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basic imagery interpretation report

Ramenskoye Flight Test Center (S)

STRATEGIC WEAPONS INDUSTRIAL FACILITIES

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|--|--|-----------------------------------|--------|-------------|---------------|
| INSTALLATION OR ACTIVITY NAME Ramenskoye Flight Test Center | | | | | COUNTRY UR |
| UTM COORDINATES NA | GEOGRAPHIC COORDINATES 55-34-18N 038-09-23E | CATEGORY | BE NO. | COMIREX NO. | NIETB NO. |
| MAP REFERENCE DMAAC. USATC, Series 200, Sheet 0167-5, scale 1:200,000 | | | | | |
| LATEST IMAGERY USED | | NEGATION DATE (If required) NA | | | |

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ABSTRACT

1. (S/D) This report updates NPIC report [] on Ramenskoye Flight Test Center, USSR. The report discusses aircraft and construction activity observed at this installation from [] the information cutoff date for the most recent NPIC report, through []. The report also includes area designations and annotated photographs that will be referenced in future periodic reports on the flight test center.

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2. (S/D) Significant aircraft-associated observations at Ramenskoye consisted of a [] airframe on a BACKFIRE B and an ADV-2 cruise vehicle in the Tupolev area; a lifting body previously seen at Akhtubinsk Flight Test Center [] a high level of activity in the test and derelict area; an unidentified object and several probable aircraft components in the Myasishchev area; Modified CAN-DID; a two-seat RAM-K; and BISON disassembly in the Myasishchev area.

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3. (S) This report includes a locator map, 29 annotated photographs, and a table of mensural and chronological data on construction activity.

BASIC DESCRIPTION

4. (S) Ramenskoye Flight Test Center (FTC)¹ is 20 nautical miles (nm) southeast of the center of Moscow, USSR (Figure 1), at a mean elevation of approximately 400 feet above sea level. Figure 2 provides an overall view of the facility and includes area designators. It is keyed to Table 1, which outlines construction activity observed during this reporting period.

Aircraft Activity**[] Airframe**

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5. (S/D) A [] airframe* was observed on the port wing of a BACKFIRE B on [] (Figure 3). The BACKFIRE was parked in the Tupolev area with five other BACKFIRE B. The [] meter airframe remained on the BACKFIRE throughout the remainder of 1979 and into March of 1980. During this time period, while it was probably undergoing captive flight testing, it was always parked in the number 2 position in the BACKFIRE parking area.

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6. (S/D) The [] airframe program apparently moved to Akhtubinsk FTC when, on [] a BACKFIRE B with a [] airframe was first seen at Akhtubinsk/Vladimirovka Area Airfield []. Since moving to Akhtubinsk FTC, the BACKFIRE with the [] airframe was seen only twice at Ramenskoye, on [].

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ADV-2 Cruise Vehicle and Equipment

7. (S/D) The ADV-2 is a ground-launched, air-breathing, aerodynamic cruise vehicle currently undergoing flight testing at Kapustin Yar Cruise Test Complex D, Site 1 []. Continuing [] of Ramenskoye FTC reveals that components of this system were in the southeast end of the Tupolev area as early as []. These components included the ADV-2 transporter and a [] chamfer-roofed van trailer. Other ADV-2 equipment that has been seen at Ramenskoye includes two missile railcars and the ADV-2.

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8. (S/D) On [] ADV-2 equipment was seen on railcars in the transloading area at Akhtubinsk FTC. The special-purpose train consisted of two flatcars with van trucks, two flatcars with ADV-2 checkout van trailers, three boxcars, and the two ADV-2-associated missile railcars. On []

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*Mensuration of the airframe has placed the length at [] will be used in the designator.

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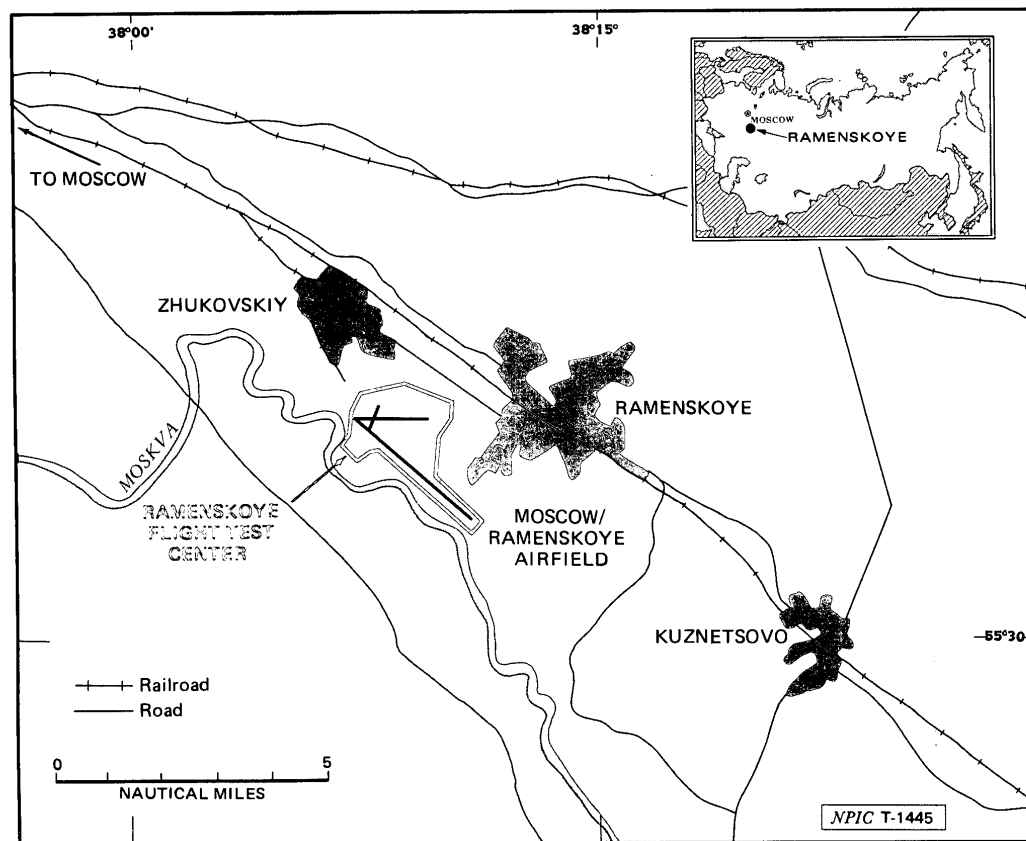
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Table 1. Construction at Ramenskoye Flight Test Center

(Items keyed to Figure 2)

This table in its entirety is classified SECRET/WNINTEL

| Item | Description | Dimensions (m) | | | Floorspace (sq m) | Date Observed Complete | Remarks |
|----------------------------|--------------------|----------------|---|---|-------------------|------------------------|---------------------------------|
| | | L | W | H | | | |
| 1 | Shed | | | | | | |
| 2 | Shed/framework | | | | | | |
| 3 | Support bldg | | | | | | Two openings in roof |
| 4 | Shed | | | | | | |
| 5 | Support bldg | | | | | | |
| 6 | Support bldg | | | | | | |
| 7 | Hangar | | | | | | |
| 8 | Maintenance hangar | | | | | | Sukhoi building |
| 9 | Shed | | | | | | |
| 10 | Support bldg | | | | | | |
| 11 | Support bldg | | | | | | |
| 12 | Shed | | | | | | |
| 13 | Support bldg | | | | | | |
| 14 | Maintenance hangar | | | | | | |
| 15 | Support bldg | | | | | | |
| 16 | Support bldg | | | | | | Maximum floorspace |
| 17 | Hangar | | | | | | Maximum floorspace |
| 18 | Storage tank | | | | | | Probable underground tank |
| 19 | Firehouse | | | | | | |
| 20 | Quonset shelter | | | | | | |
| 21 | Storage bldg | | | | | | Numerous probable vents on roof |
| Total floorspace completed | | | | | 5,253 | | |
| Total floorspace ucon | | | | | 16,211 | | |

Early stage of construction; building measurements are approximate.*FIGURE 1. LOCATION OF RAMENSKOYE FLIGHT TEST CENTER, USSR**

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[] two checkout van trailers and two missile railcars were at Ramenskoye in the Tupolev area (Figure 4). One of the railcars was observed with a probable ADV-2 on the extended transfer tray and a probable ADV-2 wing was also sitting on the tray ahead of the ADV-2. A partially assembled ADV-2 was also observed in the Tupolev area on coverage of []

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9. (S/D) An association between both the ADV-2 and the [] airframe can be made based on observations of the equipment at both FTCs. At Akhtubinsk FTC, on [] an ADV-2 checkout van trailer was adjacent to a BACKFIRE with a [] airframe. An association between the two systems can also be made because both systems are always near Tupolev aircraft or in a Tupolev area. On [] both were in the Tupolev area at Ramenskoye.

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Probable Lifting Body

10. (S/D) A probable lifting body was observed under a Modified BEAR A in the Tupolev area on imagery of [] (Figure 5). On subsequent coverage of [] the probable lifting body was canvas covered and parked in the Myasishchev area (Figure 6). The probable lifting body appears to have a double-delta-wing configuration and is [] long with a wingspan of []. This vehicle is similar in size and appearance to the probable lifting body identified at Akhtubinsk FTC on imagery of []. While at Akhtubinsk, the lifting body was seen only on BEAR C. The Modified BEAR A, normally seen at Ramenskoye, has a tail cone extension.

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Unidentified Object/Structure

11. (S/D) On coverage of [] a large unidentified object/structure was seen on a barge next to a pier under construction on the south side of the airfield (Figure 7). The object was []. A river tug and a floating crane were also alongside the pier and barge. A recently constructed taxiway connects the pier to the parallel taxiway. A similar taxiway and pier were observed under construction at Kuybyshev/Bezmyanka Airfield []. An unidentified framework (Figure 8), similar in size and configuration to the object/structure at Ramenskoye [] was observed within Kuybyshev Aerospace Production Plant 1 (BE []). Kuybyshev Plant 1 is adjacent to Kuybyshev/Bezmyanka Airfield. A new entrance/exit through the perimeter wall that separates the plant and the field has been constructed since [] in the area where the unidentified framework was located.

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12. (S/D) The unidentified object/structure was subsequently observed in the Myasishchev area at Ramenskoye on [] (Figure 9). The object/structure was in a separately secured area. The function of the object/structure is not known at this time. However, it may be related to one of several programs currently underway in the Myasishchev area. These include the probable lifting body previously mentioned and some unidentified aircraft components.

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Unidentified Aircraft Components

13. (S/D) On [] several aerodynamic vehicles were observed in the Myasishchev area. Continuing analysis of these vehicles indicates that they are probably aircraft components for a large aircraft (Figure 10). Two of the components may be engine nacelles. Both were canvas covered, and one of the nacelles appeared to be mounted under a section of a wing. On [] the third component was identified as a possible nose section measuring []. The scale of the components suggests that they belong to an aircraft at least as large as the AN-22 COCK.

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BISON Disassembly

14. (S/D) The southern corner of the Myasishchev area has historically been associated with BISON disassembly. Between May and July 1979 a BISON B was in an advanced stage of disassembly, with most of its parts removed (Figure 11). Components for a BISON that may have been previously disassembled were still present. On [] a BISON B was seen without wings in the same position, and on [] an additional BISON without wings was in the adjacent parking position (Figure 12). To date, as many as four BISON B have been seen in various stages of disassembly in the Myasishchev area.

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RAM-E Aircraft

15. (S/D) The RAM-E, a probable Sukhoy design, has been returned to the east parking area after a long stay in the southeast test area. The RAM-E was first identified in the east parking area on coverage of []. In late 1975 it was moved to the southeast test area, where it remained until it was observed in the east parking area on [] (Figure 13). No evidence of flight activity has been observed, and the vertical stabilizer had been removed.

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RAM-H Aircraft

16. (S/D) When first observed on [] the RAM-H was in the Myasishchev area of the FTC. The program had apparently been abandoned, and the RAM-H remained in the Myasish-

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chev area without a nose radome until it was seen in the Sukhoy area on [redacted]. The presence of the RAM-H in the Sukhoy area does not necessarily indicate that Sukhoy is the designer because several different designers park aircraft in the same part of the Sukhoy area. The RAM-H was probably moved to make way for new construction presently underway in the Myasishchev area, not because of a renewed interest in the program. 25X1

RAM-J Aircraft

17. (S/D) A high count of three RAM-J was observed on [redacted] in the Sukhoy area. No other significant RAM-J activity was observed. 25X1

RAM-K Aircraft

18. (S/D) A high level of RAM-K activity has been observed during the past two years. A probable RAM-K fuselage was observed in the Sukhoy area on [redacted] (Figure 14). It measured [redacted] at mid-body. Another probable RAM-K was observed on the Moscow Garden Ring Road (Figure 15).³ The fuselage was apparently being towed toward Moscow Central Airfield ([redacted]), most likely to Moscow Aircraft Experimental Plant 51 [redacted]. 25X1
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19. (S/D) A RAM-K was seen without canvas for the first time at Ramenskoye on [redacted] (Figure 16), and on coverage of [redacted] a probable two-seat RAM-K was observed on the runway near the new Ilyushin area (Figure 17). Two RAM-K have been observed at Ramenskoye several times during this reporting period. A RAM-K has also been moved into the test and derelict area (Figure 18). The fuselage was first observed on [redacted] and its wings and stabilizers were added by [redacted]. By [redacted] construction had begun on the fence surrounding the RAM-K, and the aircraft support pedestals were in place. It is believed that this RAM-K in the test and derelict area is undergoing static testing. 25X1
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RAM-L Aircraft

20. (S/D) The RAM-L has yet to be seen without canvas covering. [redacted] of a RAM-L was acquired on [redacted] (Figure 19), when the aircraft was observed in tow within the east parking area. 25X1
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BACKFIRE Aircraft

21. (S/D) During the last basic reporting period, the normal count of BACKFIRE in the Tupolev area was six BACKFIRE B and an occasional Modified BACKFIRE B. During this reporting period, the normal count dropped to four BACKFIRE B and one Modified BACKFIRE. Also, one BACKFIRE B was moved into the test and derelict area between [redacted]. 25X1

22. (S/D) Two new features that differentiate a standard BACKFIRE B from a Modified BACKFIRE B have been recently identified. The most significant feature is the difference in nose attitude: the Modified BACKFIRE B is nearly level, and the standard BACKFIRE B sits in a nose-high attitude. This difference is quite apparent stereoscopically or when the aircraft is viewed from the side on [redacted] (Figure 20). A second difference can be found in the length of the wing fences near the glove area. The Modified BACKFIRE B has a shorter fence than the standard BACKFIRE B; however, this difference is not readily apparent. 25X1
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CANDID Aircraft

23. (S/D) A number of Modified CANDID aircraft have been observed at Ramenskoye FTC. These include the possible tanker [redacted] (Figure 21) discussed in the previous NPIC report, a CANDID with wingtip pods (Figure 22), and two CANDID with tail extensions (Figure 23). 25X1

24. (S/D) The CANDID [redacted] with wingtip pods was first observed on [redacted] in the new Ilyushin area. The function of the pods, which measure [redacted] in diameter, is not yet known. The aircraft apparently has had engine problems: the engines have been removed several times this year. 25X1
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25 (S/D) The purpose of the tail extensions observed on two CANDID B [redacted] is also unclear. However, [redacted] that both aircraft are involved in the same test program. Both aircraft were first identified at Tashkent Airfield [redacted] as standard unmodified CANDID B [redacted]. CANDID B [redacted] was first identified at Ramenskoye on [redacted] and was observed alternately at Ramenskoye and Tashkent throughout August, September, and October of that year. From December 1978 until [redacted] CANDID B [redacted] normally occupied a parking position in the transient parking area at Ramenskoye. [redacted] it was again observed at Tashkent, where it underwent modification at Tashkent Aircraft 25X1
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**Subsequent numbers in parentheses are bort numbers, unless otherwise specified.

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Plant B Chkalov 84 () throughout April, May, and June. It was last seen at Tashkent on 25X1
 () it had been returned to the transient parking area at Ramen- 25X1
 skoye, where it remains.

26. (S/D) CANDID B () was observed undergoing modification at Tashkent during July and 25X1
 August 1979. It had returned to Ramenskoye by () 25X1

27. (S/D) Three other unusual CANDID have been observed at Ramenskoye, usually in the new 25X1
 Ilyushin area. One CANDID () was the first production model observed, and the other two () 25X1
 and () were preproduction models. All three of these aircraft are now probably electronics testbed 25X1
 aircraft. One CANDID () has black leading edges (possibly dielectric material) along both wings and 25X1
 on the horizontal and vertical stabilizers (Figure 24). Two CANDID () have five dielectric 25X1
 patches each along the leading edges of the wings (Figure 25).

CHARGER Aircraft

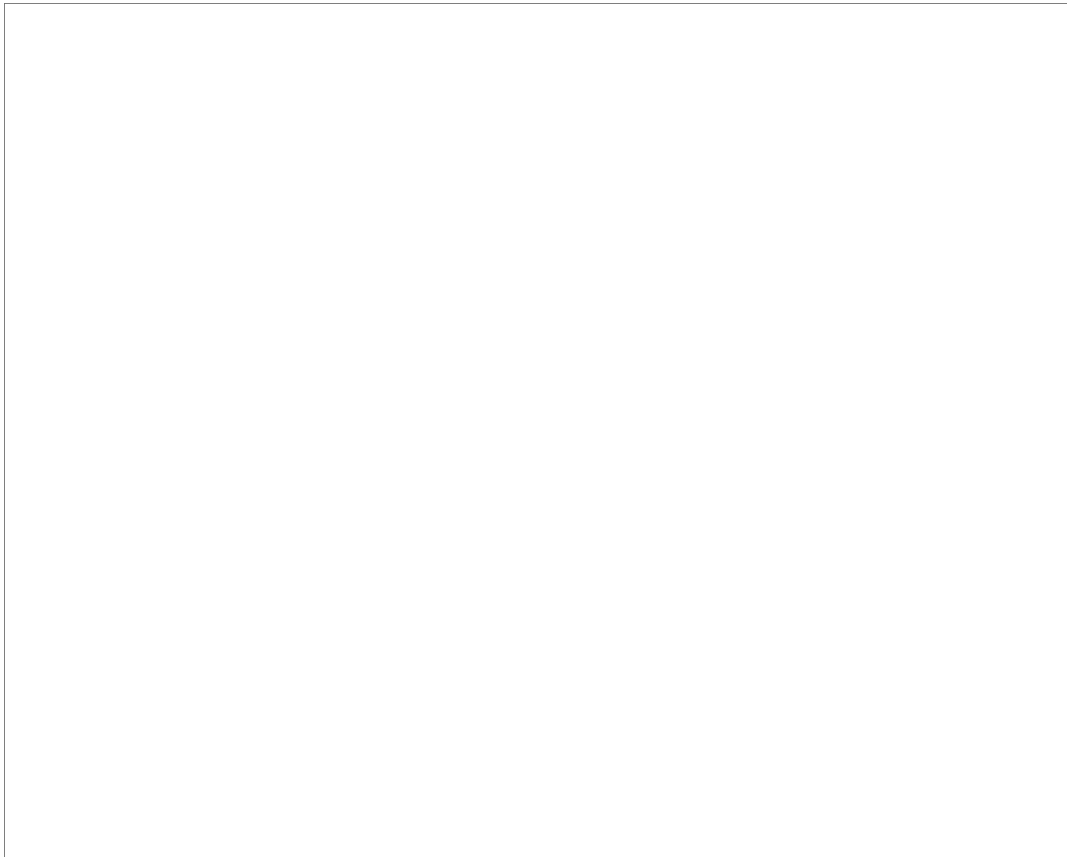
28. (S/D) CHARGER counts have dropped from a normal count of eight CHARGER B (including 25X1
 one partially disassembled) to four CHARGER B, including one in the test and derelict area. Two 25X1
 CHARGER () have probably been equipped with new engines. One CHARGER () 25X1
 also appears to have a modified set of canards. On () it was observed with its canards 25X1
 extended perpendicular to the fuselage and possibly swept forward. The canards are normally swept back 25X1
 approximately ()

CUB Aircraft

29. (S/D) On () a CUB with a massive nose probe was seen in the old 25X1
 Ilyushin area (Figure 26). Two large blister-type radomes are mounted on each side of the forward 25X1
 fuselage section. Similar radomes on other aircraft have been associated with ECM activity.

BOUNDER Aircraft

30. (S/D) The BOUNDER normally seen in the Myasishchev area has been disassembled. By March 25X1
 1980 the engines had been removed, and by () disassembly was complete. 25X1

**FIGURE 22. CANDID WITH WINGTIP PODS****SECRET**

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BADGER Aircraft

31. (S/D) A BADGER with AeroFlot markings (probable [redacted] was observed in the Tupolev area on coverage of [redacted]. The role of this aircraft has not been determined; however, it may have been modified, like the CLEAT D, to support high ranking officials/officers. Activity in the Tupolev area on [redacted] was also unusual. Few of the aircraft were in their normal parking positions, and most were either being serviced or had boarding ramps alongside. This type of activity may indicate that the BADGER is subordinate to the design bureau.

Test and Derelict Area

32. (S/D) Equipment within the test and derelict area (previously called the new test and derelict and central test area) is identified on Table 2, which is keyed to Figure 27. All new equipment within the area is color coded on the graphic. In addition to the new equipment, the following significant changes took place:

1. A new aircraft mockup (item 1, Figure 27) was observed in the northwest corner of the area. It consists of an empennage protruding from an environmental shelter (Figure 28). The horizontal stabilizer span is [redacted] and the fuselage projects [redacted] from the shelter. The mockup was first observed on [redacted]

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SECRET**Table 2. Equipment in the Test and Derelict Area
(Keyed To Figure 27)***This table in its entirety is classified SECRET/WNINTEL*

| Item | Description | Item | Description |
|------|--|------|---|
| 1 | Unid aircraft mockup in shelter | 45 | Derelict CODLING |
| 2 | Fuselage component | 46 | Fuselage section |
| 3 | HORMONE with one set of rotor blades | 47 | FLASHLIGHT |
| 4 | Prob fuselage component for item 49 | 48 | Possible nose section mockup |
| 5 | Prob fuselage component for item 49 | 49 | Possible bomber/high-speed transport mockup |
| 6 | CHARGER A (68001) | 50 | Van trailer |
| 7 | Tail section similar to RAM-E | 51 | CAMEL with nose probe |
| 8 | Van truck | 52 | Van trailer |
| 9 | BACKFIRE B | 53 | Vehicle/piece of equipment |
| 10 | RAM-K in static test | 54 | 203mm howitzer B-4/M-1931 |
| 11 | SA-2 launcher and WHIFF radar | 55 | 203mm howitzer B-4/M-1931 |
| 12 | Prob BEAR tail | 56 | Vehicle/piece of equipment |
| 13 | CARELESS | 57 | SA-2 launcher |
| 14 | Prob JS-2 | 58 | Truck |
| 15 | Cargo trailer | 59 | Van trailer |
| 16 | Poss fuselage section | 60 | Two generator trailers |
| 17 | Tower | 61 | 3 possible OR-2/RL-4 trailers |
| 18 | SCUD TEL JSU | 62 | Radio van truck |
| 19 | SCUD missile | 63 | Prob trailer |
| 20 | Van trailer | 64 | CLOBBER |
| 21 | 3 203mm HOW B-4/M-1931 without tubes and trailer with gun tube | 65 | Prob FIDDLER wreckage |
| 22 | SHADDOCK TEL | 66 | Wing panel |
| 23 | Cargo truck | 67 | Wing panel |
| 24 | Cargo trailer | 68 | Fuselage section |
| 25 | Tractor | 69 | Vehicle/piece of equipment |
| 26 | BTR-60 PU | 70 | Fuselage section |
| 27 | Van truck | 71 | FLASHLIGHT |
| 28 | Trailer | 72 | MAIDEN |
| 29 | Electronics van | 73 | BEAGLE |
| 30 | Probable fuselage section and work platform | 74 | Unid wreckage |
| 31 | Van trailer | 75 | BLINDER |
| 32 | Van truck | 76 | CHARGER B (77144) |
| 33 | Van trailer | 77 | Unid components |
| 34 | Prob radio van truck | 78 | Unid components |
| 35 | Prob radio van truck | 79 | Unid component |
| 36 | 3 UAZ-450 | 80 | Unid component |
| 37 | Generator trailer | 81 | Fuselage component |
| 38 | Van trailer | 82 | Unid component |
| 39 | Van truck | 83 | BEAGLE derelict |
| 40 | Radio van truck | 84 | BEAGLE derelict |
| 41 | Radio van truck | 85 | Prob FITTER wreckage |
| 42 | Prob CLOBBER mockup | 86 | CODLING derelict |
| 43 | Prob CLOBBER mockup | 87 | Van trailer |
| 44 | Fuselage section | 88 | Unid piece of equipment |

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b. After a 15-month hiatus, construction has resumed on an aircraft mockup (item 49, Figure 27 and Figure 29) with a tail section similar in appearance to early designs of the Rockwell International B-1 Bomber. The tail section and possible nose section (item 48, Figure 27) [redacted] three fuselage sections and two platforms/possible wing roots had been added to the tail section mockup. The general configuration of this mockup is similar to a wide-bodied bomber or high-speed transport.

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c. A CAMEL with a nose probe (item 51, Figure 27) replaced a BLINDER (item 75, Figure 27) within a fence-secured test area.

d. A BACKFIRE B (item 9, Figure 27) was moved from the Tupolev area to its present position in the test and derelict area.

e. A RAM-K (item 10, Figure 27) had been placed in static test.

f. A CHARGER B [redacted] without a nose was [redacted] (item 76, Figure 27). It had been in static test within the Tupolev area since [redacted]

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g. Two mockups (items 42 and 43, Figure 27), similar in appearance to a CLOBBER, were under construction in the northeast corner of the area.

h. Two new Sieman stars and a refurbished resolution target were observed in the reconnaissance target section of the test and derelict area on [redacted]

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Construction Activity

34. (S/D) Construction activity at Ramenskoye was relatively heavy during this reporting period. Twenty-one buildings either had been completed or remained under construction as of [redacted] (Figure 2 and Table 1). Approximately 5,250 square meters of floorspace were completed and another 16,211 square meters remained under construction.

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Myasishchev Area

35. (S/D) New construction activity within the Myasishchev area consists of parking area expansion, completion of a small support building, a large support building in the midstage of construction, and a hangar in the early stage of construction. The large amount of construction reflects the increased importance of this area, which supports at least three new programs.

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East Parking Area

36. (S/D) A hangar was in the early stage of construction within the east parking area (Figures 2 and 20). Construction activity was observed in a large unidentified area containing large concrete boxlike units behind the parking area. The purpose of this work was unclear but may be related to drainage, since the area has always had standing water during the spring thaw.

Other Areas

37. (S/D) Significant new construction in other areas included a new on-base firehouse for the new firetrucks (item 19, Figure 2) and a maintenance hangar in the Sukhoy area (item 8, Figure 2). Two new taxiways were also constructed. One taxiway connects the main runway parallel taxiway with a newly constructed pier (Figure 2); the other, behind the transient parking area, connects the Myasishchev area to the Antonov area. Expanded parking areas were observed in both the new Ilyushin area and in the Myasishchev area.

REFERENCES

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MAPS OR CHARTS

DMAAC. US Air Target Chart, Series 200, Sheet 0167-5, scale 1:200,000 (UNCLASSIFIED)

DOCUMENTS

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[redacted] 25X1
2. NPIC. [redacted] *Development of Soviet Aerodynamic Cruise Vehicle-ADV-2*, Nov 80 (TOP SECRET) 25X1
[redacted] 25X1
3. NPIC. [redacted] *Probable RAM-K Fuselage Observations in the USSR*, Jan 80 (TOP SECRET) 25X1
[redacted] 25X1

REQUIREMENT

COMIREX J02
Project 541019J

*Extracted material is classified SECRET [redacted] 25X1
(S) Comments and queries regarding this report are welcome. They may be directed to [redacted] Warsaw Pact 25X1
Forces Division, Imagery Exploitation Group, NPIC, [redacted] 25X1

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