

Incidental Paper

**Korean Airlines Incident:
U.S. Intelligence Disclosures**

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Program on Information Resources Policy

Harvard University

Center for Information
Policy Research

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KOREAN AIRLINES INCIDENT: U.S. INTELLIGENCE DISCLOSURES
David M. Johnson
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Foreword

The Korean Airline (KAL) incident in September 1983 was not only a human tragedy in which an act of a government took a large number of lives. It also sparked a direct confrontation between the two superpowers, which could have escalated into untold violence. Instead, both the U.S. and the Soviet Union chose to use fairly rough-edged public diplomacy to lay the case before the world. The strategy adopted by the U.S. was to release substantial amounts of what was until then closely held information regarding its own intelligence systems and capabilities to put the Soviets on the defensive. Since the crisis blew itself out and ended peacefully, it can perhaps be said that the loss of some U.S. secrecy was a small price to pay.

This paper deals with what the public (and the Soviets) apparently learned by this unprecedented glimpse into U.S. and some allied intelligence capabilities in the North Pacific. It deals also with what the public learned about the operations of the Soviet air defense systems. It discusses various statements made by U.S. officials, both for and not for attribution, statements by Soviet officials, and other information made available to and published in, mainly, the American press.

The paper is accompanied by short excerpts from about 150 articles that were published around the time of the incident. The references are keyed to extensive selected quotes, which should be consulted for a more detailed look at the crisis period.

Oswald H. Canley

Introduction

This paper briefly discusses some of the information which was published in the aftermath of the Soviet downing of Korean Airlines (KAL) Flight 007. The number of authorized disclosures which occurred in this period was unprecedented. National Security Agency Director Lincoln Faurer remarked at one point that: [44]*

"...as a result of the Korean Air Lines affair you have already heard more about my business in the past two weeks than I would desire..."

but added that:

"For the most part, this has not been a matter of unwelcome leaks. It is the result of a conscious, responsible decision to address an otherwise unbelievable horror."

It is this conscious decision to disclose U.S. intelligence information, and thus possibly compromise sources and methods, that makes this incident unusual. According to one observer, the KAL incident marks the first time the U.S. has disclosed monitoring intelligence since 1958. [48]

This paper first discusses what intelligence the U.S. admitted to having and what these disclosures indicate about the extent of U.S. and Japanese capabilities. The presence of a U.S. RC-135 reconnaissance plane in the area on the night of the KAL incident has led to a great deal of discussion of this airplane, and published information regarding it is included. Some conclusions concerning Soviet air defense

*Throughout, numbers in brackets refer to items in the collection of excerpts from source materials.

capabilities and command structure are provided. A few other facts about U.S. electronic defenses are also supplied.

What the U.S. Acknowledged It Knew.

The information disclosed by the U.S. government can be divided into two categories: what the administration officially announced; and the material provided on a not-for-attribution basis. While the material provided anonymously is in some cases more detailed it might be less reliable. In any case, a great deal can be deduced from the attributed statements.

The following is a list of materials and facts that are assumed to have been collected through intelligence-gathering methods. These were officially announced in the ten-day period following the downing of the Korean jet:

... All the material included on the tapes of Soviet fighter pilot transmissions for the 56 minute period from 1756 to 1846 GMT. (State Department Release) [Appendix C]

... The fact that Soviet radar started tracking KAL Flight 007 at 1600 GMT. (Shultz) [3]

... The fact that the Soviets tracked Flight 007 continuously after 1600 GMT. (Shultz) [3]

... That at least eight Soviet fighters were launched in pursuit of Flight 007 at one time or another. (Shultz) [2]

- ... That after the downing of Flight 007, Soviet controllers ordered search planes to the crash area. (Shultz) [1]
- ... That the Soviets tracked Flight 007 for two and one half hours while it flew a straight line course at an altitude of 30 to 35,000 feet. (Reagan) [11]
- ... That the Soviets scrambled fighters from Sakhalin. (Reagan) [14]
- ... That during a similar downing in 1978, the Soviet interceptor pilot repeatedly questioned his orders to fire on a civilian jet, but was ordered by ground control to do so anyway. (Reagan) [15]
- ... That the Soviet interceptors who pursued KAL Flight 007 over Sakhalin included three SU-15s and one MIG-23. (Kirkpatrick) [18]
- ... That the Soviets tracked the Korean Airlines Flight 007 and the U.S. RC-135 reconnaissance plane separately. (White House Statement) [13]
- ... That the Soviets initially identified Flight 007 as an RC-135. (White House Statement) [13]

... That for two and a half hours the Soviets had radar images of Flight 007 from the ground and/or the air.

(White House Statement) [13]

... That the Soviets changed their initial identification of KAL Flight 007 as an RC-135 to that of an "unidentified aircraft" one and a half to two hours before the plane was shot down. (White House Statement) [13]

The above information strongly suggests that the U.S. had access to more intelligence sources than simply its released transcripts of monitorings of fighter pilot communications from the period 1756 hours to 1846 hours. First, it must at least have been monitoring pilot conversations from 1600 onward, since it had information about Soviet actions from that time forward. (Reagan's statement about the 1978 incident indicates that the U.S. also had similar monitoring capabilities at that time.) Second, it seems likely that the U.S. had access to transmissions from Soviet ground units as well as airborne interceptors, particularly in light of U.S. knowledge of the initial identification of Flight 007 as an RC-135. This occurred when it was first picked up by Soviet radar, that is, before Soviet fighters took off. Immediately after Larry Speakes acknowledged the above, an unnamed senior White House official elaborated on his statement that the Soviets initially identified Flight 007 as an RC-135 as follows: [6]

"The Soviets tracked the Korean plane and first misidentified it as an RC-135. It went over their airspace, which our reconnaissance planes never do. Then they changed their identification of it to "unidentified.""

This indicates that the U.S. was able to monitor the transmissions of some part of the Soviet air defense ground control system. And while it is not conclusive proof (there are probable combinations of fighter transmissions that would have disclosed the same information), it provides sufficient information for the Soviets, who know exactly what their fighters transmitted, to gauge the extent of U.S. knowledge.

The above discussion draws solely on official U.S. statements. American officials said a great deal more on condition that they not be named. First, they gave additional credence to the proposition that the U.S. and/or Japan were able to monitor the ground half of the Soviet ground-fighter conversations, as well as other Soviet transmissions. [33] The U.S. was aware of increased Soviet air defense activity in the Kamchatka-Sakhalin region that night (increased radar activity, fighter launches) and knew that: [24]

"...at one point the order to track was transmitted to an SA-2 surface-to-air missile unit stating that the target was an RC-135."

According to The New York Times, the National Security Agency checked to see if any RC-135s were in danger, and upon finding there weren't, ignored the information. [26] According to a source quoted by Aviation Week, U.S. monitoring of Soviet transmissions provided: [25]

"...hard evidence that certainly forward elements controlling regional air defense assets knew that the target it ordered a Sukhoi Su-15 interceptor to shoot down was a civilian airliner...We know beyond a doubt that they [the Soviets] were aware before ordering the Su-15 pilot to drop back to six o'clock and fire two Anab missiles at the Korean transport that it was not an RC-135 Elint aircraft..."

For this official, the only question remaining was "'how far up the Soviet chain of command'" such knowledge went. All of this indicates that the U.S. and/or Japan were able to monitor large parts of the internal communications of the Soviet Far Eastern air defense system.

The Japanese also seem to have had a major intelligence capability independent of the U.S. The Los Angeles Times reported that Japan discovered the downing of KAL Flight 007 independently of the U.S. [35] According to unnamed U.S. officials, the U.S. attempted at first to attribute all of its intelligence about the Soviets' actions to Japanese monitoring, in order to shield U.S. sources. [30] Some Japanese intelligence officers were said to have been strongly opposed to even the limited disclosures of Japanese intelligence that were made. [36] Their hesitancy may have been justified for, according to various unnamed Japanese officials, changes made in the Soviet codes and frequencies following the American disclosures reduced the effectiveness of Japanese monitoring by 60 percent. [31,38]

Other things which according to unattributed sources the U.S. or its allies were able to discover were:

... The Soviet fighters launched to intercept KAL Flight 007 over Kamchatka never found the plane visually. [66]

... The Soviets were planning a missile test for that night (the reason for the presence of the RC-135), but canceled it. (And the U.S. was immediately aware of that). [32] The test was run three days later, and failed. [32]

... The Soviets assigned two different numbers to the RC-135 and Flight 007 for tracking purposes. [12]

... The Su-15 that supposedly shot down Flight 007 was equipped with an extra fuel tank and not a gun pod (though it could have been). [37] (This was probably deduced from pilot transmissions about dropping the fuel tank which were included in released tapes).

... The order to fire was transmitted by the Soviet ground control system. [25]

... The Su-15s that pursued Flight 007 over Sakhalin flew from Dolinsk-Sokol airbase on Sakhalin. [22]

The RC-135

Almost all the information about U.S. RC-135 reconnaissance flights that appeared in the press following the KAL downing was provided on an anonymous basis. The U.S. did, however, officially acknowledge that it flies regular reconnaissance flights off the Siberian coast. [6] Such a disclosure is, in itself, unusual. The U.S. apparently did not plan to disclose the presence of the U.S. monitoring plane at all until, after a White House briefing on the incident for congressional leaders, Rep. James Wright (with how much knowledge is unclear) mentioned RC-135s. [9] White House spokesperson Larry Speakes rushed to qualify Mr. Wright's statement, but in so doing confirmed the presence of an RC-135 in the region of the Soviet border that night. The following is a summary of information that appeared in print after the KAL incident about this particular flight and about RC-135s in general. Unless otherwise indicated, all of it is from unnamed U.S. officials.

The RC-135 which passed near KAL Flight 007 remained outside the Soviet air defense perimeter, it is said. [127] The Soviets seem to have confirmed this--one statement on the RC-135 said the plane only operated "near" the Soviet border. [114] There are two versions of where the RC-135 was at the time of the attack on Flight 007. U.S. officials first said it was 1000 miles away, over international waters. [106] President Reagan later announced that the RC-135 had been on the ground in Alaska for over an hour at the time of the attack. [108] That particular plane may not have been the only one in the area. The Soviets claim that the U.S. was operating two RC-135s and a P-3 Orion that night [90], a claim the U.S. has not denied. [128]

The northern Pacific off the Siberian coast is a heavy activity area for RC-135s. So are the Baltic and Black Seas. [101] According to one source, RC-135s are in the air 20 days and/or nights a month. [101] They are said to fly off the Siberian coast once every week to 10 days. [103] Two former RC-135 crewmen said that the planes fly a figure eight course, designed so that the reconnaissance craft are never directly headed towards enemy airspace. [120] They also claimed that the NSA occasionally ordered RC-135s to violate enemy airspace. [118] Both they and unnamed U.S. officials noted that in areas of special interest, RC-135s are often continuously on station. [122,128]

U.S. officials also gave conflicting information as to the RC-135's mission. Initially, they said the plane was on a "milk run," calibrating its radar; [117] on a routine monitoring mission; [127] and on a mission to assess Soviet air defenses. [112] About a week after the incident, it was disclosed that the plane was on hand to monitor a Soviet missile test, and that it left the scene when it appeared that the test had been canceled. [32]

The incident raised some questions about the tactics of RC-135s, and whether they could possibly have placed the Korean airliner in danger. Two unnamed sources said that it was a common maneuver for RC-135s to trail civilian airliners in order to record Soviet emissions as the passenger jets were tracked. [103,107] Another source said that RC-135s often attempt to trigger Soviet air defenses by electronic means. [127]

Some officials were willing to talk about the equipment and capabilities of the RC-135's. One said that the RC-135 operates at altitudes varying from several thousand to 35,000 feet, and at the higher altitude has a monitoring range of 150 miles. In exceptional circumstances, it was said to be able to receive signals from 500 to 1000 miles away. [102] Another official reported that there are specialized RC-135s which are devoted solely to gathering missile data. [115] The plane is unarmed but, for obvious reasons, has excellent communications and navigation equipment. [111]

The former RC-135 crewmen previously mentioned said that the RC-135 can remain airborne for 18 to 20 hours with only one in-flight refueling. [120] They said the RC-135 is able to communicate on all frequencies to any kind of craft (including commercial airliners), and that during the Vietnam war, RC-135s often warned American pilots flying missions over North Vietnam of threatening air defense activity. [121] They claimed that the RC-135 can communicate easily with all levels of the U.S. government, and that it is mandatory that a certain kind of message, a "critic," reach the President within ten minutes of its transmission. [124] They added that the RC-135 has extensive electronic warfare capability. [119] Finally, they asserted that the RC-135

maintains constant awareness of all radar and tactical air activity around it. They made this last disclosure, they said, because they believed that the U.S. was withholding information the RC-135 must surely have gathered about the threat to KAL Flight 007. [125]

Various sources mentioned that the RC-135s are part of the 6th Wing of the Strategic Air Command. [109] They are said to be organized as Electronic Security Squadrons [104], with headquarters at Offutt Air Force Base near Omaha, Nebraska. [99] The planes are manned by a 30-man U.S. Air Force crew plus a number of electronic warfare officers. [123] The entire crew, it is said, is "under the operational authority of the National Security Agency." [123]

The RC-135 in question here was said to have flown from Eielson Air Force Base near Fairbanks, [109] where several RC-135s are based. [104] There are RC-135s at bases scattered around the Pacific, [104] and one Japanese newspaper reported that there are 10 such planes based in Japan. [43] (As an aside, Reuters said there are U.S. SR-71 Blackbird reconnaissance aircraft stationed at Arkrotiri, Cyprus.) [148]

Soviet Air Defense and Decisionmaking

The KAL Flight 007 incident also has given the public some insight regarding Soviet air defense capabilities. The Soviets have said their radar could not distinguish between an RC-135 and a 747, and unnamed U.S. sources concur in this saying that Soviet radar lags in this area. [78,79] About a month following the incident, unnamed sources in Moscow told U.S. reporters that two of the three radars that could have monitored KAL Flight 007 were out of commission at the time of the incident. [96] It seems very likely that Soviet interceptors were

launched from bases in Kamchatka to intercept the craft, but were unable to locate it visually. [94,98,66]

The U.S., according to unnamed sources, embarked on a major effort to trace the decisionmaking pathway within the Soviet Union through which the shoot-down order flowed. [25] According to this source, the U.S. has proof that the local commanders knew what kind of aircraft they were shooting at. The U.S. research effort concerning the incident was based upon recorded monitorings of two Soviet command channels, Air Defense and KGB, both of which were considered to be relevant. [25]

The Soviet Union officially stated that the decision to terminate the flight was made by the commander of the Biya region. [67] What was described as a "carefully leaked statement" from the Soviet embassy in Tokyo said that the order was given by General Govorov, commander of the Far East Military Region. [75] General Ogarkov, speaking for the Soviets at a press conference a week after the downing, said that the local commanders were in full contact with government authorities [72], and that the Soviets believed KAL Flight 007 to be a reconnaissance plane. [71]

Anonymous U.S. officials and former intelligence officials generally concurred that it was likely that Air Defense Headquarters in Moscow was informed of the events off the Siberian coast, and that Moscow at least concurred in the decision to down the plane. [73-74,76,94,96] Unnamed Soviet sources said that civilian leaders were not consulted, and here too, U.S. officials agreed that this was possible. [94,96]

The incident also illustrates the centralization of the Soviet air defense system. U.S. experts commented that radar was crucial to Soviet

air defense, since their pilots are "nothing more than guided missiles." [25,80] All Soviet actions are directed from the ground, these experts said.

Other U.S. Defense Capabilities

A few miscellaneous items about U.S. defense capabilities can be added. U.S. military radar (at least in the area of the Aleutians) was reported to have a range 50% greater than civilian equipment. Civilian radar could reach about 165 miles, military radar 250 miles. [138] Military radars are located further along the KAL Flight 007 route. Reportedly, there is a tracking station on Shemya Island in the Aleutians. [136] To improve radar capabilities, the U.S. is installing new "Seek Igloo" minimally-attended radars in Alaska. [141]

As of September 19, 1983, the U.S. had scrambled jets 77 times so far that year in response to Soviet intrusions upon the U.S. air defense zone. Most of the interceptions were made near Iceland, three were made off the East Coast, and 14 near Alaska. [137] The Soviet Union frequently flies missions along the U.S. coast similar to those of the RC-135, using specially modified versions of their TU-95 "Bear" bomber, [133] Air Force sources are reported to have said.

Appendix A

List of Persons Mentioned:

Baker, Howard H.	Senate Majority Leader
Bamford, James	Author of <u>The Puzzle Palace</u> , a book about the National Security Agency
Bernard, Tom	Former Air Force communications specialist and RC-135 crewman
Brown, Bruce K.	Lt. Gen., chief Alaskan Air Command
Carver, George A.	Ex-US intelligence officer; Georgetown Center for Strategic and International Studies
Dougherty, Russell E.	Former commander, Strategic Air Command; Executive Director Air Force Association
Erickson, John	Professor, Director of Defense Studies, University of Edinburgh
Eskelson, T. Edward	Former Air Force communications specialist and RC-135 crewman
Faurer, Lincoln D.	Director, National Security Agency
Helms, J. Lynn	Director, Federal Aviation Administration
Inman, Bobby	Admiral, retired, former director National Security Agency
Kirkpatrick, Jeane	American Ambassador to the United Nations
Kirsanov, Piotr	Air Marshall, Ex-commander in Far East, counselor to Soviet Defense minister
Moskvitilev, Nikolai	Gen., Head, Fighter Aviation, Soviet Air Defense Command
Ogarkov, Nikolai	Marshall, Chief, Soviet General Staff
Reagan, Ronald	President
Schlesinger, James R.	Former Secretary of Defense
Shultz, George	Secretary of State
Speakes, Larry	White House Press Spokesperson
Wright, James	House Majority Leader

Appendix B

Selected Quotes From News SourcesI. U.S. & Japanese Intelligence

#1 "About an hour (after the plane was downed) the Soviet controllers ordered a number of their search aircraft to conduct search and rescue activities in the vicinity of the last position of the Korean airliner as reflected by Soviet tracking. One of these aircraft reported finding kerosene on the surface of the seas in that area. (--Shultz statement, 9/1/83)"

The New York Times, 09/02/83, p. 5

#2 "We know that at least eight Soviet fighters reacted at one time or another to the aircraft. (--Shultz statement, 9/1/83)"

The New York Times, 09/02/83, p. 5

#3 "At approximately 1600 hours Greenwich Mean Time, the aircraft came to the attention of Soviet radar. It was tracked constantly by the Soviets from that time. The aircraft strayed into Soviet airspace over the Kamchatka Peninsula and over the Sea of Okhotsk and over the Sakhalin Islands. The Soviets tracked the commercial airliner for some two and a half hours. (--Schultz statement, 9/1/83)"

The New York Times, 09/02/83, p. 5

#4 "The Yomiuri Shimbun, quoting a Japanese government source, said that a radio message sent by Soviet warplanes which were scrambled to follow the jet contained a reference to 'RC 135,' indicating that Soviet pilots could have mistaken the jetliner for a US electronic spy plane. ...The intercepted radio message, monitored by Japanese military intelligence, also contained encoded exchanges between the Soviet fighter pilots sent to intercept the Korean plane and their controllers, the newspaper said. The reference to 'RC 135' contained in a section of the intercepted radio conversation that was deciphered by both American and Japanese military intelligence experts, preceded an order from Soviet ground control to shoot, the newspaper reported."

United Press International, 09/03/83, p. 0

#5 "Discussing possible confusion about whether the aircraft was a passenger jetliner or spy plane, Bob Sims, a spokesman for the National Security Council, said in a note read by Speakes: 'They may have thought this was an RC-135 when the Korean aircraft was first acquired on their radar, but that was approximately 1 1/2 to 2 hours before the shootdown. As they tracked it and particularly with their visual information obtained by the fighter pilot's close

proximity and the radar information available to them when they shot it down, they should have known without any doubt that it was a civilian airliner."

Associated Press, 09/04/83, p. 0

#6 "But Mr. Speakes, at a subsequent briefing, said that Mr. Wright was mistaken and that there had been no reference in the eight-minute selection to an RC-135 plane. Another Administration official said there was no such reference in any of the 55 minutes of tape in American possession. Seeking to clarify this, Mr. Speakes said repeatedly that the United States did operate reconnaissance flights in international waters off the Soviet coast to monitor missile tests and other actions. Administration officials said this practice was in full accordance with nuclear arms treaties with the Soviet Union calling for means of verification of missile tests. Under repeated questioning, Mr. Speakes said that 'if there was any reference' to an American reconnaissance plane, 'it took place well in advance' of the Soviet attack on the Korean plane. Finally, he said that the Russians 'did identify an aircraft as a United States reconnaissance flight' but that this had occurred an hour and a half or two hours before the Korean plane was shot down. He also acknowledged that 'there were two different aircraft at one point.' Seeking to clarify the situation still further, a senior Administration official, speaking after the briefing, confirmed the presence of a United States reconnaissance plane, which he said was 1,000 miles from the site of the downing of the Korean plane. Still another official, also speaking on condition that he not be identified, asserted that 'the existence of the reconnaissance plane is irrelevant. The Soviets tracked the Korean plane and first misidentified it as an RC-135,' he said. 'It went over their airspace, which our reconnaissance planes never do. Then they changed their identification of it to 'unidentified.' Actually, we don't know enough about this incident and would like the Soviets to explain.'"

The New York Times, 09/05/83, p. 1

#7 "One administration official described (the controversy over the presence of the RC-135) this way: 'The fact is, as we have said we have routine reconnaissance flights, particularly in that part of the world to verify compliance with the SALT Treaty. This was not a spy plane ... it was a monitoring plane which the Soviets are familiar with. At the time the Korean plane was approaching Soviet air space some two hours before it was shot down, some 1,000 miles away, and nowhere close, we had an RC-135 reconnaissance plane operating in more or less a circular flight to do its monitoring ... that the Soviets routinely track. The Korean plane approached off course. It was picked up by Soviet radar. They initially assumed it was an RC-135. They were tracking both planes on their radar. Our plane was well outside Soviet air space. The two planes never got closer than 75 miles. The tracks of the planes crossed but at the time they were almost 300 miles apart. It was a bizarre coincidence. They Soviets initially thought the Korean plane was a

reconnaissance plane but when it got to their air space, they began to change their identification of the plane,' changing the designation to 'unidentified.'"

United Press International, 09/05/83, p. 0

#8 "The Japanese government first reported it 'appeared likely' the transport had been shot down by Soviet fighters. The government said its defense radar had picked up a large number of Soviet aircraft flying over the Japan Sea south of Sakhalin, possibly searching for survivors. Japanese Foreign Minister Shintaro Abe said radar analysis showed that what appeared to be three Soviet fighters scrambled from Sakhalin at about the same time the 747 entered the area."

Aviation Week and Space Technology, 09/05/83, p. 26

#9 "The Reagan Administration had not previously disclosed the existence of a United States reconnaissance plane in the general vicinity of the Korean airliner. The disclosure came as Mr. Wright talked with reporters about the tapes (the administration played for him). Mr. Wright told reporters that the communications of two Soviet pilots were heard. The first, he said, was 15 miles away from the Korean plane and 'seemed calm.' The second, a little more than a mile away, 'seemed a little more excited all the way through, and I suppose he would be,' Mr. Wright said. 'Two or three time he asked the control center to repeat something that had been said or an order to him,' the Texas Democrat went on. 'He seemed somewhat unclear at first, but it seemed in the end that he was clear indeed of the instructions that were given to him by the ground control center.' Mr. Wright was then asked if any of the pilots had referred to the Korean aircraft as an RC-135 reconnaissance plane. 'Yes, that's true,' he said. 'At at least one point, they referred to it by that designation.'"

The New York Times, 09/05/83, p. 1

#10 "Intelligence experts out of the (U.S.) government, however, said that if the surveillance plane was operating anywhere near the path of the South Korean plane during the early phases of its encounter with Soviet aircraft, the American plane would likely have detected unusual Soviet air-defense activity. If so, they said, the crew of the plane could have taken steps to notify civilian air-traffic controllers in Japan. ...American officials said the American reconnaissance plane picked up no information suggesting that the Korean plane was in trouble."

The New York Times, 09/05/83, p. 4

#11 "The Soviets tracked this plane (KAL 007) for two and a half hours while it flew a straight-line course at 30 to 35,000 feet. (Reagan Speech)"

The New York Times, 09/06/83, p. 15

#12 "...an aide to the Senate majority leader, Howard H. Baker Jr. of Tennessee, said the Senator was certain the Russians knew which plane they were tracking as they had assigned different numbers to each plane for tracking and knew each was headed in a different direction. Senator Baker attended a White House session Sunday in which Congressional leaders were briefed on details of the episode and listened to tapes of transmissions between Soviet commanders on the ground and the Soviet pilot who reportedly shot down the passenger plane. He was said to have received additional information later."

The New York Times, 09/06/83, p. 1

#13 "The Soviets traced the Korean aircraft and the U.S. aircraft separately and knew there were two aircraft in the area, so we do not think this was a case of mistaken identity. ...(A)s the Korean airliner strayed off course and overflew Kamchatka Peninsula, it was initially identified by the Soviets as an RC-135 and then as an unidentified aircraft. ...During the two and one half hours of Soviet surveillance of the Korean aircraft, the Soviets had radar images (both ground and air) of the Korean 747. The two aircraft are distinctly different in shape and size. Their fighter aircraft also had visual contact with the Korean aircraft. The SU-15 and MIG-23 aircraft pilots whose voices are on the tape obtained by the U.S. and played for the Congressional leadership never refer to the Korean aircraft as an RC-135, only as the 'target.' (US Statement on RC-135 of 9/5/83)"

The New York Times, 09/06/83, p. 16

#14 "The Soviets scrambled jet interceptors from a base on Sakhalin Island. Japanese ground sites recorded the interceptor plane's radio transmissions -- their conversations with their own ground control. We only have the voices from the pilots. The Soviet ground-to-air transmissions were not recorded. (Reagan Speech)"

The New York Times, 09/06/83, p. 15

#15 "In another tragic incident in 1978, the Soviets also shot down an unarmed civilian airliner after having positively identified it as such. In that instance, the Soviet interceptor pilot clearly identified the civilian markings on the side of the aircraft, repeatedly questioned the order to fire on a civilian airliner and was ordered to shoot it down anyway. (Reagan Speech)"

The New York Times, 09/06/83, p. 15

#16 "We know what the Soviet pilots who intercepted the Korean airline over the Sakhalin Islands said to their ground controllers during the 50-minute period from 17:56 to 18:46 on Aug. 31 while they tracked, discussed and destroyed the Korean airliner and its passengers. (--Kirkpatrick UN address of 9/6/83)"

The New York Times, 09/07/83, p. 15

#17 "Japanese electronic eavesdropping stations on Japan's northernmost island of Hokkaido, (Air Force) sources said, easily could have overheard radio conversations of Soviet pilots flying

near the Korean airliner at about 30,000 feet because such communications can be heard at great distances. Normal radio conversations from ground stations, they said, are blocked by the earth's curvature and are beyond range of distant radio stations such as those in Japan."

The Washington Post, 09/07/83, p. 12

#18 "the Soviet interceptors,...included three SU-15 Flagns and one MIG-23 Flogger...(--Kirkpatrick UN address of 9/6/83)"

The New York Times, 09/07/83, p. 15

#19 "Columnist William Safire said today that an American RC-135 was in the north Pacific before the Russians shot down Korean Air Lines Flight 007 to gather information on a 'major Soviet missile test.' 'Here is what happened near the Soviet-Japanese border,' Safire wrote in today's edition of The New York Times about the background to last Thursday's shooting down of the Korean jumbo jet by a Soviet Sukhoi Su-15 fighter plane. 'Our electronic ears told us that a major Soviet missile test was in its beginning stages; as usual, one of our RC-135 spy planes was sent up to observe the test from a position well outside the Soviet Union. At the same time, the Korean civilian jumbo jet wandered off course into the area. Preparations for the missile test were promptly shut down; as that mission was scrubbed, our reconnaissance plane returned to its base.' Safire gave no sources for his information on the incident..."

United Press International, 09/08/83, p. 0

#20 "U.S. officials said that in recent days the Soviets almost shot down one of their own planes in the same region (as where KAL 007) was downed. One official said, without disclosing the source of the information, that Soviet interceptors were prepared to fire but stopped after visually identifying the target as a Soviet plane."

The Washington Post, 09/08/83, p. 1

#21 "The United States Air Force's 6920th Electronic Security Group is also based on Hokkaido and there are other (listening) posts near Tokyo and Yokohama."

The New York Times, 09/11/83, p. IV 2

#22 "The Su-15 interceptor that fired the Anab missiles at the 747 was one of three Su-15s dispatched from Dolinsk-Sokol airfield on Sakhalin Island. A Mikoyan Mig23 fighter also was assigned to the interceptor force. The Soviet Union operates from six fighter bases on Sakhalin Island....Japanese Defense Agency officials still believe that a Mig-23 Flogger that took off for the transport intercept from Sakhalin Island is the aircraft that fired on the transport, not the Su-15 U.S. officials claim fired at the 747. In communications between the airborne interceptors and the ground recorded by Japan's Defense Agency, the name Karnaval was used along with the other code names of Deputat and Trikotazh. Japanese officials said these are call signs for ground controllers and air defense units at a Sakhalin base, where a wing of Mig-23s is based with an inventory of approximately 40 Floggers. Other Soviet air bases on the island include Dolinsk-Sokol where Su-15s are based.

An additional Su-15 air wing is located in Kamchatka."
Aviation Week and Space Technology, 09/12/83, p. 18

#23 "The U.S. Air Force operates electronic surveillance equipment and a radar tracking facility from Misawa Air Base on the northern edge end of Honshu, and at Wakkanai on the northwestern side of Hokkaido. The Japanese Self-Defense Force operates radar and electronic intelligence facilities at Wakkanai. Intercepted communications and signal intelligence from Soviet units on Kamchatka, in the Kuril Islands and the Soviet mainland are transmitted through National Security Agency routes."
Aviation Week and Space Technology, 09/12/83, p. 18

#24 "Other U.S. officials said that there is evidence that the Soviet air defense units in the area were not fully aware that the 747 was a commercial transport, 'because at one point the order to track was transmitted to an SA-2 surface-to-air missile unit stating that the target was an RC-135.'"
Aviation Week and Space Technology, 09/12/83, p. 18

#25 "One (US) official said that the National Security Agency 'has hard evidence that certainly forward elements controlling regional air defense assets knew that the target it ordered a Sukhoi Su-15 interceptor to shoot down was a civilian airliner. They knew it probably was a scheduled Korean transport operating off course.'... 'We know beyond a doubt that they [the Soviets] were aware before ordering the Su-15 pilot to drop back to six o'clock and fire two Anab missiles at the Korean transport that it was not an RC-135 Elint aircraft,' one U.S. official said. 'The only remaining question,' he added, 'is how far up the chain of command that information went before the 747 was ordered destroyed.' The USSR transmits on two channels, Air Defense and KGB, and both must be checked, the official said. Recorded conversations, one official said, clearly show that at no time did communications refer to the aircraft as anything other than the target, causing U.S. officials to believe that the target was already known...U.S. tape recordings, (the official said, show) that the Soviet far eastern theater of military operations, one of five such theaters established recently to control air defense, 'knew the target was an airliner.' The recorded information being studied to determine at what level of Soviet hierarchy the decision was made to destroy the Korean Air Lines transport 'plumbs the depth of U.S. intelligence capabilities, and may never be made public even if it can be determined.' the official explained. It will take at least another week, he said, before the intelligence community can sort out specific transmissions related to Soviet air defense tracking of the commercial transport and messages from Kamchatka and Sakhalin Island through the chain of command to Moscow. The order to fire two Anab AA-3 missiles from an Su-15 Flagon interceptor was transmitted by the Soviet ground control intercept system, pointing up the rigidity of the Soviet air defense system. U.S. intelligence officers have been asked to delve into any major changes that may have taken place during the past year that could have altered the rules of engagement by Soviet interceptor aircraft."
Aviation Week and Space Technology, 09/12/83 , p. 18

#26 "Little was made of the information (obtained by the NSA that the Soviets had targeted an object identified as an RC-135) intelligence officials said, because a check disclosed that the only RC-135 operating in the area that night was headed back to its base in the Aleutian Islands and had passed no closer than 50 miles from Soviet airspace. Officials said the RC-135 was on a mission to monitor a Soviet missile test that was expected to take place that night."

The New York Times, 09/14/83, p. A12

#27 "(American) intelligence officials said highly sensitive United States monitoring equipment detected a sudden increase in Soviet air-defense activity over the Kamchatka Peninsula and the Sea of Okhotsk in the early morning hours on Sept. 1. The activity included stepped up radar surveillance followed by the dispatch of several interceptor aircraft, according to the officials. Unaware of the flight path of the Korean airliner, intelligence technicians who were monitoring the unusual Soviet actions concluded that they were part of an air-defense exercise, the officials said. 'They had no way of knowing at the time that a commercial airliner had entered Soviet airspace and was the object of the maneuvers,' one official said. ...Officials declined to specify how the (National) (S)ecurity (A)gency learned of the Soviet air-defense maneuvers, but intelligence experts said the most likely source was electronic monitoring of Soviet communications. Intelligence officials said one specific bit of information collected by the United States showed that at one point a Soviet SA-2 surface-to-air missile unit on the Kamchatka Peninsula was ordered to track a target, which was identified by the Soviet Union as an American RC-135 reconnaissance plane."

The New York Times, 09/14/83, p. A12

#28 "Other (U.S. intelligence) officials said the (National) (S)ecurity (A)gency's heavy emphasis on secrecy would make technicians and middle-level officials hesitant to share information with anyone outside the intelligence community. They said that except in clear emergencies, senior officials with the authority to notify other agencies might not learn about intelligence information until hours after it was first collected in the field."

The New York Times, 09/14/83, p. A12

#29 "(U.S. intelligence) officials said, however, that even if sufficient information had been obtained and analyzed (by U.S. intelligence) in time to warn the Korean airliner, it would have been difficult to do so because there is no established procedure for linking the United States intelligence network with civilian aviation authorities. The officials said the intelligence agency primarily involved in this case, the National Security Agency, which monitors worldwide communications, had no mechanism for quickly transferring intelligence information to civilian aviation authorities. 'There's no system of merging the day-to-day work of the intelligence community with the day-to-day work of the airline people,' a senior intelligence official said."

The New York Times, 09/14/83, p. A12

#30 "The disclosure (on Sept. 13 of other U.S. intelligence information about KAL 007) was the first time the Reagan administration has revealed that United States intelligence agencies were in any way aware of the events that led to the downing of the Korean airliner while those event were unfolding. Until now administration officials, when commenting about the incident, have relied on information and tape recordings of Soviet pilots provided by Japan. The existence of independent American information about the attack has been shielded to protect United States intelligence sources and methods, Administration officials said."

The New York Times, 09/14/83, p. A12

#31 "Japanese officials soon reported (after the American disclosures of intelligence information on the KAL incident) that the Soviets had changed their radio frequencies and codes and that there was a 60 percent reduction in the amount of data that could now be understood."

The Baltimore Sun, 09/15/83, p. 2

#32 "The Soviet Union, which apparently canceled a planned test flight of a new intercontinental-range missile on the night that a South Korean airliner was shot down, did hold such a test three days later, according to administration sources. The sources said that the test was of a new SSX24 missile and that it failed. The is believed to be the seventh failure in 10 test flights of the new three-stage, solid-fueled missile since it was first tested last October, the sources said. The expectation by U.S. intelligence that the Soviets were about to make a missile test on the night of Aug. 31 (Washington time) was the reason, officials said, that an American RC-135 reconnaissance plane was patrolling off the coast of the Soviet Kamchatka Peninsula in international airspace....According to American officials, the RC135 returned to its base because of indications that the planned missile test had been canceled."

The Washington Post, 09/16/83, p. 28

#33 "It has been pointed out that slips of the tongue by U.S. and Japanese officials must have indicated to Moscow that Japan had monitored not only what the pilots said but the hard-to-obtain ground commands to the pilots, official denials notwithstanding. Japanese military officials, however, have been able to prevent the ground communications from being made public."

The Los Angeles Times, 09/19/83, p. 1

#34 "A secret U.S. communications unit believed to be working with the Japanese at Wakkanai, and a massive ground monitoring station maintained by the U.S. Air Force at Misawa, about 340 miles farther south, are also believed to have taken part in the monitoring."

The Los Angeles Times, 09/19/83, p. 1

#35 "It is clear...that Japan determined by itself that the plane had been shot down by a Soviet interceptor before any word of it reached here (Japan) from the United States. About 5 and 1/2 hours

after the attack, Japanese defense officials arrived at that conclusion, but announced only that the jetliner had been tracked nearly 400 miles off course 113 miles north of the Japanese island of Hokkaido. The Soviet island of Sakhalin, over which the plane was shot down, was not mentioned. An hour later, Haruo Natsume, vice minister of defense, called on Chief Cabinet Secretary Masaharu Gotoda to report that the Defense Agency had concluded that the Korean plane had been shot down. Prime Minister Nakasone was informed minutes later....Not for another hour, Japanese diplomats said, did the United States offer any information to Japan. Not long afterward, in an apparent effort to avoid embarrassing the South Koreans, and to give the Soviets time to reply to Japanese inquiries, a Japan Defense Agency official told the Japanese press that in the agency's judgement the plane had crashed. Gotoda, the Cabinet secretary, made a public announcement to that effect 12 and 1/2 hours after the incident. Four hours after that, Foreign Minister Shintaro Abe said there was a strong possibility that the Soviets had shot the plane down."

The Los Angeles Times, 09/19/83, p. 1

#36 "Some Japanese staff officers are reported to have opposed disclosure of the tapes (of Soviet pilots involved in the KAL shooting) in the Security Council. They are said to have feared that doing so might interfere with Japan's ability to monitor Soviet military communications in the future."

The Los Angeles Times, 09/19/83, p. 1

#37 "...a U.S. official had said that although the Soviet Sukhoi Su-15 Flagon interceptor believed by the U.S. to have shot down the Korean aircraft can be armed with a gun pod, in this engagement it was carrying external fuel tanks, not guns. Japanese officials believe a MIG-23 Flogger, not the Su-15, fired on the Korean transport."

Aviation Week and Space Technology, 09/19/83, p. 25

#38 "A (Japanese) Foreign Ministry official told foreign correspondents Sept. 9 that Japan's intelligence capability has already been affected (by the decision to disclose the soviet pilot tapes). After the tapes were made public, he said, the Soviet Union promptly changed the codes and radio frequencies used by its aircraft in the Far East. According to one report, Japan can now monitor and understand only 60% of what it could before the airliner incident. 'Our peepholes have been closed in the last several days,' a Japanese news magazine quoted an intelligence officer as saying. Some experts said that Japan's intelligence-gathering might have been set back by as much as five years."

The Los Angeles Times, 09/19/83, p. 1

#39 "The airliner incident has shed a measure of light on the 'Annex Chamber of the Second Section, Investigation Division, of the Ground Self-Defense Forces,' better known by the Japanese acronym 'Chobetsu.' Chobetsu is headquartered in Ichigaya Camp in Tokyo. Established in 1958, it has a staff of more than 1,100, including civilians and uniformed personnel from all three branches of the

armed services. It is in charge of nine monitoring stations and detachments, four of which are on Hokkaido. With the aid of sophisticated computers, headquarters in Tokyo analyzes all the data that is gathered. Chobetsu's directors have come from the National Police Agency, and almost all the information it gathers is reported not to the Defense Agency but directly to the Prime Minister's Cabinet Research Office, which is also headed by an official of the Police Agency. The Prime Minister's office gets the reports first; and later, if at all, according to some reports, they are passed on to the Defense Agency. Chobetsu reportedly played the principal role in reaching the conclusion that a Soviet jet fighter had shot down the Korean airliner."

The Los Angeles Times, 09/19/83, p. 1

#40 "(Japan) does have key radar and listening posts on northern Hokkaido Island, at Wakkanai, 113 miles south of the route flown by the airliner and its pursuers. That location gave Japan a geographical advantage in this case—particularly for monitoring instructions from the ground to the pilots. The Soviet air force headquarters at Yuzhno-Sakhalinsk on Sakhalin is about the same distance away from the plane's route."

The Los Angeles Times, 09/19/83, p. 1

#41 "Japan's performance in all this has brought into focus the quiet effort the Japanese have been making for years in this field (intelligence). According to Japanese newspapers, it was Japan that provided the first word of the border war between China and Vietnam in February of 1979. Japan also confirmed the successful test last October of a Chinese submarine-launched ballistic missile. Japanese intelligence on troop movements along the Chinese border with the Soviet Union is said to be highly valued by the United States. According to the newspaper Yomiuri, the Defense Agency keeps track of the movement of the Soviet Far East forces. Data on operations, training, and command communication channels has been gathered and analyzed for many years, it said adding: 'It can be said that the Defense Agency gets almost all there is to know about Soviet Far East armed forces covering the maritime provinces of Siberia, Sakhalin, and the Northern Islands.'"

The Los Angeles Times, 09/19/83, p. 1

#42 "The Japanese added that for approximately 17 min. from 3:12 to 3:29 a.m. the Air Self-Defense Force radar station at Wakkanai sighted and recorded an aircraft flying southwest over Sakhalin approximately 100 mi. north of Wakkanai. 'But there was no way that Air Self-Defense Forces could have known at that time that this aircraft was Korean Air Lines Flight 007.' The Japanese added that the Air Self-Defense Force was not following the flight on radar while it was in communication with Narita air control 'but rather suddenly picked up that aircraft on their radar at 3:12 a.m. when it entered the air space over Sakhalin, and even then it was sighted as an unidentified aircraft.'"

Aviation Week and Space Technology, 09/19/83, p. 21

#43 "...an article published by the leading (Japanese) newspaper the Asahi Shimbun last weekend proved a real eye-opener in demonstrating how much Japan is already committed to the pro-US, anti-Soviet strategy. The Asahi claimed that there are 15 planes being operated from American bases in Japan providing a round-the-clock electronic and visual intelligence watch on Soviet Far East military activities. The planes include three high-flying SR-71 spy planes and 10 RC-135 electronic reconnaissance planes...Added to this are two US nuclear submarines code-named 'Watchdog' and 'Tomcat' lurking on the floor of the Sea of Okhotsk to shadow their Soviet counterparts and monitor military communications, the Asahi claimed. 'The Japanese do their spying from land-based listening posts in northern Hokkaido.'

The Christian Science Monitor, 09/22/83, p. 6

#44 "(NSA Director) Air Force Lt. Gen. Lincoln D. Faurer said in a speech Friday night at a dinner meeting of the National Military Intelligence Assn. at Fort McNair in Washington that, '...As a result of the Korean Air Lines affair you have read and heard more about my business in the past two weeks than I would desire...' The NSA director ...added, however, that 'for the most part, this has not been a matter of unwelcome leaks. It is the result of a conscious, responsible decision to address an otherwise unbelievable horror.' Before his address, Faurer told the (Aerospace) Daily that the intelligence community had agreed to go to a certain level in releasing information about the affair. Going below that level, he said, would have created additional controversy, and going above it would have compromised U.S. abilities to monitor the activities of other nations. ...Faurer said, 'the risk was taken and some penalty must certainly be paid, in the sense of the intelligence that has been made available. My intention, and that of the intelligence community, is that it's now time to circle the wagons and stop the talking. Contrary to any speculation which bringing down the veil (or secrecy) will generate, the only intended hiding is of sources and methods. The story has been told accurately and to push further will not provide valuable clarification, but rather will put unnecessarily at risk future intelligence support to our national security.'"

Aerospace Daily, 09/25/83, p. 99

#45 "(NSA Chief) Lincoln D. Faurer was asked by the (Aerospace) Daily before his address if the U.S. was capable of monitoring the Korean Air Lines affair in real time. He declined to answer the question, but a comment during his address indicates the U.S. does have such abilities. '...Today,' he said, 'collection technologies supporting communications, while offering opportunities for further improvement, are permitting an expression of requirement that directs urgency on the (intelligence) analyst to digest a great deal very quickly and to make very rapid assessments. This situation puts a premium on analyst preparation and makes the job a more stressful one.'"

Aerospace Daily, 09/25/83, p. 99

#46 "While the publicly released tapes cover only Russian pilots talking to their ground commanders during the Sept. 1 downing of the Korean airliner, intelligence officials confirm that ground-to-air conversations were recorded as well--either by Japanese intelligence or NSA or both."

The Boston Globe, 09/26/83, p. 41

#47 "The United States has little history of using commercial airliners for cover. According to former intelligence officials, this was done in the 1950's when the CIA outfitted commercial flights with equipment to spy on activities in East Germany as the planes flew to and from Berlin."

The New York Times, 09/26/83, p. A6

#48 "...only once before in history--in 1958, when the Russians shot down a US spy plane and President Eisenhower released similar tapes after Soviet officials denied it--has the product of (US monitoring of the Soviet Union) been displayed to the world."

The Boston Globe, 09/26/83, p. 41

#49 "The only imaging system that works at higher altitudes at night is something called synthetic aperture radar. This emits no waves or signals. Instead, it absorbs energy radiated from the earth and buildings and other ground structures. This is said to be used on SR-71's and U-2 spy planes. The equipment involved is fairly large and is said by officials to take up a lot of space, and would thus have forced the Korean plane to leave a lot of luggage behind. If the Central Intelligence Agency had equipped the Korean airliner in this way, the cost would have been several million dollars, and Congress would have had to approve the expenditure. It is always possible that the agency disguised the money, but Congressional auditing of the CIA budget is rigorous, and this kind of project would probably have attracted attention or provoked disclosures from concerned CIA staff members."

The New York Times, 09/26/83, p. A6

#50 "Administration officials have acknowledged being aware an hour before the shooting down of increased Soviet radar surveillance followed by the dispatch of Soviet interceptor aircraft. But they said that since they were unaware of the Korean plane's course, they did not make the connection between the two. Nor did they believe the heightened activity was related to the RC-135, which was already nearly back to its base."

The New York Times, 09/26/83, p. A6

#51 "James Bamford, author of 'The Puzzle Palace,' ...said in an interview that both sides of the conversation were probably picked up by one of three NSA listening posts: the one at Wakkanai on Japan's Hokkaido Island, which is just 40 miles south of the USSR and directly across from Sakhalin Island; the one at Shemya Island on the Aleutians, off Alaska, not far from the Kamchatka peninsula (which the Korean plane also overflew); or an RC-135 reconnaissance aircraft, which has NSA officials on board."

The Boston Globe, 09/26/83, p. 41

#52 "Photography is a different matter, and ... (U.S.) officials said a daylight flight over Soviet territory might produce something new. But (the Korean Air Lines) flight was at night. Infrared cameras are ineffective above a few thousand feet."
The New York Times, 09/26/83, p. A6

II. Soviet Air Defense & Decision Making

#53 "A high official who answered questions anonymously ...contended that the very rigidity of the (Soviet) system dictated that the destruction of the airliner 'had to be centrally controlled.' Add to this the Russians' well-advertised paranoia about their airspace--particularly in the Sakhalin area--and, this official said, it was clear that Moscow knew exactly what was going on. The system, he asserted, allows 'little leeway for discretion at the subordinate command level.' He said any time there is a 'scramble' of interceptors to check air traffic, the alert 'goes right up the chain of command' to the top. The official, bas(ed) his judgment on both general knowledge and on American intercepts of Soviet air defense communications..."
The Baltimore Sun, 09/02/83, p. 1

#54 "U.S. Defense Mapping Agency charts warn aircraft in the region that they risk being shot down if they stray into Soviet airspace. The maps also caution against false navigational signals from Soviets stations. A Soviet technique called 'meaconing' has been used against U.S. military aircraft for years, Pentagon officials said. It is believed to have lured a U.S. electronic-reconnaissance plane across the Turkish border into Soviet Armenia in 1958, where it was shot down."

The Los Angeles Times, 09/02/83, p. 1

#55 "About 20 hours elapsed before Tass explained that Soviet fighter planes had 'tried to help' the Korean Air Lines Boeing 747 and its 269 passengers and crew members."

The Los Angeles Times, 09/02/83, p. 1

#56 "A possible failure of soviet military planes to intercept a South Korean airliner over the Kamchatka peninsula last week may have caused impatience and sense of humiliation and led to wild missile firing and resulted in the loss of the Korean plane over Sakhalin. This speculation is rising here (Tokyo) on the basis of information and comments given by Japanese government sources and Japanese and U.S. Military sources. ...According to released U.S. data, the possibility is high that five Soviet planes might have scrambled to intercept the Korean plane but failed to complete the mission on the Kamchatka peninsula. In addition, after the KAL plane flew over the Kamchatka peninsula, the soviet ground radar station appeared to have lost the trace of the aircraft, the speculation said."

Kyodo News Service, 09/05/83, p. 0

#57 "Among the rest of us (nations) there is one protective measure -- an international radio wavelength on which pilots can communicate with planes of other nations if they are in trouble or lost. Soviet military planes are not so equipped because that would make it easier for pilots who might want to defect. (Reagan Speech)"

The New York Times, 09/06/83, p. 15

#58 "The Soviets appear to have made no close-up attempt to make sure they knew what they were firing at. Yet the plane was heading out of Soviet airspace. Some officials speculate that the Soviets have standing orders to shoot down intruders after various procedures are followed and were probably mindful of the 1978 incident."

The Washington Post, 09/07/83, p. 11

#59 "U.S. officials continue to believe the Soviets do not have (equipment to communication on international emergency frequencies) in their fighters and that if the Soviets had (tried to contact the KAL flight) it would have been heard by the civilian control tower in Japan to which the airliner was routinely broadcasting position reports."

The Washington Post, 09/07/83, p. 11

#60 "The Soviet Union tonight (Sept. 6) acknowledged for the first time that a South Korean jumbo jetliner which disappeared last week with 269 people on board was downed by a Soviet fighter plane after intruding into Soviet airspace...Tonight's communique, which was read out as the lead item on state television news, was regarded by Western diplomats here (Moscow) as the most authoritative statement yet on the downing of the plane from the Kremlin leadership. It was the first time that the Soviet government--as opposed to the official news agency Tass--has commented formally on the affair and can be viewed as a direct response to President Reagan's television appearance last night..."

The Washington Post, 09/07/83, p. 1

#61 "A Soviet statement on the incident (released) yesterday suggests that the fighters from Kamchatka may have been sent to investigate an American RC135 reconnaissance plane that the administration has acknowledged was also operating in the vicinity of Kamchatka on the same night, but outside of Soviet airspace."

The Washington Post, 09/07/83, p. 11

#62 "The Soviet radio control services picked up short coded radio signals transmitted from time to time, such signals that are usually used in transmitting intelligence information. (--Soviet Government statement of 9/6)"

The New York Times, 09/08/83, p. 16

#63 "When it was approaching Sakhalin Island the intruder was again intercepted by fighter planes of the antiaircraft defenses. And again attempts were made to establish contact with it, including with the help of the known general call signal on the international emergency frequency of 121.5 megacycles...these signals had to be received by the intruder plane, but it did not respond to them. Neither did it respond, as it has been said earlier, also to other signals and actions of the Soviet fighter planes. (--Soviet Government statement of 9/6)"

The New York Times, 09/08/83, p. 16

#64 "The intruder plane entered the airspace over Kamchatka in an area where a most important base of the strategic nuclear forces of the U.S.S.R. is located. At the same time--and this is now admitted by the American side--another spy plane of the United States Air Force, an RC-135 that is similar to it, was in the same area near the Soviet border on the same altitude. Several Soviet interceptor planes were sent aloft. One of them controlled the actions of the American RC-135 plane. A second flew into the area where the intruder plane was and signaled to it that it had intruded into the airspace of the U.S.S.R. The warnings were ignored. (--Soviet Government statement of 9/6)"

The New York Times, 09/08/83, p. 16

#65 "A major element in Moscow's defense is expected to be its claim that the Soviet pilot who shot down the plane had tried to make contact with the airliner on the international emergency radio frequency of 121.5 megacycles. A source at the official Soviet information agency Novosti said today that the pilot had activated equipment that automatically emits internationally recognized signals on this frequency, warning the South Korean pilot that he was over Soviet territory. The pilot received no response, the source said."

The Washington Post, 09/09/83, p. 1

#66 "Continuing analysis of the evidence suggests that the Soviet fighters were not able to locate the plane visually until it increased its altitude shortly before being hit, despite the fact that it had been tracked by Soviet ground radar for more than two hours. ...the recorded conversation of four Soviet interceptor pilots indicates that they did not find the intruder aircraft over Kamchatka. Another four interceptor pilots, two in SU-15 fighters, and two in MIG-23s, sighted the 747 only when it rose to 35,000 feet--presumably to get into clear weather--over Sakhalin, according to U.S. analysts."

The Los Angeles Times, 09/09/83, p. 1

#67 "Q. Who gave the order to cut the flight short? A. The order to the pilots was given by the commander of the Biya region. (--Marshal Ogarkov statement at press conference, 9/9/83)"

The New York Times, 09/10/83, p. 4

#68 "The second stage, the actions of the intruder plane above Kamchatka. At 5 minutes -- at 1510, the plane was over Kamchatka Peninsula over a strategic naval base. It did not respond to inquiries from control -- from Soviet control services. At that time, the short signals regularly used for passing information on the radiowaves were emitting from the plane. Attempts to contact the plane at a fixed international frequency, 121 megacycles, were made to contact the plane and it was decided to bring the plane to -- force the plane to land on the nearest airfield. However, the intruder plane was departing. (--Marshal Ogarkov statement at press conference, 9/9/83)"

The New York Times, 09/10/83, p. 4

#69 "(The plane was detected) in the vicinity of the Petropavlovsk base (in Kamchatka). (--Marshal Ogarkov statement at press conference, 9/9/83)"

The New York Times, 09/10/83, p. 4

#70 "Four rounds of warning shots were fired. One hundred twenty cartridges were fired. However, the plane did not yield to these signals, but tried to evade in the general direction of Vladivostok...(--Marshal Ogarkov statement at press conference, 9/9/83)"

The New York Times, 09/10/83, p. 4

#71 "And let me add that all command levels--we reached the total conviction that we were dealing with a reconnaissance plane and we were trying to force it to land in Kamchatka. But when it did not react to 120 warning shots, nothing was left to us but act the way we did. (--Marshal Ogarkov statement at press conference, 9/9/83)"

The New York Times, 09/10/83, p. 4

#72 "Q. The Korean plane was about--was in the Russian--in the Soviet airspace for 2 and 1/2 hours. What contacts were then made between the local control points and Moscow?

A. Soviet Air Defense Forces operated in full contact with the Government's authorities. (--Marshal Ogarkov statement at press conference, 9/9/83)"

The New York Times, 09/10/83, p. 4

#73 "On the question of any role political leaders may have played or exactly what military man directed the shooting, retired Adm. Bobby Inman, ... says he has no doubt that air defense headquarters in Moscow was informed as events unfolded, could have prevented the shooting and, by not doing so, approved it. 'There almost certainly were some in Moscow who knew what was going on and could have stopped it,' he said. 'There almost certainly was a sufficient flow of detail arriving in Moscow that senior officials could have ordered a halt.' Those in Moscow, he said would include 'at least' air defense headquarters and 'probably' the defense ministry. 'They do not have to go to the Politburo.'"

The Baltimore Sun, 09/11/83, p. 14

#74 "James R. Schlesinger, ...said it was 'my judgement' that political leaders were not brought into the matter for a decision, though the Foreign Ministry might have been called to say 'they had handled an air intrusion. ... If you leave it to the field commanders,' Mr Schlesinger said, 'they'll go by the book. Up the chain of command, there would have to be a positive overruling of the book by senior officers' to prevent the shooting."

The Baltimore Sun, 09/11/83, p. 14

#75 "...a carefully 'leaked' statement from the Russian embassy in Tokyo, suggest(s) that the order to shoot was authorised by General Govorov, commander of the Soviet Far East military region, without consulting Moscow."

The Manchester Guardian Weekly, 09/11/83, p. 1

#76 "George A. Carver, Jr., a longtime U.S. intelligence officer now with the Georgetown Center for Strategic and International Studies here, said after studying flight patterns and recorded pilots' transmissions that 'they knew it was an airliner; chances are they knew it was a Korean airliner. I'm absolutely convinced the approval (to shoot it down) was given from Moscow. I suspect Moscow probably initiated it (the order).' The duty officer at air defense headquarters probably called (Air defense Chief of Staff) Colonel General Romanov when reports began flowing in from Vladivostok, Mr. Carver surmised. If Colonel General Romanov checked any higher up, he said, it would have been with Marshall Koldunov (Commander of Soviet Air Defense)."

The Baltimore Sun, 09/11/83, p. 14

#77 "After a previous Korean aircraft intrusion in 1978, Moscow changed its command structure. Instead of 10 air defense districts, it created five theatre commands, of which the Far East is one. Each is supposed to have more flexibility to handle events in its area. Each has been more than usually vigilant and sensitive in the last 18 months. Professor (John) Erickson, (director of defense studies at the University of Edinburgh), who was in Moscow talking to senior military officers last year, says there has been a definite change in Soviet strategic thinking in that period. Because of the development of air-carried as well as ground-launched cruise missiles, the general staff now warns of possible attacks from any quarter, not just from the West."

The Christian Science Monitor, 09/12/83, p. 3

#78 "A Soviet general, defending the Kremlin contention that a fighter pilot mistook the South Korean Boeing 747 for a U.S. RC-135 spy plane, maintained on television yesterday that the two planes have 'an identical form and geometric dimensions'... Col. Gen. Nikolai Moskvitilev, head of fighter aviation for the Soviet air defense command, insisted, however, that Soviet pilots were not able to see a difference at night (between an RC-135 and a 747)... General Moskvitilev said Soviet fighter pilots mistook the 747 for an RC-135 that had been in the area that night, and added that the pilots had no way of telling the planes apart. The two aircraft have 'analogous radar signatures' said General Moskvitilev..."

The Baltimore Sun, 09/12/83, p. 2

#79 "An Air Force officer said Soviet radar equipment, whether on the ground or in planes, lagged behind that of the United States and was not able to distinguish between the United States Air Force's RC-135 reconnaissance plane and the Korean Air Lines 747 in the same area, despite their differences in size and shape."

The Washington Post, 09/17/83, p. 6

#80 "The (defense) specialists said that radar was critical to Soviet air defense since all operations were controlled from the ground. 'A Soviet pilot,' said one specialist, 'is little more than a guided missile.'"

The Washington Post, 09/17/83, p. 6

#81 "According to some specialists, the need for the regional command in Far Eastern Siberia to communicate with Moscow accounted for the two and a half hours that the airliner was tracked before being shot down."

The Washington Post, 09/17/83, p. 6

#82 "Four air defense fighters were scrambled over Kamchatka. They operated from 20:37 to 21:08 Moscow time on Aug. 31, that is, up to the time the intruder plane left the area of Kamchatka toward the southwest. Six air defense planes were scrambled over Sakhalin. They operated from 21:42 to 22:28. All those planes are fitted out with communications facilities incorporating the international emergency frequency, 121.5 MHz. They repeatedly tried to contact the intruder in that frequency. But the intruder did not respond. (Ogarkov statement of Sept. 9)"

Aviation Week and Space Technology, 09/19/83, p. 22

#83 "According to the Pravda article (whose contents were reported by Tass on Sept. 19) the movements of the 747 on the night of Aug. 31 to Sept. 1 were synchronized with three revolutions of the earth by the Ferret satellite, which specializes in 'radiotechnical reconnaissance.' On the first revolution, the satellite was alleged to have monitored normal activities of Soviet radar defenses before the intrusion of the South Korean plane. (Soviet Air Force Marshal) Kirsanov said the Ferret appeared above Kamchatka Peninsula on its second revolution of the earth at 8:30 p.m. Moscow time (1:30 a.m. Tokyo time)--the precise moment when KAL Flight 007 appeared in Soviet airspace below. He said the satellite was then able to monitor a 'doubling of the intensiveness of the work of our radio and radiotechnical equipment' because of the border violation. On its third revolution, the article went on, the Ferret satellite was able to monitor air defense equipment on Sakhalin and the nearby Kuril Islands as they tracked the Boeing. The 747 had entered airspace above Sakhalin at 10:05 p.m. Moscow time (3:05 a.m. Tokyo time) and the satellite appeared overhead two minutes later."

The Washington Post, 09/20/83, p. 1

#84 "An unreported attempt to shoot down without warning an unarmed Japanese P2V reconnaissance plane on April 2, 1976, in the same area where KAL Flight 007 went down 'reflects the traditional Soviet determination to protect their borders against intrusions, whether real or perceived,' a DIA report says. (Jack Anderson)"

The Washington Post, 09/20/83, p. C15

#85 "The Soviets may have had an agent among the crew of the KAL airliner that strayed deep into the Soviet Union in 1978. It was fired at and forced down near Murmansk. The Korean copilot, S.D. Cha, explained at the time that the crew somehow became disoriented while flying. Their instruments indicated that they were in a safe flight path outside Soviet airspace. A top-secret CIA report suggests that a Soviet agent in the crew may have been involved in the disorientation. (Jack Anderson)"

The Washington Post, 09/20/83, p. C15

#86 "Among the new allegations (of Sept. 19) reported by Tass:

-The departure from Anchorage of KAL Flight 007 was deliberately delayed by 40 minutes to coordinate its movements with overflights of the Ferret satellite.

-The entire flight of the 747 was monitored by U.S. radio navigation systems.

-A second U.S. RC135 reconnaissance aircraft was in the area in addition to the plane whose presence has already been acknowledged by Washington. So too were an AWACS plane, two Orion planes, and the U.S. frigate Badger.

-The South Korean plane carried 11 intelligence specialists in addition to its regular crew of 18."

The Washington Post, 09/20/83, p. 1

#87 "The Soviet Union charged tonight (Sept. 19) that the South Korean airliner shot down over Sakhalin Island was part of a 'large-scale intelligence operation' involving several military planes and vessels as well as a spy satellite....The Tass report (carrying the charges) is based on a lengthy article due to appear in Tuesday's edition of the Communist party newspaper Pravda by a senior Air Force officer, Marshall Piotr Kirsanov. It is thus intended as an authoritative statement by the Soviet leadership."
The Washington Post, 09/20/83, p. 1

#88 "The Soviets routinely try to lure U.S. military and intelligence aircraft into Soviet airspace so they can 'legally' shoot them down. This is done by a jamming technique, called 'meaconning,' which confuses pilots trying to follow radio signals from the ground. The Soviets frequently scramble the navigational signals along their borders, and several planes have been shot at after having been 'meaconned' into Soviet skies. The technique is so widely used that pilots who fly near Soviet borders are issued navigational maps with special warnings. They are told that they can't trust radio signals along the borders and 'would be fired on' if they strayed over Soviet territory. (Jack Anderson)"
The Washington Post, 09/20/83, p. C15

#89 "(The new Soviet charges made on Sept. 19) maintain that the Korean Air Lines plane was part of an extensive U.S. intelligence network that had the aim of gathering as much information as possible on the Soviet air defense system in the Far East. It said the 747 was backed up by intelligence planes, naval vessels, ground tracking stations, and a Ferret-D intelligence satellite."
The Washington Post, 09/20/83, p. 1

#90 "Soviet Marshall Kirsanov said two U.S. RC-135 and a Navy/Lockheed P-3 Orion aircraft were also in the area before and during the Korean Air Line aircraft intrusion into Soviet airspace while the U.S. frigate Badger was on duty in the area of Vladivostok. 'There are also other convincing data giving grounds to assert that a (Boeing) E-3A (AWACS) plane monitoring the flights of both the intruder plane and our fighters operated in the area where

the violation of the Soviet airspace had occurred,' Kirsanov said." Aviation Week and Space Technology, 09/26/83, p. 42-3

#91 "Soviet Marshal of Aviation Peter S. Kirsanov said a Soviet investigation of the overflight of Flight 007, ...showed that the Korean aircraft was part of 'a large-scale intelligence operation which was covered and supported by numerous means, including those from the U.S. Air Force and Navy'...In a mounting campaign to explain the Soviet decision to shoot down the aircraft, Kirsanov claimed the Korean aircraft was part of a carefully planned U.S. spy mission that started when Flight 007 took off 40 min. behind schedule on its scheduled flight from Anchorage to Seoul. 'The delay was needed in order to strictly synchronize in time the plane's approach to the shores of Kamchatka and Sakhalin with the flight of the American intelligence satellite Ferret-D.' ...Kirsanov said the satellite appeared over Chukotka at 6:45 pm Moscow time and for about 12 min. flew east of Kamchatka and the Kuril Islands. 'On that revolution the satellite had the opportunity, immediately before the intrusion of Soviet airspace by the South Korean airline, to monitor the Soviet radioelectronic means on Chukotka and Kamchatka, working in the normal regime of combat duty to determine their exact location and the level of activity, thus assuring the first stage of the flight of the intruder,' according to Kirsanov. He said during its next revolution the Ferret appeared at 8:24 Moscow time over the Soviet Union and was over the area of Kamchatka when the second stage began of the 'reconnaissance flight' of the South Korean transport over Soviet strategic facilities in the southern part of Kamchatka Peninsula. Kirsanov said the violation of Soviet airspace forced 'a doubling of the work of our radiotechnical means, which was what the organizers of the provocative flight had counted on in their design. 'All this was being registered by the Ferret spy satellite,' he added. A third revolution of the satellite coincided with the 747 flight over Sakhalin Island, Kirsanov said, resulting in the Soviet Far East forces switching on air defense radio equipment on Sakhalin, the Kuril Islands and the Primorski territory.'" Aviation Week and Space Technology, 09/26/83, p. 42-3

#92 "Soviet Marshall Kirsanov charged the U.S. was concealing evidence that showed a Loran-C radio navigation system was tracking the Korean aircraft ..." Aviation Week and Space Technology, 09/26/83, p. 42-3

#93 "One Lieut. Viktor Belenko defected to the West with his MiG-25 in 1975 and provided a rare look at modern Soviet aircraft radios. Belenko complained that his radio frequency band was so narrow that he could only communicate with other MiGs in flight. He also indicated that the aerial frequencies used in peacetime had backup 'wartime only' communication networks unknown to Western Elint. The MiG-25 was capable of receiving information in very powerful short bursts, and incorporated excellent anti-jam design and intercept security. Soviet aircraft used the decimetric segment of the ultra-short wave band, according to a Soviet air force manual." Defense Electronics, 10/00/83, p. 130

#94 "Several senior officers of the Soviet Far East military command have been removed from their jobs, according to well-informed Soviet sources, for what they described as a massive failure of air defense forces to halt the flight of the Korean Air Lines jet over Kamchatka Peninsula last month. The sources, who are non-military, said that Soviet interceptors had failed to locate the South Korean plane during its flight over Kamchatka, although the aircraft was followed by radar from the ground. By this account, Soviet jet fighters established both radar and visual contact with the KAL Boeing 747 only after it reentered Soviet airspace over the island of Sakhalin, and shortly before it was shot down by a Soviet missile....The sources also said that the Soviet Far East command had been in direct telephone contact with top military officials in Moscow on several occasions prior to the downing of the plane. They suggested that the political leadership had not been consulted." The Washington Post, 10/05/83, p. A1

#95 "Air Marshal Piotr Kirsanov, an ex-commander in the Far East and now a counselor to the defense minister, made an oblique but sharp indictment of the air-defense performance in an article in the official Communist Party newspaper Pravda. Kirsanov, while ostensibly justifying the shooting down of the aircraft, also indirectly criticized the massive failure of air defense forces, which he said allowed the plane to emit bursts of 'coded intelligence data' for two hours before it was downed. The marshal said that even before the plane entered Soviet airspace, it was clear that the jet was a part of a massive U.S. intelligence effort to monitor the disposition of Soviet forces in the Far East." The Washington Post, 10/05/83, p. A1

#96 "An official (Soviet) source...who spoke on condition that he not be identified (said on Oct 11)...that two of three radar stations on the Kamchatka peninsula that should have detected the plane Sept. 1 were not working and that the plane's intrusion of Soviet airspace was not confirmed until it reached Sakhalin Island, 400 miles southwest of Kamchatka. Air defense commanders reacted in confusion after the intruding airliner was found in Soviet airspace, the source said, and Soviet commanders and pilots involved in downing the plane did not know it was a civilian craft carrying 269 people....The source also said that air defense commanders ordered the plane shot down because they had proof it was transmitting intelligence information to U.S. spy installations. He did not say what kind of proof they claimed to have....The source also claimed that the decision to shoot down the jetliner last month was made by top military officials in Moscow but that civilian leaders were not consulted in advance. A different source subsequently made the same claim to another American reporter in the Soviet capital." Associated Press, 10/11/83, p. 0

#97 "There have been unconfirmed reports that top air defense officials in charge at Kamchatka were fired after the incident." Associated Press, 10/11/83, p. 0

#98 "As American intelligence people now reconstruct the event, Soviet radar at first did erroneously identify the plane as an American RC-135 (a reconnaissance version of the Boeing 707). An RC-135 had been in the North Pacific earlier that night. Though the Soviets tracked KAL 007 with radar for more than two hours, it is now believed that their interceptors had trouble finding the airliner. Not until it was about to leave Soviet airspace did they finally bring it into sight, and then they had to make a quick decision."

Time, 10/17/83, p. 25

III. The RC-135 Reconnaissance Plane

#99 "Command headquarters for the squadron of RC-135s, though the planes are scattered around the world, is at Offutt Air Force Base at Omaha, Neb. -- SAC's home base."

United Press International, 09/04/83, p. 0

#100 "After (a) White House meeting (with congressional leaders), House Majority Leader James C. Wright Jr., who attended yesterday's extraordinary White House briefing, told reporters that on the tapes Soviet fighter pilots twice referred to the plane inside Soviet airspace as being an RC135. White House officials became alarmed by what they said was Wright's incorrect interpretation of what was said in the briefing. They said White House Chief of Staff James A. Baker III called Wright to explain. Later, in a telephone interview, Wright said that what officials had said during the briefing was that the Soviets called the intruding aircraft 'either an RC135 or a target needing identification' in early stages of the passenger plane's presence in Soviet airspace. The confusion over Wright's earlier remarks led to confirmation by Speakes that there was a period early in the two-hour episode when the Soviets talked of the intruding plane as a U.S. reconnaissance craft."

The Washington Post, 09/05/83, p. A1

#101 "(U.S.) Intelligence officials said that the (RC-135) planes were in the air an average of 20 days or nights a month and that their operations were familiar to the Soviet Union. Areas of heavy American activity include the northern Pacific off the Siberian coast, the Baltic Sea and the Black Sea, according to intelligence officials."

The New York Times, 09/05/83, p. 4

#102 "The RC-135's, depending on the particular mission, fly at altitudes ranging from several thousand to 35,000 feet, officials said. The higher the altitude, the greater the range of their electronic intelligence-collection systems. At an altitude of 35,000 feet, officials said, the planes have excellent reception at a distance of 150 miles. That means, for example, that a plane flying at that altitude 150 miles over the Pacific off the coast of the Kamchatka Peninsula could monitor air-defense systems on the ground. The officials said that in some unusual circumstances, when atmospheric conditions are ideal, the planes could monitor radio or microwave communications at distances ranging from 500 to 1,000 miles."

The New York Times, 09/05/83, p. 4

#103 "Sources familiar with defense issues and knowledgeable about classified information about the tragedy said RC-135s often ride 'piggyback' on the trail of airliners passing near the Soviet Union, to get a reading of radar frequencies that track the civilian aircraft...Knowledge of the frequencies is invaluable in wartime for jamming purposes to protect bombers on their way to their targets. 'We want to know the location of medium range radars and the

frequencies they use,' said on source, who requested anonymity. ...RC-135s routinely carry out monitoring missions in the same area of the Pacific northwest once every week or 10 days, the sources said."

United Press International, 09/06/83, p. 0

#104 "Operating as Electronic Security Squadrons under the overall direction of the Strategic Air Command, RC-135s are scattered throughout the Pacific. Several are based at Eielson AFB, 26 miles southeast of Fairbanks, Alaska, according to the Air Force Assn." The New York Post, 09/06/83, p. 2

#105 "Out over the Pacific in international waters it (KAL 007) was for a brief time in the vicinity of one of our reconnaissance planes, an RC-135 on a routine mission. At no time was the RC-135 in Soviet airspace. The Korean airliner flew on and the two planes were soon widely separated. (Reagan Speech)" The New York Times, 09/06/83, p. 15

#106 "U.S. officials insist the reconnaissance jet was 1000 miles away and over international waters when the airliner was downed two hours after their paths crossed." The New York Post, 09/06/83, p. 2

#107 "RC-135 spy planes, such as the one U.S. officials admit flew near Korean Air Lines' ill-fated flight 007, often trail civilian jetliners to monitor Soviet radar frequencies, defense sources said yesterday." The New York Post, 09/06/83, p. 2

#108 "...let me point out our RC-135 that I mentioned earlier had been back at this base in Alaska, on the ground for an hour, when the murderous attack took place over the sea of Japan. (Reagan Speech)" The New York Times, 09/06/83, p. 15

#109 "Although the Air Force clamped a tight secrecy lid on the RC135's flight, sources said the plane flew out of Eielson Air Force Base, 26 miles southeast of Fairbanks, Alaska, where it is part of the 6th Wing of the Strategic Air Command." The Washington Post, 09/07/83, p. 12

#110 "Retired Gen. Russell E. Dougherty, a former commander of the Strategic Air Command and currently executive director of the Air Force Association, said RC135 intelligence-gathering provides 'part of the puzzle' and is vital to U.S. security." The Washington Post, 09/07/83, p. 12

#111 "'The RC135 is an unarmed plane' an Air Force source said. 'It is in constant communication with the ground. It has all kinds of navigational aids to keep it over international waters because we know from experience that if one strays into Soviet airspace, it will be shot down,' the source said." The Washington Post, 09/07/83, p. 12

#112 "The U.S. Air Force's RC135 reconnaissance plane near the flight path of the Korean Air Lines passenger plane shot down by a Soviet fighter last week was on a round-trip intelligence mission to assess Soviet air defenses, military sources said yesterday....Air Force technicians in the rear of the RC135 were listening to and recording Soviet voice and electronic communications as they lumbered along in the military version of the Boeing 707 airliner, the sources said. Air Force officials described the RC135's intelligence-gathering mission as routine. The United States and the Soviet Union, they said, constantly track each other's 'electronic order of battle,' which includes how radar stations react to intruders, and forward air defenses, such as how many fighters have moved to what bases."

The Washington Post, 09/07/83, p. 12

#113 "It is standard practice (Air Force) sources said, for U.S. military planes to try to 'tickle' Soviet radar into action. They said this amounts to flying close enough to air defenses to cause the Soviets to activate search radar and perhaps fire-control radar and to talk about what they are seeing and doing in response to the unidentified aircraft overhead."

The Washington Post, 09/07/83, p. 12

#114 "A Soviet statement on the incident (released Sept. 6) said the RC135, a four-engine military version of the 707 jetliner, was operating 'near' the Soviet border, which seems to be a confirmation that the U.S. craft had not penetrated Soviet borders."

The Washington Post, 09/07/83, p. 11

#115 "The RC135 cited after the Korean plane was shot down, (Air Force) sources said, was most likely involved only tangentially in gathering missile data. More specialized intelligence-gathering, including that by planes flying out of Shemya Air Force Base at the western tip of the Aleutian Islands, focuses on missile activity."

The Washington Post, 09/07/83, p. 12

#116 "Air Force sources with firsthand knowledge of RC135 missions from Alaska along the Soviet Union's Kamchatka Peninsula said the planes must be dispatched frequently to learn of any change in the alert status of Soviet air squadrons or other unusual military activity there and on the Soviet-controlled Sakhalin Island to the southwest."

The Washington Post, 09/07/83, p. 12

#117 "'The RC-135 aircraft regularly operates off Kamchatka to verify Soviet compliance with the SALT agreements, and this one was there to calibrate its radar on a milk run,' (a US) official said. 'The Soviet air defense forces know the flight profile of the reconnaissance aircraft and its mission is as routine to them as the Aurora Borealis. There is just no way the RC-135 could have been confused with the 747, even though the Korean airliner passed close to the Elint bird on its path over the southern tip of Kamchatka,' he said."

Aviation Week and Space Technology, 09/12/83, p. 18

#118 "It has been our experience that, on occasion, NSA adjusts the orbits of RC-135s so that they will intentionally penetrate the airspace of a target nation. This is ordered for the purpose of bringing a target country's air defense systems into a state of alert. This allows NSA to analyze these fully activated systems for potential flaws and weaknesses. (Tom Bernard and T. Edward Eskelson, former Air Force communications specialists who flew on RC-135 missions from Okinawa)"

The Denver Post, 09/13/83, p. 3B

#119 "Another feature of the RC-135 is the equipment manned by SAC electronic warfare officers. This equipment can be used to 'jam' radar and radio transmissions in addition to certain electronic systems in other aircraft. This capability was used in Vietnam to 'confuse' Soviet-supplied air defense radars and aircraft. (Tom Bernard and T. Edward Eskelson, former Air Force communications specialists who flew on RC-135 missions from Okinawa)"

The Denver Post, 09/13/83, p. 3B

#120 "The RC-135 has the ability to stay aloft for missions of 18 to 20 hours, demanding but a single midair refueling within that period. The aircraft are assigned 'orbit' areas near target nations by NSA. The 'orbit' is a flight path resembling a figure eight so as to never permit the intercept platform to turn directly toward the target nation's airspace or land mass. (Tom Bernard and T. Edward Eskelson, former Air Force communications specialists who flew on RC-135 missions from Okinawa)"

The Denver Post, 09/13/83, p. 3B

#121 "(The RC-135) has the capability of transmitting messages over an extremely broad range of radio frequencies, including those used by other aircraft, both civilian and military, ships, ground stations and air controllers. For instance, during the Vietnam War, crew members aboard RC-135s transmitted real-time warning to U.S. pilots operating over North Vietnam. These messages warned U.S. aircraft which were being tracked by hostile radar. In some cases the warning permitted U.S. pilots to evade missiles about to be launched at them from either the ground or the air. (Tom Bernard and T. Edward Eskelson, former Air Force communications specialists who flew on RC-135 missions from Okinawa)"

The Denver Post, 09/13/83, p. 3B

#122 "The RC-135 is a primary intercept platform for the NSA, meaning that it is a prime receptor of signals emanating from a surveillance target. It also performs functions which simply cannot be accomplished by satellite or ground listening stations. The aircraft is deemed so important to overall U.S. intelligence collection efforts in sensitive, high-priority target areas that it is always relieved on its orbit by yet another RC-135 just prior to the conclusion of its mission. This procedure allows for routine, 24-hour-a-day, 365-day-a-year intercept coverage of sensitive and important target areas. We find the inference made by President Reagan that the Sakhalin-Kamchatka area was abandoned by the RC-135

intercept platform to be unbelievable and contrary to NSA policy. (Tom Bernard and T. Edward Eskelson, former Air Force communications specialists who flew on RC-135 missions from Okinawa)"
The Denver Post, 09/13/83, p. 3B

#123 "The RC-135 is...flown by a SAC crew, but the intercept platform is manned by some 30 U.S. Air Force Security Service personnel. In addition, there are several electronic warfare officers assigned to the platform. All of the personnel aboard the RC-135 are under the operational authority of the National Security Agency (NSA). (Tom Bernard and T. Edward Eskelson, former Air Force communications specialists who flew on RC-135 missions from Okinawa)"
The Denver Post, 09/13/83, p. 3B

#124 "The RC-135 has a super-advanced, ultra-secure communications system which is linked to the most sophisticated communications network in the world. This system, sometimes referred to as 'backchannel,' permits the instantaneous reporting of tactical intelligence to the highest levels of the U.S. government, including the president, from any location in the world. A message intended for the president is designated as a 'Critic' and is required to be in the president's hands no more than 10 minutes after the actual time of transmission, for instance, from an RC-135 orbiting over the Sea of Japan. (Tom Bernard and T. Edward Eskelson, former Air Force communications specialists who flew on RC-135 missions from Okinawa)"
The Denver Post, 09/13/83, p. 3B

#125 "The RC-135 also contains an internal warning system which is manned in part by specially trained personnel who are assigned to monitor the tactical air activity and air defense radars of the target nation. This function is extremely critical to the safety of this unarmed aircraft and its crew whose mission continually brings them to at least the brink of potentially hostile airspace. This function demands that the radio frequencies used by the target nation's military aircraft and air defense radars be continuously monitored for the earliest possible indication of any hostile activity which potentially could be directed against the platform. (Tom Bernard and T. Edward Eskelson, former Air Force communications specialists who flew on RC-135 missions from Okinawa)"
The Denver Post, 09/13/83, p. 3B

#126 "In fact, (Pentagon officials) agreed, the admission that the RC-135 was out on a reconnaissance mission the night the KAL plane crossed the line was one of the few times the United States has ever acknowledged playing the cat-and-mouse game (of teasing Soviet air defense)."

The Baltimore Sun, 09/15/83, p. 2

#127 "The RC-135, (White House) officials said, was on a routine mission flying just outside the Soviet Air Defense perimeter, using its numerous radio and radar devices to monitor such things as air-to-ground radio communications in Siberia and elsewhere. On occasion, said one Pentagon expert, the RC-135s transmit confusing radar signals in an effort to prompt the Soviets to scramble their

fighters. When that happens, the reconnaissance crew calculates how long it takes the Soviet Eastern Defense Command to respond. By recording radio traffic as the planes are scrambled, the United States can attempt to crack Soviet codes, study the adversary's command structure and determine the accuracy of their radar, among other things."

The Baltimore Sun, 09/15/83, p. 2

#128 "Intelligence officials note that an RC-135, once finished with a mission, is often replaced with another. Moreover, in his unusual press conference, Soviet chief of staff Nikolai Ogarkov claimed there was more than one RC-135 in the area that September morning--a claim not denied by the Reagan administration."

The Boston Globe, 09/26/83, p. 41

#129 "...Soviet revelations that the skies around Kamchatka were full not only of RC-135s but also of US Navy P-3s waiting for the intended launch of a 'Salt-sensitive' SS-X-24 missile, may point to an overload of their command system. (-editorial)"

Flight International, 10/08/83, p. 929

IV. US Defense

#130 "Soviet airliners en route to and from New York in 1981 'overflowed sensitive areas' of New England in two instances, the United States said at the time in a formal protest to Moscow. Aeroflot, the Soviet airline, was denied landing rights in the United States for eight days as a result. The sensitive areas were believed to be a military air base on Cape Cod in Massachusetts and nuclear submarine construction facilities at Groton, Conn."
The Los Angeles Times, 09/02/83, p. 1

#131 "...U.S. officials are convinced that Soviet IL-62 airliners, which regularly pass up and down the U.S. Eastern seaboard going to and from Cuba, carry electronic monitoring equipment to study such things as the frequencies, ranges and coverage spans of U.S. radar, much as Soviet fishing trawlers spy on U.S. missile tests in Florida and California. None of the Soviet airliners have intruded into U.S. airspace, although Soviet planes often approach that space, forcing U.S. fighters to scramble before they turn away."
The Los Angeles Times, 09/02/83, p. 1

#132 "In 1982 the U.S. Air Force scrambled 269 times because unidentified aircraft entered U.S. air space. Most of the violations took place near Florida, an area of great sensitivity to the United States, not only of our space installations there, but also because of the proximity of Cuba."
The Los Angeles Times, 09/09/83, p. 1-E

#133 "The Soviets frequently conduct similar (to the RC-135's mission, probing) the U.S. air-defense zone, using specially modified versions of their long-range TU-95 'Bear' bomber, said a U.S. Air Force spokesman. So far this year, said Air Force officials, the Bears have intruded in the U.S. air-defense zone 77 times. Frequently, said one Air Force spokesman, the Soviet planes 'will cross the line and then cross back over to their side and fly parallel to us until our fighters run low on fuel and have to return to base. Then the Soviets fly back over the line, forcing us to scramble more planes.'"
The Baltimore Sun, 09/15/83, p. 2

#134 "Flights to and from the United States by the Soviet airline, Aeroflot, were suspended for seven days in late 1981, (a senior administration) official said, after inbound and outbound Aeroflot flights between Moscow and Dulles International Airport on Nov. 8, 1981, 'deliberately diverted' from authorized routes and flew over Pease Air Force Base in New Hampshire. In addition, the official said, a Cuban Airline plane left its prescribed route on one occasion and flew over huge naval facilities in Connecticut--the Electric Boat Company's submarine construction yard at Groton and the Navy submarine base at New London--during launching of a new nuclear-powered submarine."
Washington Times, 09/15/83, p. 3

#135 "...there have been such violations (of Soviet airspace by U.S. planes) In 1983 alone U.S. planes repeatedly violated the boundary of the Soviet Union's airspace in that region, including in the area of the Lesser Kuril Chain, by U.S. naval planes from Midway and Enterprise aircraft carriers, going up to 30 km. (18.6 mi.) deep, and by civilian U.S. planes in the area of Chukotka. The Soviet Union lodged official protests with the U.S. side over these instances. However, there was no due reaction to them. (Ogarkov statement of Sept. 9)"

Aviation Week and Space Technology, 09/19/83, p. 22

#136 "It has been widely reported that the Air Force has a radar installation on Shemya (island) for tracking aircraft."

The New York Times, 09/19/83, p. 7

#137 "So far this year, U.S. jets have scrambled 77 times to meet Soviet aircraft. Most of these intercepts were near Iceland, three off the East Coast and 14 near Alaska. No Soviet military plane has violated U.S. airspace, which extends 3 miles off the coast, and the U.S. has never fired on a Russian craft."

US News & World Report, 09/19/83, p. 26

#138 "Government officials said (Sept. 18) military radar along the route (of KAL 007) could track aircraft targets to a distance at least 50 percent greater than civilian radar, which has a range of about 165 nautical miles. They noted too that military sites were situated farther along the route from Alaska to Japan.... The military radar is said to have a range of just under 250 nautical miles."

The New York Times, 09/19/83, p. 7

#139 "Kyodo News Service today quoted Foreign Ministry sources as saying Washington had informed Japan that U.S. military and civilian radars did not detect the Korean jet as it strayed north of its normal course toward Soviet territory....The U.S. report, which came in response to a query by Foreign Minister Shintaro Abe, said U.S. radar on the Aleutian Islands have narrow detection ranges, and the Kal plane was flying its normal course when radar last spotted it, Kyodo reported. U.S. Embassy press attache Carol E. Ludwig said her office had no immediate knowledge of such a report from Washington."

Associated Press, 09/23/83, p. 0

#140 "Former intelligence officials, however, say the American military has over-the-horizon radar and radio navigational ability that can track planes in their flights most places around the world. And they note that Japanese radars, which are said to feed into the American system, should have also been tracking the plane."

The New York Times, 09/26/83, p. A6

#141 "Lt. Gen. Bruce K. Brown, chief of the Alaskan Air Command, told the Senate hearing that among the surveillance improvements being made to guard the northern rim of North America from Soviet bombers are a string of 'Seek Igloo minimally attended radars' that also will be tied into the FAA system."

Associated Press, 10/09/83, p. 0

V. Why Did Kal Flight 007 Go Off Course?

#142 "Analysis of the evidence also has led to speculation that an error by a 747 crew member in entering longitude and latitude data into the airliner's computerized navigation system caused the airliner to stray off course and into Soviet airspace. This possible explanation arose because the airliner last reported its position as 147 degrees, 29 minutes east longitude, 42 degrees, 23 minutes north latitude. Japanese military radar reportedly searched unsuccessfully for the airliner there, finding it instead at 142 degrees, 23 minutes east longitude, and 47 degrees, 29 minutes north latitude. The wrong coordinates become the correct coordinates by transposing longitude and latitude and transferring the digit 1 in the degrees of longitude. The wrong figures could result from 'punching' the wrong coordinates into the navigation system before takeoff, officials said."

The Los Angeles Times, 09/09/83, p. 1

#143 "...in 1978 a Korean Air Lines Boeing 707 crew programmed the INS incorrectly and strayed into north Russian airspace near Murmansk."

Flight International, 09/10/83, p. 671

#144 "Indications of possible crew error, rather than premeditated departure from the correct track, are embarrassing to the Soviet Union, as evidenced by the walkout staged by its ICAO delegation in Montreal after the third video play-back of a BBC television programme on the subject. In that programme, a Flight journalist postulated the 'heading-mode' theory, and backed it with plausible, if circumstantial evidence. (editorial)"

Flight International, 10/08/83, p. 929

#145 "...further evidence has come to light from voice recordings made at the Anchorage air traffic control center. They appear to reveal one small error by the KAL crew early in the flight; namely a failure to change communications frequency from Anchorage Domestic to Anchorage Oceanic at the appropriate moment. ...(T)his minor human failing possibly led to a chain reaction which ended in disaster. Anchorage Domestic called other aircraft in the area to ask them to relay a message to the KAL 747 asking KE007's captain if he had left the VHF frequency for the HF/SSB of Oceanic control. The airwaves were full of chatter, and there was some confusion. This distraction occurred at about the time that the vital rotary switch should have been turned in the 747 cockpit to couple the autopilot to the INS. If that rotary switch were mishandled or ignored, the distraction on the RT could be a plausible explanation for the start of the chain reaction. (-editorial)"

Flight International, 10/08/83, p. 929

VI. Misc.

#146 "The Air Force does have four 747 jumbo jets, but they seldom leave the United States, Pentagon officials said. Two of the planes are based at Andrews Air Force Base outside Washington and two are at Tinker Air Force Base in Oklahoma. Packed with sophisticated electronic gear, they are traditionally known as the 'doomsday' planes because they would be used by top U.S. civilian officials to direct a counter-attack in the event of nuclear war."

Associated Press, 09/06/83, p. 0

#147 "The long glide of the four-engine plane after it was hit suggests that the wings and other key flight surfaces were not blown off, but the plane would undoubtedly have lost power and would have been largely uncontrollable as it descended. Had it plunged downward at its maximum level speed of 600 mph, the airliner would have crashed in well under a minute. U.S. Air Force officers strongly doubt that it could have spun down without breaking into pieces that would have descended within several minutes. The most likely alternative, several officers said, was that the fatally crippled airliner glided down in some fashion before hitting the ocean. In that event, the crash-resistant 'black box' in its tail probably survived..."

The Los Angeles Times, 09/09/83, p. 1

#148 "... some (SR 71) Blackbirds -- are based in Akrotiri, Cyprus..."

Reuters, 09/11/83, p. 0

#149 "Incidents of individual Soviet warplanes skirting Japanese air space have been a common occurrence over the last 10 years. Defense officials here (Japan) say Japanese interceptors scrambled 300 times last year as radar warned of approaching Soviet aircraft."

The Chicago Tribune, 09/14/83, p. 1

#150 "The head of the Federal Aviation Administration, speaking about plane-tracking in general, and not about the specifics of the errant Korean flight, said there were communications links between military and civilian radar sites that could be used in a routine situation to report a straying plane. But the official, J. Lynn Helms, said military tracking to back up his agency's civilian traffic-control system might not be available if the military equipment was fully occupied with a military mission. 'Military missions transcend the requirement to aid our air-traffic control,' Mr. Helms said."

The New York Times, 09/19/83, p. 7

#151 "There have been rumors over the years of ties between Korean Air Lines and the CIA, but no proof. It is well known that the CIA has close ties with its South Korean counterpart."

The New York Times, 09/26/83, p. A6

#152 "The Federal Aviation Administration initially closed 'R-20,' the air corridor from which the plane strayed. But it reopened the route in late September after its safety was reassessed and navigational aids were checked. The corridor, the most northerly of five across the North Pacific, is used by thousands of planes annually and is popular with airlines because it is the shortest path from Alaska to the Far East."
Associated Press, 10/09/83, p. 0

#153 "The White House said Sept. 16 that commercial airliners will be given access to a network of military navigational satellites, known as the Global Positioning System, after the system is fully completed in 1988."
Associated Press, 10/09/83, p. 0

Appendix C

Transcript of Monitored USSR Interceptors' Transmissions

The following is a facsimile of International Civil Aviation Organization, Final Report of Investigation as Required in the Council Resolution of 16 September 1983, C-WP/7764, December 12, 1983, Appendix D.

TRANSCRIPT OF MONITORED USSR INTERCEPTORS' TRANSMISSIONS

1756:58		Roger heading 70 (deg.)	1812:03	(163)	Executing
1800:46	(121)	Heading 100 in a climb to 8,000 meters	1812:10	(805)	Am observing it visually and see it on the screen.
	(121)	I didn't understand.	1812:15	(805)	Roger.
		What heading?... My heading is 100	1812:21	(163)	Executing 10 left.
1800:57	(121)	I am executing.	1812:41	(163)	I have dropped tanks... I dropped them ... Executing.
1802:11	(121)	Heading 50.	1813:05	(805)	I see it. I'm locked onto the target.
1805:14	(163)	Answering.	1813:16	(805)	Roger.
1805:53	(805)	On heading 240.	1813:26	(805)	The target isn't responding to the call..
1805:56	(805)	Am observing.	1813:35	(805)	Affirmative. The target's heading is 240 deg.
1806:00	(805)	Roger, understood. I'm flying behind.	1813:40	(805)	It is switched on.
1806:07	(163)	Heading 30. 8,000 meters.	1814:10	(805)	Roger. It's still on the same heading for now.
1806:22	(163)	Executing heading 100.	1814:16	(805)	Roger.
1806:30	(805)	Roger... distance to airfield?	1814:34	(805)	Roger. I have speed. I don't need to turn on my afterburner.
1806:33	(805)	Roger.	1814:41	(805)	My fuel remainder is 2,700.
1806:45	(163)	(Altitude) 1,900 ... I'm executing...		(163)	I've dropped my tanks. One at 4,000. One at 3,800.
	(121)	I didn't understand.	1815:00	(163)	Heading 230.
1807:04	(121)	I am executing.	1815:08	(805)	The target's heading is still the same... 240.
1807:50	(805)	Fuel remainder three tonnes	1815:37	(163)	Executing.
	(805)	Roger. Repeat heading.	1815:47	(805)	I am in lock-on.
	(805)	To the left, surely.	1815:51	(805)	240.
		Not to the right.	1816:43	(805)	Target heading 240.
1808:06	(805)	Carry out heading 260.		(163)	Affirmative.
	(805)	On heading 260...	1817:05	(163)	Repeat the azimuth.
	(163)	Heading 220, 7,500 meters	1817:15	(163)	1001 from Karnaval. Azimuth 45; Distance 60.
		Roger.		(163)	Roger.
	(805)	Roger.	1817:24	(163)	Deputat is observing me.
1808:31	(805)	Should I turn off the weapons system? ...	1817:34	(163)	Deputat is inquiring. Do you see the target or not?
		Roger.	1817:41	(163)	Do you see (it)?
1808:48	(163)	163 needs to drop his wing tanks.	1817:49	(805)	Is he calling 805?
1809:00	(805)	Affirmative, it has turned ... The target is 80 deg. to my left.	1817:58	(805)	Who's calling 805?
1809:35	(805)	Executing 240.	1818:03	(805)	I see it.
1809:44	(805)	Heading 240... Roger.	1818:09	(163)	Karnaval does not observe.
1810:16	(805)	Executing 220.	1818:12	(805)	Say again.
1810:25	(121)	Executing.	1818:19	(805)	Executing.
1810:29	(163)	245 for 163?... Executing.	1818:34	(805)	The A.N.O. (air navigational lights) are burning. The stroke light is flashing.
1810:35	(805)	Heading 220.	1818:56	(163)	Roger, I'm at 7,500. Heading 230.
1810:44	(805)	I didn't understand.	1819:02	(805)	I am closing on the target.
1810:51	(805)	Roger, (the target's strobe) light is blinking.	1819:08	(805)	I have enough time.
1810:57	(163)	Heading 245, 7,500 meters.	1819:12	(805)	Say again.
1811:20	(805)	8,000 meters ... Roger.	1819:20	(121)	Executing.
1811:25	(805)	Roger			
1811:28	(121)	Heading 280.			
1811:37	(163)	4,500.			
	(121)	Heading 280.			
1811:51	(805)	Executing.			

1819:44	(163)	I am flying behind the target at a distance of 25. Do you see (me)?	1823:05	(805)	Say again.
1819:55	(163)	(Call).	1823:10	(805)	The target's altitude is 10,000 meters.
1820:08	(805)	That is, my Z.G. (indicator) is lit.	1823:18	(805)	From me it is located 70 deg. to the left.
1820:12	(805)	Answering.	1823:37	(805)	I'm dropping back. Now I will try a rocket.
1820:17	(805)	I answered.	1823:49	(163)	12 kilometers to the target. I see both.
1820:22	(805)	Must get closer to it.		(121)	I'm in a right turn on a heading of 300.
1820:30	(805)	I'm turning lock-on off and I'm approaching the target.	1824:15	(121)	Executing.
1820:41	(163)	For 163?	1824:22	(805)	Roger. I am in lock-on.
1820:49	(805)	I have broken off lock-on.	1824:56	(121)	I am turning to a heading of 30.
	(163)	... observe ...		(121)	Roger.
	(805)	Exactly. I have executed.	1825:11	(805)	I am closing on the target, am in lock-on. Distance to target is 8 kilometers.
1821:17	(163)	Executing.	1825:16	(805)	I have already switched it on.
1821:24	(805)	Yes, I'm approaching the target. I'm going in closer.	1825:33	(121)	On a heading of 30.
1821:35	(805)	The target's (strobe) light is blinking. I have already approached the target to a distance of about two (2) kilometers.	1825:46	(805)	Z.G.
			1826:20	(805)	I have executed the launch.
			1826:22	(805)	The target is destroyed.
			1826:27	(805)	I am breaking off attack.
			1826:33	(163)	What are (my) instructions?
			1826:38	(163)	(Call).
			1826:47	(163)	My wing tanks have lit up. The fuel remainder differs by 600 liters for now.
1821:40	(805)	The target is at 10,000 meters.	1826:53	(805)	Fuel remainder 1,600.
1821:51	(163)	I see both. Distance 10 to 15 kilometers.	1827:01	(805)	I am executing. What is the distance to the airfield?
1821:55	(805)	What are instructions?	1827:05	(805)	Roger.
1821:59	(163)	Roger.	1827:08	(163)	What heading?
1822:02	(805)	The target is decreasing speed.	1827:22	(163)	(Call).
1822:17	(805)	I am going around it. I'm already moving in front of the target.	1827:29	(163)	(Call).
				(163)	I'm executing left to a heading of 180. (Altitude) 7,500.
1822:23	(805)	I have increased speed.	1827:53	(163)	Heading 150, Roger.
1822:29	(805)	No. It is decreasing speed.	1828:05	(805)	I launched both.
1822:42	(805)	It should have been earlier. How can I chase it, I'm already abeam of the target.	1828:20	(163)	Roger, heading 150, 7,500.
			1828:29	(163)	Executing heading 210.
			1828:35	(163)	I executed.
			1828:51	(163)	Roger. Heading 210, 8,000 meters.
1822:55	(805)	Now I have to fall back a bit from the target.	1829:02	(163)	Roger. Along heading.
			1829:05	(163)	What is the distance to the target?
			1829:13	(163)	No. I don't see it.
			1829:21	(163)	Executing heading 360.
			1829:50	(163)	Roger. Taking a heading of 360.

1829:57	(163)	Executing to heading 360.	1835:15	(163)	Executing heading of 60 to the right.
1830:12	(163)	Heading 360.	1835:20	(731)	Roger, on heading 260. Repeat the altitude.
1830:13	(163)	Roger.	1835:23	(731)	Roger. 7,000.
	(163)	Fuel remainder 2,500.	1835:27	(121)	On a heading of 240, altitude 8,000.
1830:48	(163)	On heading 360.		(121)	(Call).
1830:58	(163)	Executing.		(121)	(Call).
1831:07	(121)	On heading 30, altitude 8,000.		(121)	(Call).
	(121)	Yes.	1835:54	(121)	Trikotazh is answering.
1831:14	(121)	He (or it) is working.		(121)	Do you see the target?
1831:25	(121)	Executing.		(121)	No I don't see (it).
1831:56	(163)	Roger.	1836:02	(121)	He doesn't see the target.
1832:05	(805)	Executing.	1836:30	(121)	Remainder 2,200.
1832:07	(163)	Give me a heading.		(121)	Roger.
1832:12	(163)	Executing (heading) 210.	1837:03	(163)	Heading 60, 7,500.
1832:22	(163)	What is the target's altitude? Heading 210.	1837:15	(163)	I'm talking to you, to you.
1832:30	(163)	Roger.	1837:21	(163)	Roger, heading 60.
1832:41	(163)	What is the distance to the target?... Roger. Me too ... instructions?	1837:45	(731)	Executing 9.
			(163)		No more than 2,000. Is it all right?
1833:10	(163)	Roger.	1838:21	(163)	Trikotazh. ...
1833:15	(731)	On a heading of 120. (altitude) 7,000.	1838:37	(163)	I don't see anything in this area. I just looked.
1833:20	(163)	7,500.	1839:16	(121)	Executing.
1833:33	(731)	Executing heading 200 to the left.	1839:35	(163)	Around 2,000, and I dropped my tanks.
1833:36	(731)	Roger.	1839:41	(163)	Flying 2,000.
1833:51	(121)	Executing to the left, turning to a heading 50. Altitude 8000.	1839:46	(163)	Roger.
1833:56	(805)	80% altitude is 5,000 meters.	1839:49	(731)	Remainder 2,000.
1834:02	(163)	Fuel remainder two (thousand).	1840:04	(163)	There are clouds below me in this area, and there are no clouds in this area
	(805)	Request to switch to channel 7.	1840:11	(163)	I'm not able to determine the cloud base. The clouds are below me, and I'm at about 2,000.
1834:08	(805)	Executing.	1840:41	(163)	Executing to the right, 10.
	(121)	Altitude 8,000.	1841:33	(163)	Who was that for?
1834:20	(805)	Executing.	1841:39	(163)	To the left heading 60? I have heading 60 now.
1834:28	(163)	On a heading of 210, 7,500.	1841:44	(163)	Executing.
1834:37	(163)	What are my further instructions?	1841:53	(731)	Executing.
1834:43	(163)	(Call).	1842:58	(163)	Executing turn to the right.
	(163)	What are my further instructions? My fuel remainder is 2,000	1843:14	(163)	On channel one, Vodolej?
				(163)	On channel one, Vodolej?
				(163)	Affirmative.
			1843:22	(163)	Uryuk. Roger.
			1845:43	(163)	I am in a right-hand turn.
			1845:52	(163)	Roger, heading 60.
			1846:05	(163)	340? On 360 now.
			1846:09	(163)	Roger.

