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DEVELOPMENT OF THE SOVIET MACHINE-TOOL INDUSTRY

(Important Events and Dates)

1925

"The authors of the Dawes Plan would have liked to limit us to the production, let us say, of cotton print; but this is not enough for us, for we want to produce not only cotton print but also the machines necessary for its production.

"They would have liked us to limit our production, let us say, of automobiles; but this is not enough for us, for we want to produce not only automobiles, but the machines which produce automobiles.

"To change our country from an agrarian to an industrial one, able to produce necessary equipment by its own efforts -- this is the gist, the basis of our general policy." (I. V. Stalin. Stenographic Report of the Fourteenth Congress of the VKP(b), pp 488-489.)

A special machine-tool section was created in the VMTS of the Supreme Council of National Economy of the USSR (VSNKh).

1926-1928

A great expansion of Soviet machine-tool production took place. As the demand for new machine tools increased, plants such as the "Krasnyy Proletariy" imeni Lenin and imeni Sverdlov, the "Dvigatel' Revolyutsii" plant, the training and production workshops of the technical school "Komsomolets," the plant which was called "Samotochka," and others, gave up the production of other types of products and turned fully to the production of metal-cutting machine tools.

At the beginning of the First Five-Year Plan the output of metal-cutting machine tools was 2.5 times greater than in 1913 and 3.4 times greater than in 1925-26. The value of machine tools produced was 2.5 million rubles in 1926-27 prices.

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The special machine-tool section in the VMTS of the VSNKh of the USSR was reorganized into the directing agency of machine-tool production.

1929

A machine-tool building trust and a gauge and caliber administration were organized by a decision of the Supreme Council of National Economy.

The government organized two administrations for the construction of the new machine-tool instrument and building plants "Stankostroy" and "Instrumental'-stroy."

A machine-tool building division was organized in the Electric Machine-Building Institute (GEMIKEh) for the training of engineers for machine-tool production.

1930

The Sixteenth Congress of the VKP(b) recorded: "The solution of all problems confronting industry is possible only on the basis of forced development of machine building, in particular machine-tool building."

The Presidium of the VSNKh of the USSR established dates for the completion of the plan and construction of the new machine-tool and instrument plants. It commissioned the Glavvtuz (Main Administration of Higher Technical Educational Institutions) together with the Glavmashstroy (Main Administration for the Construction of Machine-Building Enterprises) to work out a plan of training specialists in machine-tool building.

Plans for the reconstruction of the imeni Lenin, "Krasnyy Proletariy," and imeni Sverdlov plants, and the plant of the technical school "Komsomolets" were approved.

Construction was begun on a central cast-iron foundry plant designed to serve the needs of machine-tool production.

The first issue of the periodical Stanki i Instrument was published.

At the suggestion of I. V. Stalin, the Moscow Machine-Tool and Instrument Institute (100 students) was organized in the GEMIKEh.

The power-engineering technical school "Komsomolets" was reorganized into a machine-tool building school.

The machine-tool building and instrument trust were merged into the "Soyuzstankoinstrument."

In order to make known the means of developing the nation's machine-tool industry and the creation of the machine-tool DIP ("dognat' i peregnat'" - to overtake and surpass), discussions, reaching a wide circle of machine-tool specialists, were conducted in newspapers and periodicals, and at conferences and meetings.

The plant "Krasniy Instrumental'shchik," specializing in the production of measuring instruments, was organized.

Abrasive discs for polishing, sharpening instruments, and roughing, worth 7½ million rubles, were produced.

A smelting shop of electrocorundum and carborundum was built and put into operation in the Leningrad plant imeni Il'ich.

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1931

The All-Union Scientific Research Institute of Machine Tools, Instruments, and Abrasive Industry (NIIStI) was organized.

The all-union conference of workers of Soyuzstankoininstrument plants adopted resolutions recommending a radical reconstruction of the machine-tool industry, the establishment of a Central Designers' (Konstructorskyy) Bureau and of an experimental workshop in the Machine-Tool Association, and the strengthening of designers' bureaus in plants.

Construction of the first section of the Machine-Tool Plant imeni Ordzhonikidze was completed.

1932

Eight machine-tool plants were in operation towards the end of 1932.

The output of machine tools during the First Five-Year Plan was as follows:

	1927 1928	1928 1929	1929 1930	1931	1932
Quantity of Production (percent)	100	165	254	366	462
Value of Production (percent) (1926-1927 prices)	100	120	235	396	936

Construction of the Kharkov machine-tool plant imeni Molotov was begun.

The "Stankopatron" plant was built in the city of Murom.

The largest measuring-instrument plant "Kalibr" started operations.

The first experimental turret lathe was produced by "Krasnyy Proletariy" for plant imeni Ordzhonikidze.

The Central Designers' Bureau (TsKB) was set up within the Machine-Tool Association (Stankoob'yedineniye).

Thirteen million rubles worth of abrasive discs were produced, almost twice as much as in 1930.

1933

Summing up the results of the Five-Year Plan of industrialization at a joint plenum of the Central Committee and the Central Control Commission of the VKP(b), Stalin remarked, "We did not have a machine-tool industry before. We have one now."

The People's Commissariat of Heavy Industry issued an order, signed by S. Ordzhonikidze, containing a program for further development of the Soviet machine-tool industry.

The first all-union conference of machine-tool building workers was held. The conference examined the following questions: distribution of machine-tool production according to type; conditions under which nonspecialized machinery plants could be assigned to the production of machine tools and the kind of planning which this would involve; and measures necessary for the fulfillment of the order of the People's Commissariat of Heavy Industry. The conference

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recognized that it was necessary to start the production of heavy machine tools and passed a resolution for the organization of EKIMS (Experimental Scientific Research Institute for Metal-Cutting Machine Tools and Instruments) within the NIISTI, the Central Designers' Bureau, and the "Stankokonstruktsiya" plant.

Glavstankoinstrument (Main Administration of Machine-Tool and Instrument Building) was organized under the People's Commissariat of Heavy Industry.

A total of 6,208 machine tools were manufactured and 21 size-types of machine tools were in production.

Instrument plants mastered the production of threading micrometers (50-100 mm), Maag chasing tools, pneumatic equipment, polishing worm milling machines, and others.

The plant of the technical school "Komsomolets" produced 417 machine tools including the first gear-cutting machine.

The Gomel' plant "Proletariy" began producing machine tools for centerless straightening, stripping, and calibration of shafts.

The Penza plant imeni "Frunze" produced automatic single-mandrel lathes.

Output of machine tools increased to 51 size-types. As compared with 1932 production increased as follows:

	Total Production (in Percent)	Commodity Production (in Percent)
Machine-tool plants	131.1	130.7
Instrument plants	123.0	123.9
Abrasive [machine tool] plants	106.1	112.4

An electrocorundum smelting shop was constructed and put into operation at the Chelyabinsk Abrasive Plant.

1934

"During the Second Five-Year Plan production of 200 newest size-types of machine tools must be adopted ..." [From a resolution of the Seventeenth Congress of the VKP(b)].

"It would be strange, it would be an outright disgrace to our industry if it did not see to it now, today, that our future automobile plants were equipped in large quantities with Soviet-made machine tools ..."

"In 1937 our industry must produce 40-60 thousand machine tools. Without this we will not be able to satisfy the needs of our country. Without this, Comrade Stalin's instructions will not be carried out completely. Comrade Stalin said: 'If you wish to have an industrialized country and if you do not want it to be an appendage of the capitalist countries, then you must be able to build not only automobiles and tractors but also those machine tools which build these machines...' [From S. Ordzhonikidze's speech at the Seventeenth Congress of the VKP(b)].

The first all-union exhibit of machine tools was held.

The "Stankolit" plant commenced operations.

A round polishing machine tool with a hydraulic feed was put out by the Kharkov machine-tool plant.

ENIMS designed the most simple standard 5- and 10-horsepower heads. In this way the development of standard units for multispindle drilling and boring machines was started for the first time in Europe.

1935-1936

A month's study of stakhanovite methods was carried out on orders from S. Ordzhonikidze. This contributed to the growth in production, the rise in number of stakhanovites, and the improvement in the quality of machine tools.

The stakhanovite movement developed widely in the country. Machine-tool builders revised the construction of machine tools and informational data on cutting processes.

On 13-16 February a conference of workers of the machine-tool and abrasive industry took place.

A bureau for the interchange /of parts/ was organized in the metal-processing industry within the scientific-research sector of the "Kalibr" plant and the Gauge and Caliber Administration of the Supreme Council of National Economy.

In connection with the organization of output of new tractor models, the People's Commissariat of Heavy Industry resolved that the Soviet machine-tool industry should supply the Kharkov and Stalingrad tractor plants with machine tools.

The second all-union exhibition of machine tools and instruments was organized in honor of the Seventh All-Union Congress of Soviets. Participating in the exhibit were 36 machine-tool plants, 30 instrument plants, 6 abrasive tool plants, and 10 branches of industries connected with machine-tool production. Over 130 machine tools were installed and shown in operation at the exhibition. By the opening of the Seventh Congress the machine-tool industry was producing 183 size-types of machine tools.

The third conference of machine-tool construction engineers was held on 20-22 March 1935.

The tenth anniversary of the plant imeni Sverdlov was on 9 April 1935.

The gathering of stakhanovites of the Moscow machine-tool plants appealed to all machine-tool workers to follow the example set by the leaders of the stakhanovite movement. The following initiators of the stakhanovite movement in the machine-tool industry made their appearance: tracer Kozlov from the GZFS plant, borer Koval'chuk from the machine-tool plant imeni Lenin, and others.

The machine-tool plant imeni Ordzhonikidze started mass production of automatic four-mandrel lathes, Model 123, and semiautomatic machines, Model 116.

The Odessa machine-tool plant imeni Lenin designed and started mass production of the following models of vertical gang drilling machines: 2118, 2125, 2135, 2150, 2175, and Model 915 semiautomatic pipe-threading machines. All machine tools were of original design and were products of a year and a half's work of the plant's designers' bureau.

The machine-tool plant "Krasnyy Proletariy" started mass production of DIP-300 machines.

The Gor'kiy milling-machine-tool plant produced experimental plano-milling machines.

The Kharkov boring and polishing machine-tool plant produced a new experimental radial drilling machine.

The "Stankokonstruktsiya" plant began producing the first models of special machine tools for working on tubing segments used in subways. The machine-tool plant imeni S. Ordzhonikidze produced 15 size-types of machine tools (six were produced in large numbers). For the first time Model 118 semiautomatic machines, four-spindle automatic chucking machines, and Model 1426 cutting machines were produced. The use of nitro-paint for machine tools was initiated.

Plant "Krasnyy Proletariy" produced the first experimental six-spindle vertical lathe "S. O." (Sergo Ordzhonikidze).

The brigade of the experimental workshop of the Kiev machine-tool plant completed assembling the first semiautomatic six-mandrel lathe.

The first assembly of multispindle heads for tubing machines was completed.

The "Krasnyy Proletariy," GZFS, and Ordzhonikidze plants produced a series of special machine tools for the autotractor industry, the NKPS /People's Commissariat of Transportation/, and the ball-bearing industry.

The first section of the Kharkov Machine-Tool Plant began operations. Construction of the second section was begun.

The Tbilisi petroleum-equipment plant imeni Kirov was converted to machine-tool production, specializing in the production of bolt-cutting and pipe-threading machines.

The first plano-milling machine complex for processing "Metro" subway tubings was produced by the GZFS plant.

The "Krasnyy Proletariy" plant designed and made preparations for the production of a new lathe, Model 26.

The MSZ plant produced a hydraulic broaching machine Model 751, with a broaching capacity of 10 tons. Plant imeni TsK of the Machine-Tool Industry produced a thread-milling machine for long threads, Model 561.

The plant imeni Lenin produced the first thousand machines for the autotractor industry.

The fourth all-union conference of machine-tool construction engineers took place.

The first all-union conference on interchangeability of parts and techniques of measurement was held on 13-18 November (137 organizations participated in this conference).

The All-Union Technical Office "Stankinprom" was set up.

ENIMS (Experimental Scientific Research Institute for Metal Cutting Machine Tools and Instruments) designed and produced a considerable number of special machine-tool complexes for tractor plants.

1937

The conference of workers of ENIMS and GUSIP /Main Administration of Machine-Tool and Instruments Industry/ plants devoted itself to problems of cutting.

The first all-union conference of technologists of the machine-tool industry was held.

A conference on metal cutting was held by the Section of Technical Sciences, Academy of Sciences USSR, and the Technical Council of the People's Commissariat of Heavy Industry.

The first all-union congress of the trade union of workers of the machine-tool and instrument industry was held.

Machine-tool plants produced hundreds of special machine tools necessary for the reconstruction of the Stalingrad and Kharkov tractor plants, in connection with their conversion to the production of caterpillar tractors.

Growth of machine-tool production in the Second Five-Year Plan in percentages:

1933	100.0
1934	105.1
1935	129.0
1936	169.5
1937	201.4

Simultaneously with the 1937 increase in the production of machine tools in units (7½ times more than in 1932), the number of size-types of machine tools also increased. The average capacity of a motor of a metal-cutting machine rose from 5.3 horsepower in 1933 to 11 horsepower in 1937.

The abrasive-tool industry gave the country 68 million rubles worth of discs, or five times more than in 1932.

1938

With the aim of encouraging the growth of socialist competition and giving it a more organized form, there were instituted transferable Red Banners of NKM, and TsK SIP [Central Committee of Machine-Tool and Instrument Industry].

Forty-six plants participated in the third all-union exhibition of machine tools, instruments, and abrasive tools. Due to inadequate space only 120 machine tools (about 30 percent of the types used by the end of 1937) were displayed at the exhibition. Ten instrument and three abrasive-tool plants displayed their products in the instrument section.

The GZRS plant designed and produced 88 size-types of machine tools, of which 63 were new types. Production of a four-spindle milling machine and a hydraulic milling machine was begun. The "Stankokonstruktsiya" plant produced hydraulic (gidrofitsirovannyy) slat broaching machines and the Odessa machine-tool plant imeni Lenin produced honing machines. The plant imeni Sverdlov began the production of large-size boring machines and its output included 22 size-types of machine tools, 11 of which were new models. The "Stankonormal'" plant prepared a portable cylinder-boring machine and the MIZ plant prepared the first group of broaches for external broaching.

The jury of the NKM and of the Central Committee of the Union of the Machine-Tool and Instrument Industry awarded the transferable Red Banner to the Moscow polishing-machine plant, the Odessa machine-tool plant imeni Lenin, and the Leningrad plant "Krasnyy Instrumental'shchik."

During 1938 the abrasive-tool industry produced approximately 6,000 size-types of abrasive instruments for all kinds of polishing, finishing, and sharpening. Production of white electrocorundum and green carborundum was begun and a method of manufacturing boron carbide was discovered.

1939

"... The introduction of advanced technology in all branches of national economy and in all types of USSR defense preparations in accordance with modern requirement of the state requires the development of machine building, which is the decisive factor in the technical equipment of the national economy.

"Machine building must be increased 2.3 times, i.e., the increase must be considerably above the general growth of industry.

"It is necessary to insure production of all types of machine tools and increase considerably the proportion of high-capacity and special machine tools, especially of automatic and semiautomatic machines. It is necessary to raise the production of metal-cutting machines to 70,000 units in 1942 as compared with 36,000 units in 1937 and to bring the total assortment of machine tools to 800 size-types.

"It is necessary to expand in every way reconditioning and modernization of worn-out machine-tool equipment, to double the production of instruments, especially standard instruments, to increase the output of pneumatic, electric, and other high-grade instruments..." /From the resolution of the Eighteenth Congress of the VKP(b)/.

The Council of People's Commissars of the USSR passed a resolution entitled "On the Development of the Machine-Tool Industry." A plan for the production of machine tools during the Five-Year Plan was drawn. Nomenclature of machine tools to be produced and the productive capacity of plants for 1 January 1943 were set up. In order to carry out more efficiently these decisions, Glavstankoprom (Main Administration of Machine-Tool Industry) was divided into two sections -- Glavstankoprom and Glavtyazhstankoprom (Main Administration of Heavy Machine-Tool Industry). ENIMS was placed under the direct supervision of the NKTM.

A large number of workers of the machine-tool and instrument industry were awarded orders and medals by the Presidium of the Supreme Soviet of the USSR.

The machine-tool plant "Krasnyy Proletariy" was awarded the Order of Lenin.

The machine-tool plant imeni S. Ordzhonikidze was awarded the Order of the Red Banner of Labor.

The first conference on instruments took place.

The Moscow instruments plant celebrated its twentieth anniversary of fruitful production in August 1939.

1940

The fifth conference of machine-tool construction engineers deliberated on ways and means of carrying out the 4 September 1939 decisions of the Council of People's Commissars and the basic problems of machine-tool construction during the Third Five-Year Plan. The problems of rapid machine-tool construction were resolved.

The Moscow Machine-Tools and Instruments Institute was named after Comrade I. V. Stalin. by government decision.

The all-union exhibition of machine tools together with the gear-cutting section of the VNITOMASh /All-Union Scientific Engineering and Technical Machine-Building Society/ held a conference of stakhanovites of the gear-cutting enterprises to consider problems arising when working with many machines.

The machine-tool plant imeni Ordzhonikidze produced a semiautomatic machine, Model 117, for heavy work and an automatic four-spindle rod-shaped machine, Model 1268, for rods with diameters up to 90 millimeters.

The machine-tool plant imeni Sverdlov produced a new electric duplicate-milling machine which was designed by Drushinsky at the suggestion of Engineer Sokolov.

The Gor'kiy milling-machine plant produced a considerable number of new special milling machines, such as a face milling machine for working on columns, a nine-spindle plano-milling machine for working on mounts of turning lathes, a semiautomatic drum-milling machine, heavy plano-milling machines, thread-milling machines without angle brackets, and others.

The Moscow polishing-machine plant produced a stripping and surface-grinding machine, Model 3365.

The "Krasnyy Proletariy" plant produced experimental samples of No 28 turning lathes, a simplified lathe, Model 114, a special turning lathe, No 205, with a special adjustment for boring ring collars.

The machine-tool plant imeni Lenin produced the following models of heavy semiautomatic boring machines with hydraulic feeds: 215-A, 216-B, 217-B, and 217-G; four-spindle diamond boring machines, Model 2715; machines for deep boring, Model 2953; and a vertical honing machine with a mechanical feed, Model 3833.

The Kiev machine-tool plant imeni Gor'kiy produced a modernized six-spindle semiautomatic chuck-like machine, Model 1M27.

The Tbilisi machine-tool plant imeni Kirov produced a pipe-threading machine, Model 9142.

The Gomel' machine-tool plant imeni Kirov produced a grooving machine, Model 7417.

The Leningrad machine-tool plant imeni Il'ich put out a universal sharpener, Model 3A64.

The Kramatorsk heavy machine-tool building plant produced a roll lathe, Model 1945.

The Lubny machine-tool plant "Kommunar" produced a revolving machine, Model 134.

The "Stankokonstruktsiya" plant produced a number of new machine complexes for the automobile plant imeni "KIM" and a milling machine, Model 648, for the manufacture of evolute templets.

A scientific and technical conference on modernization of equipment was convened in Moscow in November 1940 by NTOMASh /All-Union Scientific Engineering and Technical Machine-Building Society/, the All-Union Exhibition of Machine Tools, and the editorial office of the newspaper "Mashinostroyeniye."

The Central Committee of the VKP(b) and the Council of People's Commissars of the USSR passed a resolution "On the Development of Machine-Tool Building in the USSR" which outlined methods of Soviet machine-tool building for the coming years with the purpose of satisfying the various needs of the country.

1941

The People's Commissariat of Machine-Tool Building was organized on 5 June 1941 by a decision of the Government. A. I. Yefremov was appointed People's Commissar of Machine-Tool Building of the USSR.

In the first half of 1941 machine-tool and instrument plants obtained a sharp increase in the production of machine tools, especially automatic and semiautomatic machine tools and machine complexes.

The Kuybyshev plant imeni TsK of the Machine-Tool Industry produced a semiautomatic thread-milling machine, Model 562, for milling short threads when working on centers.

The Leningrad machine-tool plant imeni Sverdlov produced a heavy vertical boring and turning machine, Model UK-159.

The Leningrad machine-tool plant imeni Il'ich produced a groove-polishing machine, Model 3483, for polishing the inner rings of ball bearings.

The Minsk machine-tool plant imeni Kirov produced a vertical broaching machine, Model 772, for machining holes.

In view of the attack of the German fascist bandits on our native land, the machine-tool and instrument industry rapidly reorganized its work to satisfy the needs of the aviation, tank, and defense industries by increasing the production of specialized machine tools and by sending a number of highly skilled brigades to tank, artillery, and aviation plants in order to develop and incorporate advanced technology and to give technical assistance in organizing mass production of various types of armaments.

Machine-tool workers have not only stepped up the production of machine tools but have also organized in their plants the production of equipment for the front.

They turned out special machine tools for airplane engines, gun drilling, boring, and honing machines, automatic duplicate-milling machines for boring and bending, operational projectile machines (operatsionnye snaryadnye stanki) for shaping edges of armor plates, and other machines. They designed and produced thousands of tools for equipping the defense industry, including pressing machines, special and standard instruments, and abrasive tools.

1942

Machine-tool plants produced "rows of machines" for various types of armaments /shells, barrels of heavy guns, tank assemblies, aircraft engines, Shpagin submachine gun (P.P.Sh.) and others/. Semiskilled workers were able to operate these machines. Machine-tool workers helped to solve the problem of obtaining machine tools, of which there was an acute shortage, by modernizing the equipment in use and producing special simplified machines from obsolete universal machines.

Machine-tool plants produced a number of new machine tools: gun-rifling machines, Model 5KN, turret lathes, Model OP-11; high-speed vertical milling machines, Model IF, machines for polishing gun barrels, Model 25P, special broaching machines, Model 26P, for broaching spiral threading in barrel bores, semiautomatic gear-cutting machines, and a number of special vertical and horizontal multispindle machine complexes.

The machine-tool and instrument industry fulfilled early the state plan for the production of machine tools and instruments. In addition to this, the workers of machine-tool and instrument plants rendered considerable aid to

defense plants by producing parts and assemblies and by sending highly skilled brigades to defense plants. Important work was performed by machine-tool and instrument plants and institutions in producing complex equipment and in applying technological processes to the production of parts for tanks, aircraft, and other types of armament.

1943

The People's Commissariat of Machine-Tool Building of the USSR held the second all-union instruments conference.

The following groups of workers of the machine-tool and instruments industry were awarded the Stalin prize by the decree of the Council of People's Commissars: workers of the ENIMS - I. F. Maslennikov, Yu. A. Erpsher, N. A. Volchek, A. L. Kuptsov, G. I. Zuzanov, A. A. Levin, and S. B. Filatovich, for successfully developing and producing new high-capacity machines for the defense industry; I. Ye. Burshteyn and K. P. Stayev for developing a method of knurling threads on screw taps; S. F. Smirnov, a lathe hand at the "Krasnyy Proletariy" plant, who made valuable technological improvements in the production of a number of machine-tool parts in defense production.

ENIMS celebrated its tenth anniversary.

The All-Union Scientific-Research Institute (VNII) was organized in October 1943 by a government decree.

A large group of workers in machine-tool plants were awarded orders and medals of the USSR by the ukase of the Presidium of the Supreme Soviet of the USSR issued on 11 October 1943.

The plants imeni Lenin and "Stankokonstruktsiya" received the Order of Lenin, and the following plants received the Red Banner of Labor for successful completion of the state plans as provided by the order of the Presidium of the Supreme Soviet of the USSR: Sredne-Volzhskiy, Tomsk instruments plant, imeni Gor'kiy, and the Chelyabinsk abrasive-tool plant.

The People's Commissariat of Machine-Tool Building held an all-union machine-tool building conference in Moscow from the 18 to 26 November. At the beginning of the conference an exhibition of machine tools, instruments, and abrasive tools was opened which showed the products of the principal machine-tool and instruments plants turned out during the years of the Great Patriotic War.

1944

The Chelyabinsk instruments plant (measuring instruments) began producing clock-type indicators (a dial with 2-micron graduations).

The "Krasnyy Instrumental'shchik" plant organized the production of equipment for controlling fine-toothed gear wheels.

The "Frezer" plant (Moscow) adopted an apparatus for broaching squares on taps (in place of milling), which increased production to 6,000 units per shift.

The Tomsk instrument plant produced a cylinder-shaped and welded thread-milling cutter. This resulted in a 70 percent saving in high-speed steel.

The Bureau of Technical Standards of the NKSS [People's Commissariat of Machine-Tool Building] published a series of handbooks on methods of cutting to be used by metal-cutting machine tools, based on experiments conducted by the Commission on Metal Cutting of the Bureau of Technical Standards.

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1943

The Sverdlov instrument plant organized mass production of fine-toothed worm hobs.

The Moscow plant "Kalibr" commenced mass production of the following instruments for controlling the precise operations of machine tools: control mandrels, centers, rulers, and levels. The plant produced a number of machines for sorting balls and expanded the production of registering inside micrometers.

The Moscow Instrument Plant (MIZ) began to manufacture surface broaches for tongue and groove work and cutters for gear-cutting machines. Mass production of Babchinitser angle gauges for controlling the angles of cutting in a cutting instrument was started.

1946

The Five-Year Plan for the reconstruction and development of the national economy of the USSR from 1946-1950 states that it is imperative to "guarantee continued technological progress in all branches of the national economy of the USSR as a condition for the vigorous rise in production and the increase in labor productivity, for which purpose it is necessary not only to catch up with the scientific achievements of other countries but also to surpass them in the nearest future...

"...To guarantee the production of new and improved machine tools having a high production capacity, such as multispindle machine complexes and automatic machine tools...

"...To use widely advanced methods of production in machine-tool building, especially methods of assembly-line production, i.e., to introduce conveyers and machine-tool complexes...

"...To bring production of metal-cutting machine tools in 1950 up to 74,000 units...

"...To increase the output of machine-tool complexes and special machine tools in 1950 to 12.3 thousand units."

The People's Commissariat of Machine-Tool Building of the USSR was reorganized into the Ministry of Machine-Tool Building of the USSR.

Yefremov, Minister of Machine-Tool Building of the USSR, reported at the first session of the Supreme Soviet of the USSR, the completion by the "Stankokonstruktsiya" plant of a conveyer for the production of cylinder-block heads of KhTZ tractor motors. The conveyer reduced the amount of work almost 60 times, from 195 minutes to 3½ minutes.

The machine-tool plants "Stankokonstruktsiya" and imeni Ordzhonikidze produced a number of conveyers for machining automobile parts.

Stalin prizes for wartime work were awarded to a new group of machine-tool workers as provided in the resolution of the Council of the People's Commissariat of the USSR "On Awarding Stalin Prizes for Outstanding Work in the Field of Science in 1943-1944." The following received awards: PETMS workers -- V. P. Lebedev, S. I. Nashner, N. P. Lyapin, P. I. Atrel'nikov; workers of the "Krasnyy Proletariy" plant -- B. A. Zhukarev, P. F. Tarasichev, T. Ya. Gamichenko, G. I. Mirskiy, A. I. Bolotin, Z. D. Bomshteyn; Brigade Leader A. G. Shashkov of the Internal Grinding Machine-Tool Plant.

The machine-tool and instruments industry accomplished successfully the tasks imposed upon it during the years of the Great Patriotic War. The State

Defense Committee praised highly the industry's work in continuously supplying the front with defense production.

For their unselfish work during the years of the Great Patriotic War, 38,396 workers, engineers, technicians, and employees of enterprises and institutions of the machine-tool and instruments industry were awarded orders and medals of the USSR.

By decision of the VTsSPS /All-Union Central Council of Trade Unions/ and the Ministry of Machine-Tool Building, the following plants received honorable mention for good work during the years of the Great Patriotic War: "Krasnyy Proletariy," Moscow Instruments Plant (MIZ), Stankolit, Zlatoust abrasive plant /Chelyabinsk Oblast/ and Slavgorod plant /Altai Kray/, producing forging and pressing equipment. They were given for permanent retention the transferable banners of the State Defense Committee and the Ministry of Machine-Tool Building.

1947

Within the Ministry of Machine-Tool Building 30 plants fulfilled their total production (valovaya produktsiya) plan of 1947 in 10 months.

Among the main committees and enterprises which finished their plan by 6 November 1947 were: GUKMASh, which finished its annual production plan; the Moscow machine-tool plant imeni S. Ordzhonikidze, which completed its plan of commodity production; the Moscow machine-tool plant "Krasnyy Proletariy," which overfulfilled its annual plan by 25 machine tools; the Moscow Instruments Plant, which completed its annual plan.

The following plants were among those which lead in the All-Union Socialist Competition held in commemoration of the 30th anniversary of the Great October Socialist Revolution:

Leningrad machine-tool plant imeni Il'ich, which fulfilled its plan in assigned categories by 100.2 percent. Leningrad machine-tool plant "Avtomat," which fulfilled its plan in assigned categories by 103 percent. Novocherkassk machine-tool plant, which fulfilled its plan in assigned categories by 107.6 percent. Tbilisi machine-tool plant imeni Kirov, which fulfilled its total and commodity production plans by 105.3 percent. Tbilisi machine-tool plant "Stanok," which fulfilled its annual plan by 106.2 percent. Tbilisi plant "Tsentrolit," which fulfilled its annual plan by 100.6 percent.

Yerevan machine-tool plant imeni Dzerzhinskiy, which fulfilled its plan by 119.3 percent. Vitebsk plant imeni Kirov, which fulfilled its annual plan by 116.9 percent. Vitebsk plant imeni Komintern, which fulfilled its annual plan by 123.8 percent. Gomel' machine-tool plant imeni Kirov, which fulfilled its annual plan by 101.9 percent. Dmitrov milling-machine plant, which fulfilled its annual total and commodity production plan. Odessa radial-machine-tool plant, which fulfilled its annual plan by 116.9 percent. Moscow plant "Kalibr," which fulfilled its annual plan by 101.7 percent. Serpukhov plant imeni Sol'ts, which fulfilled its annual plan by 100.5 percent.

Leningrad instrument plant, which fulfilled its annual plan by 103 percent. Minsk instrument plant, which fulfilled its annual plan by 112.9 percent. Voroshilovgrad instrument plant, which fulfilled its annual plan by 101.8 percent. Moscow polishing-instrument plant, which fulfilled its annual production by 100.6 percent. "Krasnyy Tigel'" plant, which fulfilled its annual plan by 109.4 percent. Tashkent abrasive-tool plant, which fulfilled its annual plan by 102.4 percent. Serpukhov plant imeni 8th Year of October, which fulfilled its annual plan by 113.9 percent. Taganrog plant "Vpered," which fulfilled its annual plan by 131.4 percent. Odessa plant imeni Sixteenth Party Congress, which fulfilled its annual plan by 117.6 percent.

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The reorganization of work in the machine-tool and instruments industry not only insured a prewar level of production but also caused production to exceed the prewar level. In October 1947 the output of machine tools constituted 119 percent of the average monthly production in 1940.

In October the Dmitrov milling-machine plant surpassed the prewar production level by 64 percent; the Moscow instrument plant, by 58 percent, and the polishing-machine-tool plant by 52 percent, etc.

During the first quarter of 1947 the plan for total production was fulfilled 100.4 percent which represented an increase of 143.8 percent over the first quarter of 1946.

During the second quarter of 1947 the plan for total production was fulfilled 107.7 percent, which represented an increase of 151.2 percent over the second quarter of 1946.

During the third quarter of 1947 the plan of total production was fulfilled 109.4 percent, which represented an increase of 193.2 percent over the third quarter of 1946.

During the first 9 months [of 1947] the following new types of machines went into production: 46 new size-types of machine tools, 15 new size-types of forging and pressing machines, 103 new types of instruments, 36 new types of abrasive tools, 53 new types of related machinery.

The machine-tool plant "Krasnyy Proletariy" produced new semiautomatic multiblade machine tools, Models 71, 72, and 71 (sic), for working on camshafts for the autotractor industry, and machine tools, Model 1835, for sharpening and knurling railroad car wheel sets.

The Kramatorsk machine-tool plant produced ingot-cutting machines, Model 1865.

The machine-tool plant imeni Sverdlov produced a semiautomatic d[illegible]icate-milling machine, Model 6441A, for copying contours and volumes.

The Leningrad automatic machine-tool plant produced an automatic lathe for machining articles made of coil.

The Kharkov machine-tool plant imeni Molotov produced a vertical polishing machine, Model 3480, for polishing large bearings.

The Moscow polishing-machine plant produced a semiautomatic surface-polishing machine, Model 3484, for polishing the outer rings of ball bearings.

The Gor'kiy milling-machine plant produced a plano-milling copying machine, Model PKF-12.

On the day of the 800th anniversary of Moscow the "Stankolit" plant began producing steel castings.

The 15th anniversary of the founding of the "Kalibr" plant, which produces precision measuring instruments, was on 11 July 1947.

Rossiyskiy, senior foreman of the "Kalibr" plant was heading the stakhanovite movement within the machine-tool industry, in an attempt to raise the daily work output.

Pavel Rykov, lathe hand at the Moscow Polishing-Machine Plant, distinguished himself as the most productive worker in the machine-tool and instruments industry, using stakhanovite methods.

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By decree of the Soviet of Ministers of the USSR a large group of machine-tool workers were awarded the title of Laureates of the Stalin Prize for 1945-1946 for designing and producing high-capacity conveyer machines to be used in machining engine heads of STZ-NATI tractors and engine blocks for trucks and low-fuel-capacity automobiles, as well as new models of semiautomatic lathes for machining railroad-car axles: A. P. Rybkin, Yu. B. Erpsher, M. A. Bolshek, S. Ya. Kayserymats, S. A. Nikitin, I. I. Koulov, K. V. Truin, G. A. Surguchev, B. G. Kats, B. T. Levshinov, E. A. Ammonberg, and N. S. Fedin.

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