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CENTRAL INTELLIGENCE AGENCY
INFORMATION REPORT

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SUBJECT Production of Red Airforce Training Equipment at Zeiss, Jena

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SOURCE

1. A Soviet commission sent by the Engineering Bureau No 10 in Karlshorst had been at the Jena (51/J 66) Zeiss Plant for several weeks. It was headed by Maj Smerkalov (Air Force engineer, blue cap, speaks German) and had the following personnel:

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Maj Ivchesko, air force

Maj Matmirov, air force

Lt Col (Eng) Kosov, air force

Maj Nikolayev

Maj Varshavski and

Mr. Pelevin.

This commission was trained for several hours every day by lectures and demonstrations of the A-1k and A-1p sets, the lectures being delivered by Engineer Hilgers, Dr. Gruenot, Eng Wolfram, and other Zeiss engineers. An interpreter with the name of Jahn was hired for this training and the translation of classified technical material. Jahn is a German who was born in Leningrad and has been employed by the Zeiss firm for a long time.

2. The blueprints of the A-1 set are said to have been sold to the Soviet by Dr. Hilgers after it had been further developed by him. The set allegedly was not completed by the time of the German surrender.

3. a. Dr. Giovanni Hilgers is about 45 years old and is said to have been a German air force officer. He runs an engineering bureau in Berlin. His co-worker was Eng Vollmer who speaks Russian. Besides their Berlin flats both engineers have living quarters in Jena and working facilities in the Zeiss Plant.

b. The following information was taken from the Berlin telephone directory:

Hilgers, Giovanni, Dr. Ing, Berlin-Zehlendorf, 52 Hochwaldstr., tel. 245 795.
Office, Berlin-SW 29, 9a Hasenheide, Hermanns-Platz, tel 666/227. Branch

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office Berlin-Neukoelln, 35 Oderstrasse, tel 624 686.

The complete description of the L-1 set secured late in October 1949 was comprised of 90 pages in Russian. The translation made in the translation bureau was returned from Weimar with corrections of the Soviet commission and had to be rewritten. Two hundred copies were made, one being sent along with each L-1 set. There were also folders with diagrams and sketches. The L-1 sets were about one cubic meter in size. The new orders showed minor modifications of the original design.

5. Annex 1:

Copy of a letter in Russian written from the Berlin office of Dr. Hilgers to the Soviet Engineering Bureau No 16 in Karlshorst. The subject of this letter is Proposal for the Project of an Experimental Training Set A-2. This set, which in Russian is designated "Trenyoev", is for the training of pilots and has the same functions as the A-1 set, that is:

- a. Training in taking off and landing
- b. Training in the control of the flying aircraft
- c. Familiarization with the aircraft instruments
- d. Flying by maps

The individual parts of the set are enumerated and described.

6. Annex 2:

Copy of a letter dated 29 November 1949 and written by Maj Smerkalov to the management of the Zeiss firm, dealing with modifications of the A-1 set.

7. Annex 3:

a. Copy of the translation of the protocol of a conference held on 30 November 1949 in Jena. The topic of this conference was Modifications of the A-1 set (exchange of the projector by a panoramic set).

b. The conference was attended by Majors Smerkalov and Paturov of the "MTS 16", Dr. Hilgers and seven representatives of the Zeiss Firm.

8. Annex 4:

a. Copy of a letter dated 1 December 1949 and written by the Zeiss firm to the chief of the Export Department of the Foreign Trade Agency of the SCC (Soviet Control Commission) in Berlin-Karlshorst, 1 Schtuelingenstrasse.

b. The subject of the letter is an order for the A-1 set. It is a supplement to the proposal of 7 November 1949.

c. Eng Schreiber was the chief of the planning department. Eng Wolfgram was the chief designer of the new sets. Both names were written at the lower right corner.

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RETURN TO OFFICE

9. Annex 5:

- a. Original copies of the descriptions of the design and the functioning of the A-1 k and A-1 p sets.
- b. The description of the set with the attached drawings were translated in the translation bureau of the firm in October and November 1949. Just as in the case of the L-1 set one copy each of this description, was to go along with each individual set.
- c. The description, which could be secured in part, was also to serve the training of the Soviet commission in Jena.
- d. Following is a short survey of the attached material:

Pages 40 through 42: Calculation and consideration of the movements of the fighter with and without bank. Influence of the height and course of the aircraft on the working of the set.

Pages 49 and 50: Allowances to be made for the own speed of the fighter and the target speed.

pages 57 through 61: Mechanism of the projector of the A1 k set

pages 70 through 72: The kinematics

pages 81 through 83: The sighting and approach of the target

page 84: The sight and control set

pages 85 through 87: The determination of distances.

pages 91 and 92: Measuring equipment

pages 93 through 97: The kinematics of the A-1 k and A-1 p sets.

10. Description of the A-1 set:

The set was four meters long and was an all-metal design. In the front section was an instrument board in front of which the student was seated. The trainer had his seat behind the student. Individual parts of the set were also manufactured in other Thuringian and Saxon plants. However, they were assembled only at the Zeiss Firm which also manufactured most of the precision and optical equipment.

11. No prototypes of the A-1 k and A-1 p sets were scheduled to be completed by 15 November 1949. This date had to be **changed to 25 December 1949** because of difficulties experienced in the procurement of the required material. After the testing of the prototype sets quantity production was begun. An **initial** order for 200 sets had been placed to begin with.
12. The A-1 set had been partially designed in Dr. Hilger's Engineering Bureau. Possibly the L-1 set had also been developed there. Some of the employees of the Junkers firm believed that the L-1 and A-1 sets were former German Air Force designs which had not been fully developed. Dr. Hilgers, who was believed to have been an air force engineer, had, allegedly, further developed this set and then offered it to the Soviets.
13. The A-1 set was designed for the training of pilot students. It trained **the student** in approaching a second aircraft by means of a reflector sight. The complete set had the following four parts:

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- 1. Projector
- 2. Projector screen
- 3. Cockpit
- 4. Trainer's desk.

25X1A [redacted] Comment:

Report supplements information on the A-1 and A-1 training sets ^{previously} trans-
 mitted. * From the attached Annexes it can be inferred that the prototypes
 produced so far do not represent definite solutions; that further propo-
 sals for modifications of the original design are being made and that the
 Soviets, in November 1949, were offered another A-2 training set. This
 set is a slightly modified Link-Trainer and seems to be designed for prepara-
 tory training in instrument and blind flying.

6 Annexes:

- 1. Letter: "Proposal for the Project of an Experimental Training Set A-2".
- 2. Letter written by Maj Smerkalov to the Zeiss Management Concerning
 Modifications of the A-1 Set.
- 3. Protocol on the Proceedings of a Conference held in Jena.
- 4. Letter of the Zeiss Firm Concerning an Order for the A-1 Set.
- 5. Description of the A-1 and A-1 p Sets.
- 6. Das Pankratische Umkehrsystem.

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25X1A [redacted] Comment: All annexes were forwarded to OSI/CIA.

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