only seven BACKFIRE As were produced, and all are currently on static display (Table 1). (S/WN)

6. BACKFIRE B (Figure 2) was identified in November 1971 at Kazan. This model has an

increased wingspan and is without the large landing gear pods found on BACKFIRE As. A BACKFIRE B was next observed at Ramenskoye FTC in May 1972 and then at Akhtubinsk FTC in September 1972. BACKFIRE B aircraft did not deploy to the training bases until April and May 1974, when BACKFIRE Bs were identified at Ryazan/Dyagilevo Airfield and at Nikolayev/Kulbakino Airfield, respectively. (S/WN)

7. The first operational deployments of BACKFIRE Bs were to Poltava Airfield (SSA) in July 1974 and to Oktyabrskoye Airfield (SNA) in November 1974. The BACKFIRE B was the first model to go into series production and is still being produced. (S/WN)

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Table 1.
BACKFIRE Models Observed From
15 June 1969 to 15 July 1983

	1969-1970		1970-1971		1971-1972		1972-1973		1973-1974		1974-1975		1975-1976		1976-1977		1977-1978			1978-1979			1979-1980			1980-1981			1981-1982			1982-1983		
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
PLANT																																		
Kazan Airframe PLT Gorbunov 22	1*		1		1	2		3	1	9	3	6		5		9		6			8	3		7	6		5	9		7	5		6	11
FTC																																		
Ramenskoye	2		5		4		2	7	2	4		4		3		3		5			6	1		4	1		3			2	1		2	1
Akhtubinsk			1		1	1		1		2	1	2		5		3		9			7			4	2		4	2		6	1		6	3
SSA																																		
Ryazan/Dyagilevo Airfield (Training)							2		2	3	2	3	5	4	6	1	5	5		5	2		3	5		2	4	3		4	3		4	6
Poltava Airfield										2		9		15		19		18			19			20			20	3		15	15		2	17
Soltsy Airfield																8		18			18			20			20			20			18	4
Belaya Airfield																					10			20			30			39			40	
Anisovo Gorodishche Airfield																																	15	
Orsha Airfield Southwest (Maint)																																	3	
SNA																																		
Nikolayev/Kulbakino Airfield (Training)										3		3		3		2		4			4			8			5			14			8	
Bykhov Airfield														4		10		19			28			36			37			40			40	
Oktyabrskoye Airfield												11		16		16		17			17			17			19			20			19	
Alekseyevka Airfield																											17			20			35	
PLANT	1		1		1	2		3	1	9	3	6		5		9		6			8	3		7	6		5	9		7	5		6	11
FTC	2		6		5	1	2	8	2	6	1	6		8		6		14			13	1		8	3		7	2		8	2		8	4
SSA							2		2	5	2	12	5	19	6	28	5	41		5	49		3	65		2	74	6		78	18		79	27
SNA										3		14		23		28		40			49			61			78			94			102	
MAINTENANCE (ORSHA)																																	3	
MISCELLANEOUS											1		1		1		2		1	2		1	4	3	1	5	3	1	7	3	1	7	5	1
TOTALS	3		7		6	3	4	11	5	23	7	38	6	55	7	71	7	101	1	7	119	5	7	144	10	7	167	18	7	190	26	7	203	43
Cumulative Totals	3		7		9		15		28		45		61		78		109			131			161			192			223**			253**	

*First identification of BACKFIRE A [redacted] 25X1

**Total does not include BACKFIRE fuselage (model undetermined), designated RAM-N, which was at Ramenskoye from October to December 1981

Miscellaneous: 1975–77: BACKFIRE A were on static display at Moscow/Monino
1978–79: Same; plus an additional BACKFIRE A at Irkutsk Afld Southeast; BACKFIRE C destroyed by fire at Ramenskoye
1980: Same; plus one BACKFIRE A at Kiev/Zhulyany Afld, one BACKFIRE A at Achinsk AF East, one BACKFIRE B at Kaliningrad/Proveren (now at Kaliningrad Pionerskiy), one BACKFIRE B at Kipelovo Afld, and one BACKFIRE B at Ramenskoye
1981: Same; plus one BACKFIRE A at Riga Afld West
1982–83: Same; plus two additional BACKFIRE As at Achinsk Afld East
1983: BACKFIRE B disassembled at Novosibirsk Scientific Institute of Aviation Sibnia. BACKFIRE B disassembled at Oktyabrskoye

*Note: The BACKFIREs at Orsha are accounted for in the above totals during 1981 and 1982; however for 1983, they have been listed separately

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Table 2.
BACKFIRE Production by Model

Year	A	B	C	Total for Year
1969–70	3 (initially identified in Aug 69)			3
1970–71	4			4
1971–72		3		3
1972–73		8		8
1973–74		12		12
1974–75		15		15
1975–76		17		17
1976–77		16		16
1977–78		30	1	31
1978–79		18	4	22
1979–80		25	5	30
1980–81		23	8	31
1981–82		23	8	31*
1982–83		13	17	30

*The total does not include a BACKFIRE fuselage (model undetermined), designated RAM-N, which was only at Ramenskoye FTC

This table in its entirety is classified SECRET/WNINTEL

8. The latest model, the BACKFIRE C (Figure 3), was first identified at Ramenskoye FTC in August 1977. Observable differences between the C and the B models include modified air intakes and a modified nose section. This same aircraft was also observed at Kazan, but not until April 1978. this prototype was destroyed by fire at Ramenskoye FTC. Flight testing began again in December 1978, when a new BACKFIRE C arrived at Ramenskoye. A BACKFIRE C was first observed at Akhtubinsk FTC during December 1979. Initial deployment occurred in March 1981 to the SSA training base at Ryazan/Dyagilevo and later, in June, to the SAF base at Poltava. (S/WN)

IMAGERY ANALYST'S COMMENTS

9. Imagery acquired between 15 June and 15 July of every year since 1969 of BACKFIRE-related facilities has been reviewed to establish the total counts of BACKFIRE aircraft by model (Table 1). The following facilities were included:

Location

Kazan Airframe Plant
Gorbunov 22
Ramenskoye Flight Test Center
Akhtubinsk Flight Test Center
Ryazan/Dyagilevo Airfield
Poltava Airfield
Soltsy Airfield
Belaya Airfield
Anisovo Gorodishche Airfield
Nikolayev/Kulbakino Airfield
Bykhov Airfield
Oktyabrskoye Airfield
Alekseyevka Airfield
Orsha Airfield Southwest*

*This airfield has been a BACKFIRE maintenance facility usually, two BACKFIREs are there being overhauled; these aircraft were, however, listed/accounted for at deployed airfields prior to July 1983. (S/WN)

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10. The charts and table depict the yearly production rate of BACKFIRE aircraft. Table 2 enumerates the models as well as the results of analysis of the total number of BACKFIREs produced yearly. Chart 1 depicts graphically the BACKFIRE overall production rate from 1969 to 1983, while Chart 2 shows the BACKFIRE production rate by model during this period. (S/WN)

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CONCLUSION

11. Analysis of tables and charts in this report indicates that there were four periods when BACKFIRE production decreased from the previous year's. The 1971–72 decrease (Chart 2) was concurrent with the first identification of the BACKFIRE B aircraft. A second decrease occurred in 1976–77. This reduction might be explained by a shortage of certain parts, thus preventing production. The subsequent arrival of these parts would then explain the sharp increase in production during 1977–78, when this postulated backlog of BACKFIRE aircraft was rolled out of the plant. A third decrease in production was apparent during 1978–79. Again, the decrease in production was concurrent with the identification of a new model (the BACKFIRE C) and probably reflects the time required for plant retooling to produce this new model. Finally, the 1982–83 production is slightly lower than initially expected, possibly the result of a shortage of engines or other parts. At least six BACKFIREs without engines were at Kazan during the period from May through July 1983. (S/WN)

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12. The highest level of production for the BACKFIRE Bs occurred in 1978. In subsequent years, this level of production has not occurred again. While BACKFIRE production decreased, the number of BACKFIRE Cs increased, possibly indicating that BACKFIRE B production is being phased out or reduced to a level which would provide only for aircraft replacements. (S/WN)

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13. According to NPIC's analysis, the Soviets produced 122 BACKFIREs from July 1979 (the time of the Brezhnev statement) to July 1983, a production rate of 30.5 BACKFIRE aircraft per year. From 15 July 1982 to 15 July 1983, 30 BACKFIREs were produced. (S/WN)

14. Based on this study, NPIC is highly confident that the Soviets have produced at least 30 BACKFIREs in each summer-to-summer period since the Brezhnev statement of 1979. However, NPIC does not believe that the number produced exceeded 31 in any one-year period. (S/WN)

CHART 1.
BACKFIRE BOMBER (TU-22M) PRODUCTION RATE
(AS OF 15 JULY OF YEAR INDICATED)

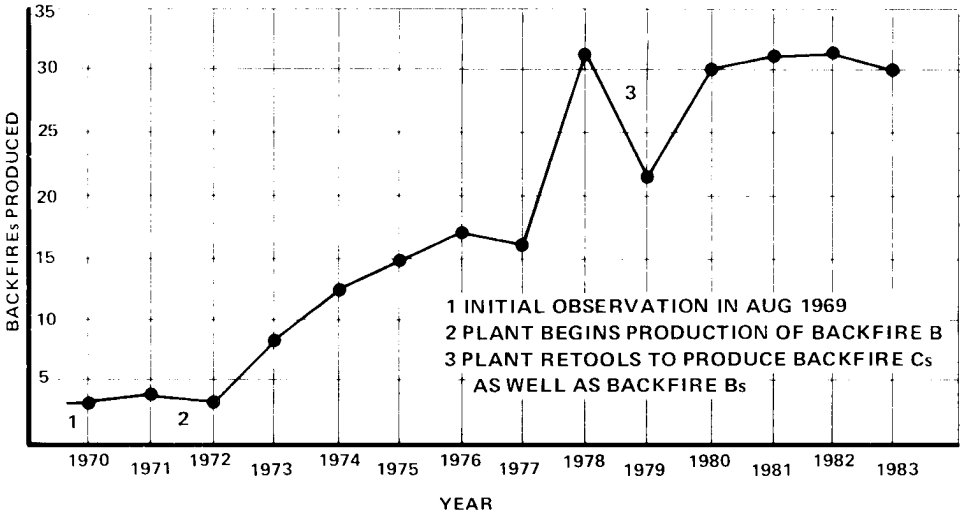
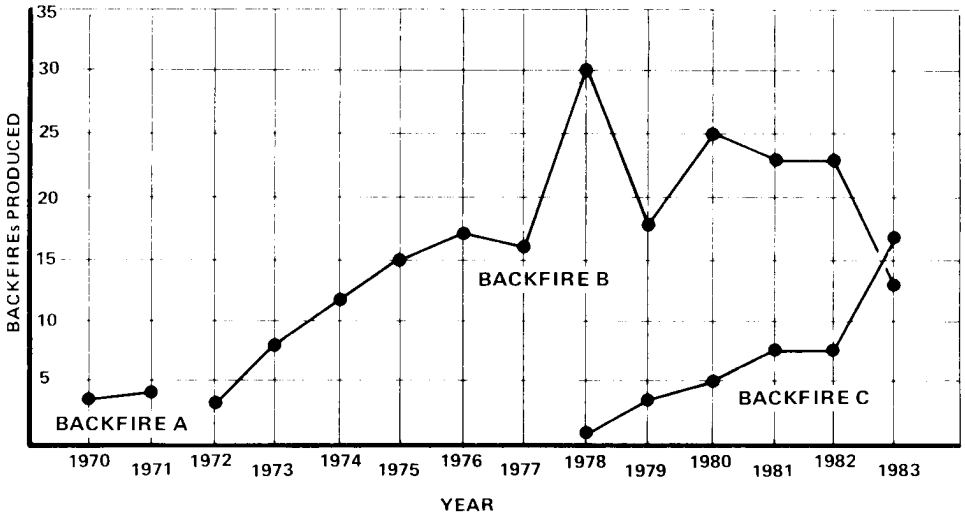


CHART 2.
YEARLY BACKFIRE PRODUCTION BY MODEL
(AS OF 15 JULY OF YEAR INDICATED)



REFERENCES

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DOCUMENT

1. US Department of State. 0-295-168 Bureau of Public Affairs, *Selected Documents No. 12, SALT II Agreement, Vienna, 18 Jun 79,* Washington: GPO 79 (UNCLASSIFIED)

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