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**INFORMATION REPORT**

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SUBJECT Moscow Gauge Factory

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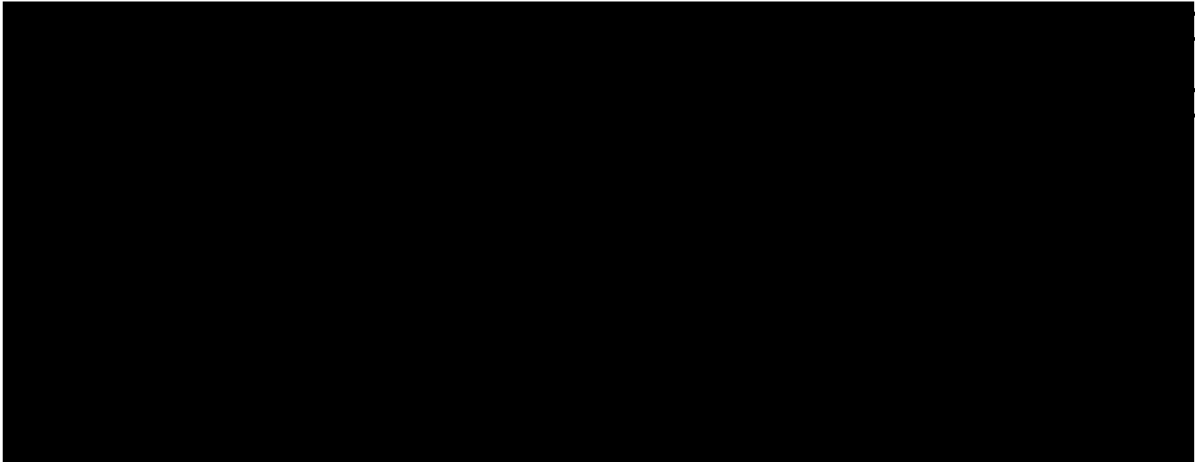
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SUPPLEMENT TO REPORT NO.



1. The Moscow Gauge Factory (Moskovski Zavod Kalibr) is located on Yaroslavl Shosse, in the Shcherbakov District of Moscow, near the Windan station.
2. Erection of the factory began in 1930 and was completed in 1932. In 1941, the factory was evacuated to Chelyabinsk, where it worked for two years under the name of Chelyabinsk Kalibr. In 1943, it was returned to its old site in Moscow; and the Chelyabinsk Tool Factory (Chelyabinski Instrumentalny Zavod), sometimes called the Chelyabinsk Measuring Instruments Factory (Chelyabinski Zavod Izmeritelnykh Instrumentov), remained at Chelyabinsk.
3. The Moscow Gauge Factory is controlled by the Chief Administration of Tool Industry of the Ministry of Machine Tool Construction of the USSR (Glavnoye Upravleniye Instrumentalnoi Promyshlennosti Ministerstva Stankostroyeniya SSR).
4. The factory occupies an area of about 40,000 sq. m. and is housed in one ten-storied building and several long four-storied buildings.

Type of Production

5. The factory produces control and measuring instruments and appliances of various kinds and sizes. Every year new types of instruments and appliances have been added to the production.

a. Gauges produced include the following:

All kinds of staple gauges (skoba) for measuring shafts.

Two-sided sheet limit staple gauges (predelnaya dvukhstoronnnyaya listovaya skoba).

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CENTRAL INTELLIGENCE AGENCY

- 2 -

Cast staple gauges with detachable jaws (litaya skoba so vstavnyimi gubkami).

Adjustable staple gauges.

Johannson's staple gauges.

All kinds and sizes of plug gauges (probka-kalibr) for measuring holes and counter-gauges (kontr-kalibr) for staple gauges.

A small number of ring gauges.

A large number of thread gauges, e.g., thread plug gauges for nuts, thread ring gauges and staple gauges for bolts (external thread).

In 1947, adjustable thread ring gauges were produced. In 1948, production of thread roller gauges was begun. (These are gradually supplanting the production of thread ring gauges.)

Gauges for smooth conical articles. In 1947, serial production on a large scale was started of gauges for conical threads (plug and thread), e.g., for lining pipes of various diameters up to 16.75 inches.

Gauges for checking linear dimensions (sheet gauges), clearance gauges (shchup) (plates with parallel measuring planes for checking clearances between surfaces).

Profile gauges for checking surfaces of curved articles.

- b. Appliances and instruments for technical measurements include: plane-parallel plates, 30 x 9 mm. plates with working dimensions up to 10 mm., 35 x 9 mm. plates with working dimensions over 10 mm. These plates are produced in sets, generally composed of 37 or 83 (sic; 38?) plates.
- c. Measuring instruments with linear vernier include sliding calipers and sliding depth and height gauges. Sliding calipers are produced with vernier graduations of 0.1 mm, 0.05 mm, and 0.02 mm.
- d. Micrometers for external measurements, micrometric depth gauges, and pin gauges (shlykhas).
- e. Various mechanical lever appliances, indicators of clockwork type, millimeters, passimeters, microcaters (micro-indicators?). In 1946, the factory began serial production of indicator inside calipers.
- f. Pneumatic appliances for exact measurement of external and internal dimensions (mainly for measurement of holes). In 1947, serial production of pneumatic appliances on the principle of the rotameter was begun; these appliances are capable of measuring exactly one-half of a micron.
- g. Electrical measuring appliances.
- h. Instruments for measurement of angles, such as angle plates, universal angle gauges (ugolnik) of the Semenov type, rigid try-squares (ugolnik), sine rulers, etc.
- i. Instruments and appliances for measurement of toothed and worm wheels, e.g., pitch gauge (shagomer) of fixed type, pitch gauge with rim cap (kromochny nakonechnik) (production started in 1946), tangential tooth gauge with indicator (production started in 1945), appliance for measurement of conical toothed wheels.

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~~SECRET~~  
CENTRAL INTELLIGENCE AGENCY

- 3 -

- j. Serial production of appliances for checking toothed wheels was begun in 1947.
- k. Instruments for measurement of flatness and straightness, such as various plates and testing rulers. Cast-iron plates of the following sizes: from 100 x 200 mm. to 1000 x 500 mm; these are subdivided into four classes (0, 1st, 2nd, 3rd) according to degree of precision. These plates are employed according to the "spots on paint" method (po metodu pyaten na krasku).
  - 1. Testing rulers of various types; gauged rulers, angle rulers, cast iron bridges (mostik) (up to 500 mm.), double-T gauge steel rulers (stalnye lineiki dvukhtavrovogo secheniya). These appliances work on the light slit (svetovaya shchel) and "on paint" (na krasku) methods.
  - m. Several types of automatic machines, e.g., for the checking and sorting of bullets. These machines sort bullets into usable and unusable categories according to length, diameter, and ogival part of bullet.
  - n. Automatic machines for sorting balls and rollers for bearings.

However, production of these mechanical automatic machines is gradually being replaced by that of automatic appliances with electrocontact heads. Seven different types of these appliances have already been produced, e.g., for automatic checking of grooves of ball bearing rings, and appliances for the automobile and tractor industry. In 1947, the factory produced electroinductive appliances (electroinductive measuring heads).

#### Output

- 6. a. Informants were unable to give the total output because of the great variety of types and sizes. One estimates the total output of gauges at about three million, including about one million staple gauges (skoba) of various kinds, about one million templates (shablon) and counter-templates (kontrshablon), and one million smooth plug gauges, smooth ring gauges, thread plug gauges, thread staple gauges, and Johannson's staple gauges. (Washington Comment: Presumably annual production.)
- b. Output of measuring instruments is also large. Informants are unable to give exact figures but they are of the opinion that in 1948 the factory will produce about 150,000 micrometers (as a result of the installation of two continuous operation lines in the micrometer shop) and about 240,000 sliding calipers (as a result of improvements in the continuous operation line). In 1940, output of sliding calipers was about 35,000; but in 1947, after the installation of continuous line production, output reached about 200,000. Continuous line production reduced the cost of sliding calipers by about one-third (from 30 to 20 rubles). It is also planned to transfer the production of rotating centers to a continuous operation line.
- c. In 1947, over 100,000 Johannson's gauges were produced.
- d. Production of micrometers amounted in 1940 to about 20,000 of two types; in 1947, to about 105,000 of four different types (in January 1947, slightly over 5,000; in December 1947, 11,200). In 1948, output was increasing further (April, over 13,000; August, about 14,000); during the first six months of 1948, 76,000 were produced. Three categories of micrometers for outside measurements with staple gauge were produced: "0", "1st", and "2nd"; these categories refer to the precision of the micrometers. The working stroke (rabochy khod) of the micrometer screw is usually 25 mm. and the thread of the screw (shag vinta) 0.5 mm.

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CENTRAL INTELLIGENCE AGENCY

- 4 -

Personnel

7. The exact number of workers is not known, but there are believed to be about 3,000.

Director: A. Neshto  
 Chief Engineer: Tarkhov  
 Chief Designer: G. Ovcharenko  
 Chief Mechanic: Sinyukhin  
 Engineer in charge of micrometer shop: Onas  
 Section head of micrometer shop: Senior Foreman Rossiaki (often mentioned in press in 1947).

Shops

8. The factory has the following shops:

Round gauge shop (smooth and thread gauges) (tsekh kruglykh kalibrov)  
 Flat gauge shop (production of various staple gauges, templates) (tsekh ploekikh kalibrov)  
 Universal shop (production of measuring instruments)  
 Micrometer shop (separated in 1946 from universal shop)  
 Calibrating device shop (tsekh etalonov)  
 Sliding caliper shop  
 Case shop (woodworking shop for production of cases for micrometers, sliding calipers, sets of Johansson plates, etc.)  
 Engineering shop  
 Instrument shop (tsekh priborov)  
 Engineering repair shop  
 Thermic shop  
 Electrotechnical shop  
 Preparing shop (zagotovitelny tsekh)  
 Experimental shop  
 Shop of chief mechanic's section  
 Transport shop

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