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CONFIDENTIAL

DEPARTMENT OF JUSTICE
WAR DIVISION
ECONOMIC WARFARE SECTION

REPORT ON
MACHINE TOOL PURCHASES IN THE UNITED STATES BY
NIPPON SEIKO K.K.
(NIPPON SEIKI KOGYO - JAPAN PRECISION MACHINERY INDUSTRY)

January 10, 1944

Submitted by: Leslie H. Stanlea
War Division
Department of Justice
New York, New York

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Economic Warfare Section
War Division
Department of Justice
Washington, D. C.

Confidential Report
January 10, 1944 (N.Y. #263)
Re: Report on Machine Tool
Purchases in the United States
by Nippon Seiko K.K. (Nippon
Seiki Kogyo - Japan Precision
Machinery Industry)
Submitted by: Leslie H. Standlea
War Division
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REPORT ON

MACHINE TOOL PURCHASES IN THE UNITED STATES BY

NIPPON SEIKO K.K.

(NIPPON SEIKI KOGYO - Japan Precision Machinery Industry)

INTRODUCTION

Nippon Seiko K.K. (Nippon Seiki Kogyo - Japan Precision Machinery Industry) widely known as "NSK" was capitalized at Yen 24,000,000¹ in 1940 and is the leading and oldest Japanese company producing quality ball and roller bearings from the basic raw materials.² Its estimated maximum annual production of ball and roller bearings in 1941 was 6,000,000 pieces, second only to the output of Toyo Bearing Seizo.³ Nippon Seiko is chiefly engaged in supplying the Army with ball and cylindrical roller bearings for tanks, trucks, and other types of military vehicles.²

Nippon Seiko purchased approximately \$900,000 worth of machine tools in the United States between January 1, 1937 and December 7, 1941. The Japanese trading companies Mitsubishi Shoji Kaisha, Mitsui & Co., Ataka & Co., Okura & Co., and Imperial Export Co. handled these transactions. The files of these companies, except Imperial Export, are now in the possession of the Alien Property Custodian and are kept in a warehouse at 27 Cliff Street, New York, New York. This report is one of a series of studies resulting from an examination of these files.

Little information is contained in these files regarding the physical properties and locations of Nippon Seiko. The bulk of this information comes from two sources: The Report on the Japanese Bearing Industry by Gosta B. Guston of F.E.A. January 20, 1943 (hereafter called Bearing Report), and the notes made by John Williams F.E.A. from various Japanese publications (hereafter called Notes.)

These notes served as a basis for his report "A Directory of Certain Japanese Industrial Companies," August 1943.

Nippon Seiko is controlled by the Yasuda interests and was established in 1917. In 1935, according to Notes, it increased its capitalization from Y 1,500,000 to Y 5,000,000.⁴ The figure jumped to Y 12,000,000 in 1937 and Y 24,000,000 in 1940.⁴ These increases in capitalization were matched by increases in the physical assets. In addition to expanding the old plants, according to Notes, a new one was built in 1938 for the manufacture of steel balls at the Fujisawa plant.⁴ This is in keeping with the Bearing Report which states that Nippon Seiko purchased steel ball making equipment in 1938 from LMV of Sweden designed to manufacture steel balls up to 1/2" in size at the rate of 20 million per year.² According to the Bearing Report Nippon Seiko was one of the three Japanese manufacturers in 1941 ordered to increase its production of steel balls. These three companies were to produce steel balls in sufficient quantities to supply the demands of the five major bearing manufacturers in Japan.⁵

The Notes state that a new factory was built in 1940 at Kawasaki for the manufacture of special steel for bearings.⁴ The Bearing Report does not mention this new plant nor that Nippon Seiko was producing its own bearing steel.

The factories of Nippon Seiko as given in the Bearing Report were the original Tokio plants at Ozaki and Kamata. According to this source these are the most important plants of this company. In addition, this report states that a new plant has been constructed at Fujisawa although no further information was given.²

The factories of Nippon Seiko are as follows:

OZAKI PLANT IN TOKIO SINAGAWA-KU HIGASHI OZAKI 2 CHOME 363¹

In 1939 this plant's production of ball and roller bearings was increased 50% by an expansion of its facilities.⁶ It was again undergoing expansion in 1941.⁷ See Notes and Bearing Report.

TOKYO KAMATA KU, SHIMOMARUGO CHO 309⁸ (called Tamagawa Factory)

This plant's production of ball and roller bearings was doubled in 1939 when its expansion was completed.⁷ It was again being expanded in 1941.⁸ See Notes and Bearing Report.

KANAGAWA PREFECTURE, FUJISAWA MACHI KUGENUMA 1375¹ (called Fujisawa Factory)

Although this is a new plant, by 1941, according to the publication Toyo Keizai Shimpo⁸ it had become the company's most important unit producing roller bearings, steel balls

and rollers. In 1938, equipment for the manufacture of steel balls in the Tamagawa plant was moved to Fujisawa.⁹ This may be the equipment which came originally from LMV of Sweden. In 1939, the productive capacity of Fujisawa was again expanded and a new building was erected exclusively for the manufacture of roller bearings.⁶ Expansion was also reported in 1941.⁷ See Notes and Bearing Report.

KAWASAKI PLANT, KYOMACHI, 2 CHOME 48⁶

This new plant, located on a 10,000 tsubo site, was completed in 1940. It is engaged in the production of special steel for the manufacture of ball and roller bearings. It has an annual capacity of 3,000 tons.¹⁰ Expansion was reported in 1941. The information on this plant came only from the Notes.

In the preparation of this report it was noticed that some of the trading company files contain documents marked "Nippon Seiko" and others contain documents marked "Nippon Seikosho." It was at first thought that these designations were only slightly different ways of identifying the same Japanese company since the suffix "sho", meaning "works", does not change the meaning of the word "Seiko". However, it was discovered that certain Japanese characters were always found in the files in conjunction with the name "Nippon Seiko" while an entirely different group of Japanese characters were found in conjunction with the name "Nippon Seikosho". Upon submitting these characters to the translators it was explained that the one set means

日本精工 = Nippon Seiko

and the other set means

日本製鋼所 = Nippon Seikosho

The translator stated that because the above Japanese characters are so different they undoubtedly represent different companies even though their romanized versions show no essential difference. He stated that the first group of characters, "Nippon Seiko", is probably an abbreviation of "Nippon Seiki Kogyo", (Japan Precision Machinery Industry); in which the last syllables of "Seiki" and "Kogyo" are dropped and a new word "Seiko" is formed by joining the two first

syllables as follows:

Ni pon Sei (ki) Ko (gyo) = Ni pon Sei ko

日本精工(機)工(業) = 日本精工

It was pointed out that this practice of making new names out of abbreviations or parts of many component words is a common one with the Japanese. In other instances "Nihon Sangyo" has become "Nissan"; "Manshu Jukogyo Kaihatsu" has become "Mangyo"; and "Nihon Seitetsu" has become "Nittetsu."¹²

This transliteration tended to explain the essential difference between the very similar Japanese company names and to provide a basis for separating the documents and determining which orders went to which company.

Based upon the separation of data made possible by the above transliteration two reports are being written.

A. The present report on Nippon Seiko which deals with the purchases of Nippon Seiko, the ball and roller bearing company, in the United States; and

B. Department of Justice Report on purchases by Nippon Seikosho (Japan Steel Works) N.Y. 261, January, 1944, by Leslie H. Standlee. This latter company apparently manufactures ordnance and heavy equipment.

That the above arbitrary division of the source material found in the files is probably correct is supported to some extent by the following:

When this division of material in the files was made, Nippon Seiko (the Bearing company) was found to have purchased only equipment suitable for the manufacture of ball and roller bearings, while Nippon Seikosho purchased many machines which were tooled for the production of specific ordnance material such as guns and shells. For example, Nippon Seiko purchased 110 grinders for ball and roller bearing work. In addition, it purchased six ball and roller headers and one lapping, one milling, and one boring machine. On the other hand, Nippon Seikosho purchased numerous lathes from American makers and at least one of them was designed for the manufacture of 155 mm shells.¹³ It purchased a crankshaft grinder to be used for grinding crankpins.¹⁴ It also made inquiries for gun boring lathes, one for work as large as 65" in diameter and 960" long.¹⁵ In addition, it made an inquiry for a lapping or honing machine for honing the bores of 6 mm rifles.¹⁶ (One source states that Nippon

Seikosho was intending to build a new factory to produce 15 centimeter shells¹⁷ and another that it has a plant at Muroran producing gun barrels).¹⁸

Some of the machines purchased by Nippon Seikosho were sent to places in Japan where Nippon Seiko, the ball bearing company does not have a factory, such as Hiroshima, Muroran, and Musashi.¹⁹ In each of these instances, Nippon Seikosho was stated to be the purchaser. Since it is not known where Nippon Seikosho's factories are located it is assumed that these may be the location of some of its plants.

The following tables cover purchases and inquiries made on behalf of Nippon Seiko K.K. between January 1, 1937 and December 7, 1941. Orders placed during this period amounted to:

Nippon Seiko K.K.

Mitsui	\$217,163.43
Ataka	439,388.21
Okura	<u>226,950.00</u>
TOTAL:	\$883,501.64

In the tables an asterisk after the price of the machine ordered indicates that the order was cancelled. In all other cases the machines were shipped to Nippon Seiko in Japan. Which of the plants of Nippon Seiko received this equipment was generally not known. When this information was available it was recorded in the footnotes.

RECAPITULATION OF ORDERS FOR NIPPON SEIKOGrinding MachinesShipped

- 1 Norton 10" Type "C" Hydraulic Grinding Machine
- 1 Norton 6" x 15" Hydraulic Surface Grinding Machine
- 5 Van Norman #33A Oscillating Grinding Machines
- 2 Van Norman #37 Oscillating Grinding Machines
- 5 Van Norman #41A Oscillating Grinding Machines
- 2 Van Norman #45R Oscillating Grinding Machines
- 1 Van Norman #46R Oscillating Grinding Machine
- 7 Van Norman #72 Oscillating Grinding Machines
- 2 Van Norman #120 Oscillating Radius Grinding Machines
- 12 Van Norman #39 External Automatic Radius Grinding Machines
- 8 Van Norman #120 Internal Automatic Oscillating Radium Grinding Machines
- 1 Excello Carbide Tool Grinding Machine
- 1 Heald #22 12" Rotary Surface Grinding Machine
- 1 Heald #72A Gagematic Internal Grinding Machine
- 9 Heald #72A3 Sizematic Internal Grinding Machines
- 14 Heald #72A3 Gagematic Internal Grinding Machines
- 7 Heald #72A3 Plain Internal Grinding Machines
- 17 Heald #81 Gagematic Internal Grinding Machines
- 4 Heald #81 Sizematic Internal Grinding Machines
- 5 Blanchard #16 Vertical Surface Grinding Machines
- 1 Blanchard #16-A Surface Grinding Machine
- 1 Blanchard #16-A-2 Surface Grinding Machine
- 1 Cincinnati #2 Surface Grinding Machine
- 2 Landis Internal Race Grinding Machine

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Cancelled

- 4 Heald #72A3 Sizematic Internal Grinding Machines
- 4 Heald #72A3 Gagematic Internal Grinding Machines
- 1 Heald #72A3 Plain Internal Grinding Machine
- 7 Heald #81 Gagematic Internal Grinding Machines
- 1 Heald #81 Sizematic Internal Grinding Machine
- 1 Blanchard #16A Surface Grinding Machine
- 1 Cincinnati #2 Centerless Grinding Machine
- 2 Landis #2 Internal Raceway Grinding Machines
- 1 Landis Universal Tool Grinding Machine
- 1 Landis 14" x 72" Hydraulic Grinding Machine

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Lapping Machines

Shipped

- 1 Cincinnati Centerless Lapping Machine

Milling Machines

Shipped

- 1 Van Norman #22L Universal Milling Machine

Cancelled

- 1 Cincinnati #3 Universal Dial Milling Machine

Boring Machines

Shipped

- 1 Excallo #112 Type C Precision Boring Machine

Cancelled

- 1 Pratt & Whitney #2A Jig Borer

Forging Machines

Shipped

- 1 Manville 4C Solid Die Cold Ball Header
- 2 Manville #188F Solid Die Cold Ball Header
- 1 Manville #312F Solid Die Cold Ball Header
- 2 Manville #500-C Solid Die Tapped Roller Header
- 6

Miscellaneous and Extra Equipment

Shipped

- 3 Excallo Spindle for Dumore Grinder
- 5 Excallo Single Body Spindles #316
- 20 Excallo Production Type Ball Bearings
- 30 Excallo Spindles
- 50 Norton Grinding Wheels
- 2 Norton Diamond Wheels
- 8 Van Norman Pumps, Tanks and Diaphragm Chucks, Spindles, Adaptors
- 16 Heald Wheelheads
- 5 Heald Collets

- 12 Heald Mounted Wheels for Collets
- 18 Sets Heald Ball Bearings for Wheelheads
- 1 Heald Finger Combination Fixture
- 2 Brown & Sharpe Attachments for #2 Universal Milling Machines
- 5 Brown & Sharpe Calipers and Depth Gages
- Atkins Hackaw Blades
- 1 Wilson 3R Rockwell Hardness Tester

Cancelled

165 Kearney & Trecker Grinding Wheels

NIPPON SEIKO K.K.ORDERSTHROUGH MITSUI

Order Number	Date	Manufacturer	No.	Product	Price
EO-1870	1/27/37	Norton Company	1	10" Type "C" Hydraulic grinder	\$4,578.69
TO-3520	2/ 6/37				
A	3/ 2/37	Norton Company		Equipment for above	223.38
EO-2595	8/ 2/37	Van Norman	7	Sets #72 Oscillating grinding machines	40,513.50
TO-3711	12/15/37	Machine Tool Co.			
			5	Sets #37A Oscillating grinding machines	
			2	Sets #37 Oscillating grinding machines (1)	
A	10/21/37	Van Norman Machine Tool Co.		Additional equipment for grinding machines	6,111.00
EO-3413	8/13/38	Van Norman	1	#39 External automatic oscillating radius grinder	4,003.12
TO-3196	8/12/38	Machine Tool Co.			

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Order Number	Date	Manufacturer	No.	Product	Price
EO-3414 TO-3202	8/15/38 8/18/38	Excello Corporation	3	Spindles for Dumore grinder #1062	\$1,146.20
			5	Single body spindles #316	
			10	Production ball bearings #30	
			10	Production ball bearings #67	
EO-3541 TO-3262	9/13/38 9/12/38	Van Norman Machine Tool Co.	1	Set #46R Oscillating grinder	4,956.98
EO-3542 TO 3263	9/13/38 9/12/38	Van Norman Machine Tool Co.	2	Sets #41A Oscillating grinders	9,773.75
EO-2804 TO-3739	10/26/38 12/15/38	Norton Company	50	Pieces 610 x 110 x 290 mm grinding wheels	1,770.00
EO-3759 TO-3447	11/3/38 11/15/38	Van Norman Machine Tool Co.	1	#45R Oscillating grinder	5,596.50
EO-3757 TO-3429	11/4/38 11/4/38	Van Norman Machine Tool Co.	2	#120 Oscillating radius grinders	8,965.12
EO-3758 TO-3428	11/4/38 11/2/38	Van Norman Machine Tool Co.	2	Sets #41A Oscillating grinders	10,890.75
EO-3760 TO-3427	11/4/38 11/2/38	Van Norman Machine Tool Co.	1	#39 External Automatic oscillating radius grinder	4,460.62
EO-1057 TO-3563	1/24/39 1/26/39	Van Norman Machine Tool Co.	3	#39 External Automatic oscillating radius grinders	13,542.75
EO-1127 TO-3629	2/14/39 3/17/39	Van Norman Machine Tool Co.	2	Sets #41A Oscillating grinders(2)	10,793.25
EO-1128 TO-3528	2/14/39 4/13/39	Van Norman Machine Tool Co.	1	Set #45R Oscillating grinder (2)	5,591.62
EO-1129 TO-3630	2/14/39 4/27/39	Excello Corporation	1	Set #44 Carbide tool grinder	719.44

Order Number	Date	Manufacturer	No.	Product	Price
A	2/14/39	Norton Company	1	Diamond wheel 100 grain for roughing	\$ 134.70
			1	Diamond wheel 220 grain for finishing	
EO-1170 TO-3030	9/20/39 11/9/39	Norton Company	1	6" x 15" Hydraulic surface grinder	1,447.17
EO-1911 TO-3108	10/20/39 11/22/39	Van Norman Machine Tool Co.	4	#120 Internal automatic oscillating radius grinder	15,112.52
A	12/18/39	Van Norman Machine Tool Co.		Additional equipment for above	1,287.00
EO-1912 TO-3109	10/20/39 11/22/39	Van Norman Machine Tool Co.	1	#22 L Universal milling machine	3,505.00
A	12/15/39	Van Norman Machine Tool Co.		Additional equipment for above	1,725.75
EO-2100 TO-3309	11/16/39 1/31/40	Van Norman Machine Tool Co.	4	Sets #120 Internal automatic oscillating radius grinders	16,692.00
A	3/ 4/40	Van Norman Machine Tool Co.	4 4	Pumps and tanks #0 Diaphragm chucks	965.25
EO-2101 TO-3310	11/16/39 1/31/40	Van Norman Machine Tool Co.	4	Sets #39 external oscillating radius grinders	16,692.00
A	3/ 5/40	Van Norman Machine Tool Co.	4 4 4 4	Pumps and tanks Wheel spindles Adapters Spindle mounts	1,678.95
EO-2498 TO-3517	1/26/40 2/ 5/40	Van Norman Machine Tool Co.	3	#39 External automatic oscillating radius grinders (3)	13,808.92
EO-3111 TO-3862	7/31/40 8/ 1/40	Excello Corp.	30	Spindles	4,127.00
EO-2557 TO-3776	3/ 1/40 5/ 1/40	Excello Corp.	1	#112 C precision boring machine (4)	6,350.50
EO-2152/3/4/ 5/6 TO-3982	2/ 6/41	Kearney & Trecker	165	Grinding wheels (5)	\$217,163.43

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ORDERS

THROUGH ATAKA

Order Number	Date	Manufacturer	No.	Product	Price
4634	2/21/36	Heald	4	Wheelheads for use on #81 gagematic grinders	\$ 294.03
4773	8/11/36	Heald	1	#81 Gage-matic internal grinding machine (6)	4,490.09
5012	2/ 3/37	Heald	1	#81 Size-matic internal grinding machine	30,301.47
			2	#81 Gage-matic internal grinding machine	
			1	#22-12" Rotary surface grinding machine	
			1	#72-A-3 Size-matic internal grinding machine	
			1	#72-A-3- Gage-matic internal grinding machine	
			1	#72-A-3 Plain internal grinding machine (6)	
5025	2/ 9/37	Heald	2	#43 Wheelhead	408.38
5244	5/31/37	Heald	2	#72-A-3 Plain internal grinding machine	69,734.12
			3	#72-A-3 Size-matic internal grinding machines	
			4	#72-A-3 Gage-matic internal grinding machines	
			4	#81 Gage-matic internal grinding machines (6)	

Order Number	Date	Manufacturer	No.	Product	Price
5298	2/12/37	Heald	1	#81 Size-matic internal grinding machine	\$ 4,675.90
5313	8/23/37	Brown & Sharpe	2	Attachments for use on #2 Universal milling machine light type	444.60
5298 Rev. Add.	9/27/37	Heald	2	4" Sliding jaw collets	1,074.84
			2	Collet style Wheelheads	
			12	Mounted wheels for collet single wheelhead	
Add. #2	10/19/37	Heald	3	3 1/2" sliding jaw collet chucks	1,102.61
5718 Rev.	8/17/38	Heald	2	#72-A-3 Gage-matic internal grinding machines (6)	14,575.31
5719	8/17/38	Heald	2	#81 Gage-matic internal grinding machines (6)	12,733.13
5744	9/17/38	Heald	1	#81 Gage-matic internal grinding machine (2)	6,088.88
5745	9/17/38	Heald	2	#72A-3 Size-matic internal grinding machines (7)	14,240.04
5746	9/17/38	Heald	3	#72A-3 Gage-matic internal grinding machines (7)	21,545.87
5747	9/17/38	Heald	1	#72A-3 Gage-matic internal grinding machine (2)	6,599.34
5810	10/27/38	Heald	2	#81 Gage-matic internal grinding machines	12,157.33

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Order Number	Date	Manufacturer	No.	Product	Price
A	10/29/38	Heald	18	Sets Ball bearings for wheelhead	\$ 330.79
5845	11/18/38	Heald	2	#81 Chucking type gage-matic internal grinding machines (2) (6)	11,119.24
5846	11/18/38	Heald	1	#72A-3 Gage-matic internal grinding machine (7)	7,775.46
5902	12/12/38	Heald	2	#81 Size-matic internal grinding machines (6) (7)	11,322.61
5903	12/12/38	Heald	1	#72A-3 Size-matic internal grinding machine (6) (7)	7,657.04
5966	2/13/39	Heald	2	#72A-3 Plain internal grinding machines (6) (7)	11,377.33
A	4/31/39	Heald	1	6 $\frac{1}{4}$ " Finger combination fixture	375.71
6067	6/19/39	E. C. Atkins and Co.		Silver steel power hacksaw blades	185.22
6068	6/21/39	Brown & Sharpe	1	#5 Plain grinding machine (8)	2,932.22
6069	6/21/39	Heald	1	#81 Gage-matic internal grinding machine, for boring inner race of roller bearings	6,068.45
6070	6/21/39	Heald	2	#72A-3 Size-matic internal grinding machines	15,391.66
6104	8/ 8/39	Brown & Sharpe	5	Micrometer calipers, depth gages	35.47

Order Number	Date	Manufacturer	No.	Product	Price
6108	8/14/39	Heald	1	#72A-3 Plain internal grinding machine	\$5,002.60
A	8/14/39	Heald	6	"Red-Head" wheel- heads	704.44
6109	8/14/39	Heald	1	#72A-3 Gage-matic internal grinding machine	6,599.34
A	8/17/39	Heald	2	Type #43 "Red-Head" Slave style wheel- heads	408.38
6050	9/ 9/39	E. C. Atkins & Co.		Silver Steel power hack saw blades	222.26
6218	10/ 2/39	Heald	1	#72A Gage-matic internal grinding machine	7,077.14
6220	10/ 2/39	Heald	2	#81 Gage-matic internal grinding machine	12,138.54
6361	11/ 8/39	Heald	1	#72-A-3 Plain internal grinding machine	6,345.65
6402	11/20/39	Heald	4	#81 Gage-matic internal grinding machines	23,883.94 * (9)
6439	12/ 9/39	Heald	1	#72A-3 Plain internal grinding machine	5,590.66 *
6488	1/29/40	Heald	1	#81 Size-matic internal grinding machine	6,159.93 *
6490	1/29/40	Heald	1	#72A-3 Gage-matic internal grinding machine	7,750.96 *

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Order Number	Date	Manufacturer	No.	Product	Price
6489 Revised	7/4/40	Heald	1	#72A-3 Size-matic Internal grinding machine	\$8,237.74 *
6692	10/1/40	Heald	2	#81 Gage-matic internal grinding machines	14,048.10 (5)
6693	10/1/40	Heald	2	#72-A-3 Size-matic internal grinding machines	17,010.45 (5)
6697	10/7/40	Heald	1	#81 Gage-matic internal grinding machine	7,363.82 (5)
6698	10/7/40	Heald	1	#72 A-3 Size-matic internal grinding machine	8,919.75 (5)
6699	10/7/40	Heald	2	#72 A-3 Gage-matic internal grinding machine	17,841.90 (5)
6700	10/7/40	Heald	1	#72-A-3 Gage-matic internal grinding machine	9,045.50 *
					439,388.21

THROUGH OKURA

Order Number	Date	Manufacturer	No.	Product	Price
11894	5/19/39	E. J. Manville Machine Co.	1	Model 4-C single stroke solid cold ball header (10)	\$9,228.00
11946	7/26/39	Blanchard Machine Company	1	#16 High power vertical surface grinder	6,330.00
11947	7/31/39	Blanchard Machine Company	1	#16-A Automatic surface grinder	9,210.00
11948	7/31/39	Cincinnati Grinders	1	#2 Centerless grinder	4,960.00

Order Number	Date	Manufacturer	No.	Product	Price
12004	8/29/39	Blanchard Machine	1	Set #16 Blanchard high power vertical surface grinder	\$6,350.00
12073	11/8/39	Blanchard Machine	1	#16-A2, Automatic surface grinder	16,030.00
12070	11/15/39	E. J. Manville Machine	1	#312-F High speed-single-stroke solid-die cold ball header	5,990.00
12071	11/15/39	Blanchard Machine	1	#16-A Automatic surface grinder	9,420.00
12072	11/15/39	Blanchard Machine	2	#16 High power vertical surface grinder	12,960.00
12107	11/28/39	Landis Tool	2	Internal hydraulic race grinding machines (10)	11,073.95
12121	11/28/39	E. J. Manville Machine	1	#500 - C DDSD double stroke solid die tapered roller header (10)	10,427.50
12156	12/26/39	Wilson's Mechanical Instrument	1	Model 7-R Rockwell hardness tester	370.00
12164	1/29/40	E. J. Manville Machine	1	Model 188-F single stroke solid die cold ball header	4,487.50
12227	2/5/40	Blanchard Machine	1	#16-A Automatic surface grinder (10)	9,205.35 *
12212	2/5/40	Cincinnati Grinder	1	Centerless lapping machine (10)	9,800.00
12229	2/5/40	Cincinnati Grinder	1	#2 Centerless grinder (10)	5,825.00 *

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Order Number	Date	Manufacturer	No.	Product	Price
12139	2/9/40	E. J. Manville Machine	1	#500-C DDSD double stroke solid die tapered roller header (10)	\$10,719.00
S-505	2/14/40	Cincinnati	1	#3 Universal high speed dial milling machine	8,876.47 *
A	3/19/40	Westinghouse Electric International		Electrical equip- ment	93.17 *
S-511	2/15/40	Pratt & Whitney	1	Jig borer 2-A (10)	17,155.57 *
12238	2/15/40	Landis Tool Works	2	Sets #2 Internal Race-A-way grinder (10)	13,000.00 *
S-513	2/15/40	Landis Tool Works	1	Universal tool grinder (10)	6,824.07 *
S-508	2/15/40	Landis Tool Works	1	Type D plain ; grinding machine (10)	13,316.68 *
12249	3/1/40	Blanchard Machine	1	#16 high power vertical surface grinder (10)	6,530.00
12248	3/1/40	E. J. Manville Machine	1	Model 188F single stroke solid-die cold ball header (10)	4,270.00
S-508-A	3/15/40	Westinghouse Electric International		Electrical equipment for 1 Landis hydraulic grinding machine	320.32 *
12252	3/25/40	E. J. Manville Machine	1	#500-C double stroke- solid-die tapered roller (11)	<u>11,400.00</u> <u>226,950.00</u>
GRAND TOTAL:					<u>\$883,501.64</u>

INQUIRIESTHROUGH MITSUI

<u>Inquiry Number</u>	<u>Date</u>	<u>Manufacturer</u>	<u>No.</u>	<u>Product</u>
EO-3178 MF-3685	4/5/38	Norton Company	17	Pieces of grinding wheels
TE-3792	9/22/39	Van Norman Machine Tool	4	Sets #120 internal automatic oscillating radius grinder
TE-3023	10/14/39	Ex-cell-o	2,909,000	Pieces steel rollers. (finished) to be used for parts of roller bearings (11)
TE-12000	4/15/40	Norma Hoffman Bearing	3,077,000 4,668,000	Steel rollers for roller bearings Steel balls
MF-3727	4/26/40	Gardner	1	Grinder

THROUGH ATAKA

526	6/5/39	Heald	1	Head internal grinder
745	7/12/40	Foster Machine		Superfinisher parts for roller bearing
741	11/4/40	Heald	1	#81 Gage-matic chucker type grinding machine
736	12/26/40	Heald	1	#72 A-3 plain internal grinding machine for grinding roller bearings up to 100 mm. diameter

THROUGH OKURA

5029	8/7/40	Blanchard	1	#16 Blanchard high power vertical surface grinder
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THROUGH IMPERIAL EXPORT

N.Y. #263

<u>Inquiry Number</u>	<u>Date</u>	<u>Manufacturer</u>	<u>No. Product</u>
666	5/5/39		Letter from Yamatake to Imperial stated that Sanjo Seiki, a supplier of steel bars to Nihon Seiko, wishes to install a forging machine to supply finished forgings in place of bar material.

FOOTNOTES TO TEXT

1. Zenkoku Ginko Kaisha Yoroku (Directory of Banks and Companies for the Whole Country), 44th edition, published July 1940 as quoted by John Williams, O.E.W., in notes from which "A Directory of Certain Japanese Industrial Companies" was prepared. (Hereinafter cited as 'John Williams' notes').
2. Report on Japanese Bearing Industry by Gosta B. Guston of O.E.W. January 20, 1943 page 4.
3. Same as 2 but page 6.
4. TKS, Toyo Keiza. Shimpo (Oriental Economist), February 4, 1939 page 140 taken from John Williams' notes.
5. Same as 2 but page 13.
6. TKS May 13, 1939 pp 52-3 taken from John Williams' notes.
7. TKS July 1941 page 76 taken from John Williams' notes.
8. TKS July 1941 page 76 taken from John Williams' notes.
9. TKS February 4, 1939 page 140 taken from John Williams' notes.
10. This paragraph taken from TKS May 17, 1939 pages 52-3.
11. This section was developed from information supplied by Dr. Paul Mossner, translator for New York office F.E.A.
12. There is nothing in the files to support the conjecture that the full name of "Nippon Seiko" is "Nippon Seiki Kogyo" but in the absence of any other explanation this name is accepted for the purposes of this report.
13. A total of seven lathes were ordered on MSK orders 8196, 8244, 9374; Mitsui Orders EO 2756 for 1937, 3785 for 1938; and Imperial Export orders 12425, 12461, 12462, for 1937. Mitsui order EO 3785 states that the lathe on this order was to be used for the production of 13 shells per hour.
14. Mitsui order EO 2475 for 1940.
15. MSK inquiries NY 2214, 2215, 2272-3, 2747-8; Mitsui inquiries TE 3013, 3264, MF 3336 for 1939; and Okura inquiry M23615.
16. Mitsui inquiry TE 3273 for 1937.
17. Imperial Export letter #511 for February 17, 1939.

18. Imperial Export letter #594 for April 21, 1939.
19. Orders MSK 9374 for 1940 and Mitsui EO orders 2182, 2230, 2756 for 1937 were shipped to Muroran Works. Mitsui orders EO 2825, 3756, 3785 for 1938; 1904 for 1939; and 2010 for 1940 were shipped to the Hiroshima Works. Mitsui orders EO 1874, 1885, 1977-8, 2038-9 for 1939 were shipped to the Musashi Works.

FOOTNOTES TO TABULATION

1. Machines #72 and #33A to be used for grinding a double row of bearings.
2. Machines shipped to Tamagawa factory.
3. Machines to be used for grinding ball bearing races.
4. Blueprint in folder.
5. Probably not shipped. No record available.
6. Machine for ball bearing work.
7. This machine shipped to the Fujisawa Works.
8. This machine shipped to the Ozaki plant.
9. One asterisk indicates order was cancelled.
10. Order placed through Andrews and George.
11. The customer was unable to obtain quotations because the manufacturer was too busy to quote.