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CENTRAL INTELLIGENCE AGENCY

REPORT

INFORMATION REPORT

CD NO.

COUNTRY USSR (Moscow Oblast)

DATE DISTR. 23 May 1950

SUBJECT Aircraft Engine Plant No. 45 in Moscow

NO. OF PAGES 2

PLACE ACQUIRED

NO. OF ENCLS. (LISTED BELOW) 1

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DATE OF INFO.

SUPPLEMENT TO REPORT

THIS IS UNEVALUATED INFORMATION

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1. Location:

Some kilometers east of the Kremlin in Moscow. In the vicinity of the plant was a road leading to the Ismailovo airfield. A suburban station was to the west.

2. Plant area:

1,000 x 1,200 meters

3. Work force:

Five to six thousand Soviets, including 50 percent women. Two 9-hour shifts were worked.

4. Production:

The production of jet engines was started in 1946. Another type of jet engine has been in production since 1948.

5. 50X1-HUM

a. See sketch 1.

(1) 7-2-a steel sheets two mm thick were cut in pieces 15 x 38 cm. By means of a machine these pieces were folded in such a way that two 15 x 19 cm blades were produced. At the bend a 20-mm incision was made from each side. The prepared sheets were put into a die and bent so that an oval space remained in the middle. Into this space, whose largest diameter was about 20 mm, an iron wedge was inserted; the outward edge of the 19-cm side of the sheets was then worked with a wooden or bakelite hammer so that a sharp edged rim was formed. The two ends of the 15-cm sides which just touched each other were then welded together. Two holes were bored with a 6-mm tube in each side wall of the ellipsoidal

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body. The distance of these holes from the outer edge was not prescribed to the mm. Rivets were inserted into these holes. They were to stiffen the outer wall. The outer rivets heads were carefully cleaned and ground with emery. The parts produced by the FWs were checked by a Soviet woman in charge of acceptance tests and were then taken to a special magazine, from where they were picked up by a cart and taken to Plant No 25.

(2) Output: In 1946, a two-man team produced five blades per day. A detail of two FWs and six Soviets was assigned to this work. In 1947 the work quota was doubled and in 1948 a two-man team had to produce 30 to 40 units per shift.

[redacted] on the average 300 blades were manufactured every day. 50X1-HUM

b. See sketch 2.

(1) Production of rings for the turbine blades described in para a.

Two sizes of rings 19 cm wide were made to V-2-a steel sheets about 1½ cm thick. The smaller ring, forming the inner turbine wheel, had a diameter of about 60 to 70 cm; the outer ring was about 90 to 100 cm in diameter. The ellipsoidal blades were fitted between the two rings and electrically welded (see sketch 2). The distance between the two blades was estimated at about 20 cm.

(2) The output of these rings was presumably greater than that of the ellipsoidal bodies since the assembly section continually pressed for an increase of the production quota for the turbine blades. [redacted]

[redacted]

c. The production of these turbine wheels was stopped in September 1948. Soviets said that a new type turbine engine was to be produced. Machinery which was no longer fully serviceable was replaced. Large new punching machines arrived in workshop No 13 [redacted] The FWs assisted in installing these machines. The preparatory work was completed in all workshops in December 1948 and the production of a new series, a new type of turbine engine, was to begin. At this time the workshops were declared off limits to all FWs. 50X1-HUM 50X1-HUM

[redacted] Comment:

a. The body represented in sketch 1 probably is a guide blade for the compressor inlet of an axial-flow jet engine. Sketch 2 shows a mistaken arrangement of the blades which must be tilted by 90°. The correct form of the arrangement is shown in the lower section of the sketch.

b. Since the production of turbine engines in Plant 45 had just started in the fall of 1946 the output for this period was probably correctly stated: Para 5c (2) shows the marked increase of production in the following years.

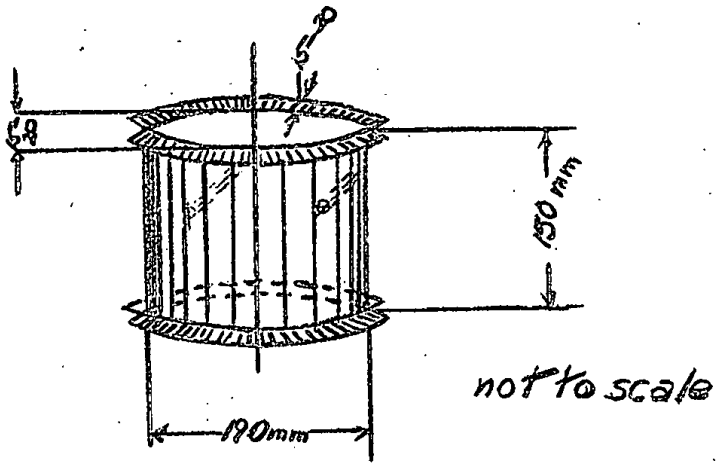
[redacted] 50X1-HUM

1 Annex: blueprint 50X1-HUM

[redacted] Comment: Work force reported to be 3,000 to 4,000 [redacted] 50X1-HUM

Sketch I

Turbine Blades



not to scale

Rings for Turbine Blades

Sketch II

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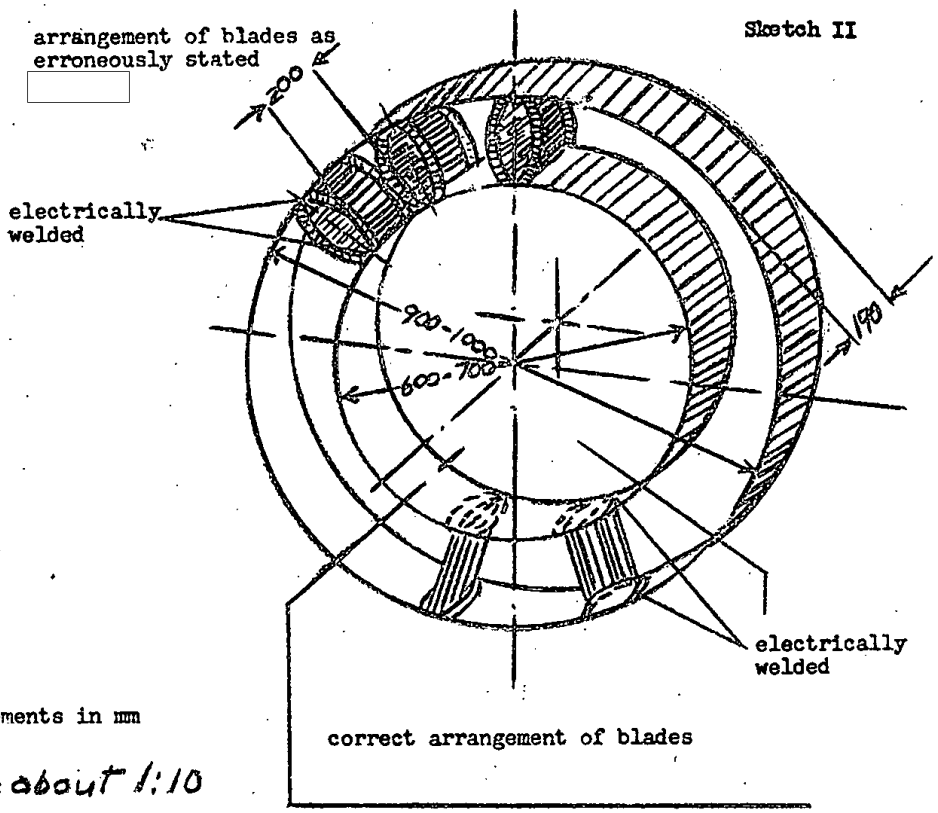

measurements in mm

scale about 1:10