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Cutter Grinder
Walker-Turner Tools



Our cover, "Milling Chips" is an original painting by Edmund Lewandowski, well-known industrial artist and art director of Florida State University. It is an authentic interpretation of chips from many types of metals as produced by a variety of cutters.

Producing precision and production machine tools since 1898

MAGIINIE TOOLS

EDWARD J. KEARNEY (1868-1934)

> THEODORE TRECKER Honorary Chairman of the Board

and a

FRANCIS J. TRECKER President



JOSEPH B. ARMITAGE Vice President, Engineering



RALPH W. BURK Vice President, Sales and Mfg.



R. L. BISCHOFF Secretary and Treasurer



R. A. PERKINS Ass't. Secretary and Treasurer

Kearney & Trecker entered the machine tool field shortly before the turn of the century — 1898 — when American enterprise was gathering momentum for the great era of industrial development just ahead — an age of invention and resourcefulness which ultimately achieved for this country undisputed leadership in productive capacity and the highest standard of living for its people. In this atmosphere of opportunity Kearney & Trecker opened its doors, destined to exert a major influence upon metalworking progress as the years passed by.

E. J. Kearney and Theodore Trecker dedicated their ability and energy to the building of products that would reflect high standards of quality, workmanship and performance. For more than half a century Kearney & Trecker - Milwaukee Machine Tools have lived up to their builders' promise, resulting in a gradual and substantial growth of the organization from a small beginning to its present position as one of the machine tool industry's outstandingly aggressive leaders, particularly in the field of milling practice.

Kearney & Trecker history is a chronicle of constant progress a story of initiative, invention and product development, the highlights of which are shown on pages that follow. The Company has grown from a small shop of 12 employees in 1898 to a modern manufacturing plant in 1953 covering 14 acres and employing over 2000 skilled men and women. In 1948 the Company purchased the Walker-Turner Company, Plainfield, N. J., now operated as a separate division engaged in the manufacture of small power tools for metal and woodworking.



CARRA LANE Vice President Walker-Turner Division

Advanced Research and Engineering

Over the span of years since 1898 a high regard has developed for Kearney & Trecker - Milwaukee Machine
Tools. From the very beginning Kearney & Trecker has sought this respect, has endeavored to be deserving of it,
believing as it does today, that any true measure of merit lies in
the test of performance. Performance values constantly guide
Kearney & Trecker engineers in their progressive and painstaking search for practical objectives in machine tool design.
It is this principle of practical engineering and performance testing that first won favor and recognition for the Kearney & Trecker-Milwaukee name. It is the same policy that safeguards its reputation today — and will tomorrow — a trustworthy guarantee supporting your investment in all Kearney & Trecker machine tools.



ORRIN W. BARKER Chief Engineer

MORRIS L. HUTCHENS Chief Engineer Special Machinery Division

C. F. ENROTH Works Manager

The Ultímate in modern plant facilities

Modern equipment, modern methods, and skilled craftsmen are essential elements in the production of precision machine tools. At Kearney & Trecker you will find all three, functioning as an experienced team to produce milling and precision boring machines of high quality, consistent with the Kearney & Trecker tradition of superior workmanship.

You are always welcome to visit our plant — to see a superbly equipped laboratory of production—where every conceivable test for quality control in machining and assembly is carried on to assure the satisfactory, profitable performance of all Kearney & Trecker machine tools.

HENRY H. LENTZNER Manager Special Machinery Division W. HOWELL PRITCHARD Director of Purchases





H. A. GOTTSCHALK Assistant to the Vice President Export Sales Manager



J. ROBERT JONES Sales Manager Standard Machine Division

HAROLD W. KIPPERS Sales Manager Special Machinery Division

Enterprise in Selling

Coordinated through Experienced leadership, Fulfilling Requirements of Sales and Service



J. L. WESSOLOWSKI Assistant to the Sales Manager Standard Machine Division



WILLIAM G. HUSEBY Assistant Sales Manager Standard Machine Division



JAMES E. FARLEY Assistant to the Office Sales Manager Standard Machine Division



ARTHUR A. SEARING Priorities Co-ordinator Standard Machine Division



JOHN C. DOOLEY Assistant to the Sales Manager Special Machinery Division The world-wide Kearney & Trecker Sales and Service organization . . . consisting of seven United States branch offices with 25 direct factory representatives, and a combined domestic and foreign network of 62 dealer agencies . . . serves the broad needs of metalworking industry in three primary fields. (1) It assists your purchase of milling and precision boring machines and tooling, sees that you have the right equipment to handle your particular work. (2) It offers you a counselling service on milling problems arising from such factors as new product designs, new workpiece and cutting tool materials, and increased production schedules. And (3), it can help you keep your present milling and precision boring equipment operating at maximum efficiency with minimum maintenance cost.

Kearney & Trecker direct representatives receive many years of practical experience in machine tool engineering, manufacturing, and service before being given responsibilities in outside sales operations. Through frequent briefing sessions and refresher courses at the factory,

> they are kept up to date on the very latest developments in standard machine design, in special equipment, and

in tooling practices. Regular training programs also provide similar opportunities for specialist training and instruction of dealer personnel.

Wherever you are located, whatever your milling problem you can be sure there's a nearby Kearney & Trecker direct factory representative or dealer eager to assist you. You'll be pleasantly surprised at the fast response you get on service requests for replacement parts and maintenance help, as well as for new machines or production counselling service.



BERT C. PETSCHAR Quotations Replacement Parts Service



RAY H. DOROW Order Analyst Replacement Parts Service



A. J. STROHMEYER Service Manager



AUGUST H. KRIVITZ Assistant Service Manager



CLARENCE A. BRUNK Supervisor Replacement Parts Service



WILLIAM J. MIRGELER Detroit



FRED G. CROSBY, JR. Detroit

IOHN E. BRENNAN

Cleveland



CHARLES I. EICHMAN Detroit



IOHN F. SPILLMAN Cleveland



GARTH E. COURTOIS Detroit



SELDEN D. TENNANT Cleveland

Trained Specialists serving



I. G. VANDERPAN Newark



LLOYD W. CARTER Milwaukee



JOHN F. BURG White Plains, N.Y.

WILLIAM H. GILMORE Newark



HARRY CIESZYNSKI Milwaukee



FRANK L. MARTIN, JR. White Plains, N.Y.



ROBERT SCHMIDT Newark



JERRY MIX Milwaukee



WARREN CLARK, JR. Philadelphia



CHARLES V. STEVENS, JR. Dallas



EUGENE C. BATCHELAR, JR. Pittsburgh



ALFRED T. HOSTVEDT Syracuse



RALPH A. ANDERSON Detroit



FRANK RIFFLE Los Angeles

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SALES

REPRESENTATIVES

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CHARLES KINGSBURY Los Angeles

Factory trained, field-experienced salesmen — specialists actually — in the know-how of milling and precision boring practice, and in the care, maintenance and service of Kearney & Trecker products, are conveniently located in the country's principal metalworking centers to serve you quickly and efficiently. Others operate directly out of Milwaukee to assist dealer sales organizations. All Kearney & Trecker representatives are the friendly sort you'll enjoy doing business with whether it's a matter of new equipment, or getting more out of what you have. They are men of ideas, experience, and professional character, seeking only the opportunity to know you and serve you better.

UNITED STATES

ATLANTA, GA. Scott Machine Tool Co. BIRMINGHAM, ALA. The Young & Vann Supply Co. BOSTON, MASS. Stedfast & Roulston, Inc. CHARLESTON, W. V. Wm. S. Bolden Co., Inc. CHICAGO, ILL. Jackson-Fotsch Co. CINCINNATI, O. The E. A. Kinsey Co. CLEVELAND, O. Kearney & Trecker Corp. DALLAS, TEX. Kearney & Trecker Corp. DENVER, COLO. F. J. Leonard Co. DETROIT, MICH. Kearney & Trecker Corp. HOUSTON, TEXAS Steel & Machine Tool Sales INDIANAPOLIS, IND. The E. A. Kinsey Co. KANSAS CITY, MO. Blackman & Nuetzel Machinery Co. LOS ANGELES, CALIF. Moore Machinery Co. MILWAUKEE, WIS. M. J. Schmitt Machine Tool Co. NEWARK, N. J. Kearney & Trecker Corp. NEW ORLEANS, LA. Stauss & Haas, Inc. OMAHA, NEB. Fuchs Machinery & Supply Co. PHILADELPHIA, PENN. Machinery Associates, Inc. PITTSBURGH, PENN. Kearney & Trecker Corp. PORTLAND, ORE. Harry M. Euler Co. RICHMOND, VA. Smith-Courtney Co. ST. LOUIS, MO. Blackman & Nuetzel Machinery Co. ST. PAUL, MINN. Sales Service Machine Tool Co. SALT LAKE CITY, UTAH Mine and Smelter Supply Co. SAN FRANCISCO, CALIF. Moore Machinery Co. SAN JOSE, CALIF. Moore Machinery Co. SEATTLE, WASH. Dawson Machinery Co. SHREVEPORT, LA. Peerless Supply Co., Inc. SYRACUSE, N. Y. Kearney & Trecker Corp. WASHINGTON, D. C. Shirley, Olcott & Nichols WICHITA, KANSAS White Star Machinery & Supply Co. WHITE PLAINS, N. Y. Kearney & Trecker Corp.

CANADA

MONTREAL QUEBEC TORONTO WINDSOR Williams & Wilson Ltd. WINNIPEG A. R. Williams Machinery Western Ltd.

RUSSELL F. STUART Newark Special Machinery Division

World Wide Representation...

JOHN T. HOHAUS European Sales Representative For Kearney & Trecker—Milwaukee



Metalworking industries in the foreign markets of the world have always looked upon ownership of Kearney & Trecker — Milwaukee Machine Tools with considerable pride. The reason is not hard to find the Milwaukee name has represented advanced, practical engineering, quality workmanship and outstanding performance since 1898.

SALES REPRESENTATIVES

WILLIAM HADLEY General Sales Manager E. H. Jones (Machine Tools) Ltd. London

Sole selling agents of Kearney & Trecker — Milwaukee Machine Tools in the British Isles, Also exclusive representatives of Kearney & Trecker products manufactured under license by C. V. A. of Sussex.

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FRED M. READ Vice President and General Mgr. AMTEA Corporation, New York ORLANDO SALGADO Resident Sales Engineer AMTEA Corp., South America

AUSTRALIA • ASIA • AFRICA EUROPE • LATIN AMERICA

AUSTRALIA Electronic Industries Imports Pty. Ltd., Melbourne, Adelaide, Brisbane, Leichhardt AUSTRIA Columbia Commerce & Credit Corp., Vienna BELGIUM Etablissements Henri Benedictus, Brussels CHINA Cosa Export Co., Inc., New York, N. Y. DENMARK C. A. Herstad, Ltd., Copenhagen ENGLAND E. H. Jones (Machine Tools) Ltd., Brighton, London FINLAND OY Machinery AB, Helsinki FRANCE DAVUM, Paris GERMANY Columbia Commerce & Credit Corp., Stuttgart GREECE G. Maltsiniotis & Cie, S. A., Athens HAWAII Grace Brothers & Co., Honolulu **ICELAND** G. Helgason & Melsted, Ltd., Reykjavik INDIA Francis Klein & Co., Ltd., Calcutta IRAN Sherkat Sahami Sanayeh Jadia, Teheran IRAQ F. A. Kettaneh & Co., Ltd., Baghdad ISRAEL Dr. A. Eisen, Tel-Aviv ITALY S. A. Emanuele Mascherpa, Milano JAPAN Cosa Corporation of Japan, Ltd., Tokyo, Osaka NETHERLANDS Lindeteves, N. V. Metaalbewerking, Amsterdam; Djakarta, (Indonesia) NEW ZEALAND Clyde Engineering, Ltd., Wellington NORWAY A/S G. Hartmann, Oslo PAKISTAN Messrs. Gillanders Arbuthnot & Co. (Pakistan) Ltd., Karachi PHILIPPINE ISLANDS Manila Machinery & Supply Co., Inc., Manila PORTUGAL Sociedade Comercial Romar, Lda., Lisbon SPAIN Gumersindo Garcia, S. A., Madrid SWEDEN Aktiebolaget Landelius & Bjorklund, Stockholm SWITZERLAND Commerce D'Outremer, S. A., Zurich SYRIA Syrian Import Export & Distribution Company Sas (Siedco), Latakia TURKEY Bourla Freres & Co., Istanbul, Ankara UNION OF SOUTH AFRICA Bartle & Company, Johannesburg LATIN AMERICA AMTEA Corp., New York 7, N.Y.

Kearney & Trecker Customer Engineering Service is best recommended by its outstanding record in solving many hundreds of difficult and unusual milling problems arising from demands for high volume production and specialized milling requirements seeking greater accuracy and finer finish. This service analyzes every contributing factor in your problem . . . quantity, size, tolerances, materials and finish of parts to be produced . . . then establishes the most efficient machining method . . . the proper type, size and capacity of machine to be used. On the basis of accumulated data and subsequent study of the problem, Kearney & Trecker Customer Engineering Service either adapts a standard machine through fixtures and attachments, or designs a special machine to meet your exact requirements — fully conscious of the cost in relation to performance and investment.

special Machinery Division Customer Engineering

In addition, Customer Engineering Service helps you select the correct tooling for the job. It plans a sequence of operations designed to minimize the number of setups and setup time . . . to take optimum advantage of a machine's working range and capacity. Supported by engineers experienced in production milling machine design and application, this Service specializes in solving out-of-the-ordinary problems. When these situations arise you'll be money ahead consulting Kearney & Trecker's Customer Engineering Service. Use it freely without obligation. Send details of your particular problem including prints and related data, or workpieces where available. For full information contact your nearest Kearney & Trecker representative or write direct to the factory. Prompt and careful consideration is accorded every inquiry.



ARTHUR H. FOTSCH Project Engineer

N.A

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STEP 1 — Full exchange of facts and data about the job mark the first step in solving your production problem. Sales engineers, experienced in the "ground floor" method of analysis, assure ultimate customer satisfaction.

Service.



STEP 2—Customer Engineering Service goes to work. Project engineers review the problem — ideas for holding the workpiece, machining it, transferring it — are discussed. Preliminary sketches appear. Proposal is prepared.



STEP 3—Recommendation for solution of problem is submitted to customer. Modifications and changes are suggested, carefully examined, finally agreed upon, as proposal enters order stage.



STEP 5—Final stage of assembly, preliminary to test and shipment. Finished product illustrates points of sound design — compactness, rigidity, accessibility, pleasing appearance.



STEP 4—Patterns signal the start of production as final engineering is approved. Progress in manufacture and assembly follows coordinated schedule to meet delivery requirements.

Educational Service

An extensive educational and information service is available to organizations and personnel who are associated with the purchase, operation, and maintenance of Kearney & Trecker machine tools, or who are engaged generally in the broad training and instruction of others in their use and application. This service provides practical assistance to such groups as machinist apprentices, operator trainees, machine shop instructors and foremen, standards and tool engineers and others engaged in various jobs related to vocational instruction in metalworking. Available are film aids, well illustrated and easily understood handbooks, studyviews, informative literature, speed, feed and power calculator, operation manuals, exploded view parts and maintenance data — all designed to make your job easier and increase the return on your company's investment in the tools of production. Why not take advantage of them today? A letter will bring you full details.



ALPHONS J. JOHN Director of Employe-Public Relations and Advertising



HAL W. FRANCKE Assistant Advertising Manager



35mm SOUND-SLIDE COLOR FILM on "MILL-ING PRACTICE" — a complete course on fundamentals. (No charge).





ELEMENTARY HAND-BOOKS — Book I, "The Right and Wrong in Milling Practice, and Book II, "The Milling Machine and Its Attachments." (Nominal price, 50¢ ea.)

DESCRIPTIVE LITERATURE AND DATA — basic machine specifications for standards and tool engineers, plant layout personnel, and instructions for service, maintenance and operation.





SLIDE RULE CALCULATOR — new, fast approach to determine chip volume, speed, feed and power factors in milling machine operation. (No charge).

I I I I MALE I I I



The preceding pages present a summary of Kearney & Trecker history — a free enterprise story of two men and an idea, and how it grew to stature in the field of world metal-working. Pages that follow present the modern product story of Kearney & Trecker -Milwaukee Machine Tools, products which have set the standard of comparison for dependability, accuracy, and profit-making performance for more than half a century.

KEARNEY & TRECKE

SELECTION AND COMPARISON CHART FOR

	SIZE			No	. 1				No. 2		1	Line.
	MODEL		CE	СН	18-AC	24-AC	CE	CHL	СН	СК	CSM	125
PL/AUN [HORSEPOWE	R	3	3	3	3	3	3	5	10	20 and 20/10	Control of
MILLING	WORKING SU	JRFACE OF TABLE	46"x12" 1168x305	40"x10½" 1016x267	38"x14" 965x356	44"x14" 1118x356	46"x12" 1168x305	46"x10½" 1168x267	50"x12" 1270x305	56"x13½" 1422x343	56"x13½" 1422x343	Constraint Product
MACHINES -		LONGITUDINAL	22″ 559	22″ 559	18" 457	24 [#] 610	28" 711	28″ 711	28″ 711	28" 711	28" 711	Contraction of the
with	TRAVEL	CROSS	10″ 254	8″ 203	6″ 152	6″ 152	10″ 254	10" 254	10" 254	10" 254	10″ 254	100 P. 100
AUTOMATIC CYCLE		VERTICAL	17″ 432	17" 432	15″ 381	15″ 381	17″ 432	17" 432	18" 457	17" 432	17″ 432	ちちちちり
		CHANGES	16	16	16	16	16	16	16	24	16	1
and	SPEEDS	RANGE (rpm)	25 to 1300	25 to 1500* 35 to 2100	25 to 1500* 35 to 2100	25 to 1500* 35 to 2100	25 to 1300	25 to 1500* 35 to 2100	25 to 1500* 35 to 2100	15 to 1500	50 to 1250 @ 20 hp 25 to 625 @ 10 hp	Contraction of
WITH STANDARD		CHANGES	16	16	16	16	16	16	16	32	32	No.
DIRECTIONAL TABLE CONTROL	FEEDS	RANGE (ipm)	1/2" to 25" 12 to 600	1/2" to 32"* 12 to 768 1/4" to 16" 1" to 64"	1/2" to 32"* 12 to 768 14" to 16" 1" to 64"	¹ / ₂ " to 32"** 12 to 768 ¹ / ₄ " to 16" 1" to 64"	1/2" to 25" 12 to 600	1/2" to 32"* 12 to 768 1/4" to 16" 1" to 64"	¹ ⁄ ₄ " to 32"* 6 to 768 ¹ ⁄ ₂ " to 64"	% to 90″ 9 to 2160	3∕8" to 90" 9 to 2160	A COMPANY OF A COMPANY
	SPINDLE SIZ	E	No. 40	No. 40	No. 40	No. 40	No. 40	No. 40	No. 50	No. 50	No. 50	H.X
Note - Figures shown in color	APPROXIMA	TE WEIGHT (Ib) Net	3300	3000	3150	3250	3300	3100	4100	7400	7650	100
are metric specifications.	*Range fur	nished standard; all	other rang	ges listed a	re availabl	le as option	ns at extra	cost.	an she hada			County I

UNIVERSAL MILLING

MACHINES

with

STANDARD DIRECTIONAL TABLE CONTROL

SIZE			No	. 1				No. 2		
MODEL		CE	CH	18-AC	24-AC	CE	CHL	CH	СК	CS
HORSEPOWE	ER	3	3			3	3	5	• 10	
WORKING S	URFACE OF TABLE	46"x12" 1168x305	40"x10½" 1016x267	N	N	46"x12" 1168x305	46"x10½" 1168x267	50"x12" 1270x305	56"x131/2" 1422x343	N
1.00	LONGITUDINAL	22″ 559	22″ 559	0 T	0 T	28″ 711	28″ 711	28″ 711	28″ 711	0 T
TRAVEL	CROSS	10" 254	8″ 203	۵	۵	10" 254	10" 254	10" 254	10" 254	۵
	VERTICAL	17″ 432	17" 432	v	Ŷ	17" 432	17" 432	18″ 457	17″ 432	v
	CHANGES	16	16	A	A	16	16	16	24	A
SPEEDS	RANGE (rpm)	25 to 1300	25 to 1500* 35 to 2100	Ľ	L	25 to 1300	25 to 1500* 35 to 2100	25 to 1500* 35 to 2100	15 to 1500	Ĺ
	CHANGES	16	16	A	A	16	16	16	32	A
FEEDS	RANGE (ipm)	1/2" to 25" 12 to 600	¹ / ₂ " to 32"* 12 to 768 ¹ / ₄ " to 16" 1" to 64"	E E	L E	1⁄2" to 25" 12 to 600	1/2" to 32"* 12 to 768 1/4" to 16" 1" to 64"	1/4" to 32"* 6 to 768 1/2" to 64"	3⁄8" to 90" 9 to 2160	B L E
SPINDLE SIZ	E	No. 40	No. 40			No. 40	No. 40	No. 50	No. 50	
APPROXIMA	TE WEIGHT (Ib) Net	3500	3150			3500	3300	4300	7500	

Note — Figures shown in color are metric specifications.

VERTICAL

MILLING MACHINES

with

MONO-LEVER AND AUTOMATIC CYCLE TABLE CONTROL

and

WITH STANDARD DIRECTIONAL TABLE CONTROL

Note - Figures shown in color are metric specifications.

SIZE			INC					NO. Z		
MODEL		CE	СН	18-AC	24-AC	CE	CHL	CH	CK	CSM
HORSEPOWE	R		3	3	3		3	5	10	20 and 20/10
WORKING S	URFACE OF TABLE		40"x10½" 1016x267	38″x14″ 965x356	44"x14" 1118x356		46"x10½" 1168x267	50"x12" 1270x305	56"x13½" 1422x343	56"x13½" 1422x343
	LONGITUDINAL	N O	22″ 559	18″ 457	24″ 610	N O	28 " 711	28 ″ 711	28″ 711	28″ 711
TRAVEL	CROSS		10" 254	6" 152	6" 152	Т	10" 254	12″ 305	12" 305	12" 305
	VERTICAL	A	16" 406	14" 356	14" 356	A	16" 406	15″ 381	14″ 356	14" 356
	SLIDING HEAD	A	Head Swivels Thru 360°4	Head Swivels Thru 360°▲	Head Swivels Thru 360°*	Â	Head Swivels Thru 360°4	4 ″ 102	4 ″ 102	4″ 102
	CHANGES	Ļ	16	16	16	L	16	16	24	16
SPEEDS	RANGE (rpm)	A B L E	25 to 1500* 35 to 2100	25 to 1500* 35 to 2100	25 to 1500* 35 to 2100	A B L E	25 to 1500* 35 to 2100	25 to 1500* 35 to 2100	15 to 1500	50 to 1250 @ 20 hp 25 to 625 @ 10 hp
	CHANGES		16	16	16		16	16	32	32
FEEDS	RANGE (ipm)		1/2" to 32"* 12 to 768 1/4" to 16" 1" to 64"	1/2" to 32"* 12 to 768 1/4" to 16" 1" to 64"	1/2" to 32"* 12 to 768 1/4" to 16" 1" to 64"		1/2" to 32"* 12 to 768 1/4" to 16" 1" to 64"	1/4 " to 32"* 6 to 768 1/2" to 64"	⅔″ to 90″ 9 to 2160	3%8" to 90" 9 to 2160
SPINDLE SIZ	E		No. 40	No. 40	No. 40		No. 40	No. 50 ·	No. 50	No. 50
APPROXIMA	TE WEIGHT (Ib) Net		3100	3250	3350		3200	4600	8200	8450
*Range fur	nished standard; all a	ther ra	nges listed a	re availabl	e as options	at extra	cost.			ŝ

*The spindle on these machines is quill mounted to provide 31/2" of spindle adjustment.

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KEARNEY & TRECKER

KNEE TYPE MILLING MACHINES

			No. 3					No. 4			No	o. 5	No	. 6
	CH	СК	C	5M	HS	СН	CK	C	SM	HS	CK	CSM	СК	CSM
	71/2	15	20 and 20/10	30 and 30/15	30/15	10	25	30 and 30/15	50 and 50/25	30/15	25	50 and 50/25	25	50 and 50/25
64 16	"x13½" 25x343	64"x15½" 1625x394	64"x13½" 1625x343	64″x15½″ 1625x394	64″x13½″ 1625x343	74"x15½" 1880x394 50"x15½"† 1270x394	90"x18" 2286x457	74"x15½" 1880x394 50"x15½"† 1270x394	90"x18" 2286x457	74"x15½" 1880x394	98"x18" 2489x457 60"x18"† 1524x457	98"x18" 2489x457 60"x18"† 1524x457	108″x18″ 2743x457	108"x18" 2743x457
	34″ 864	34" 864	34″ 864	34" 864	34″ 864	42" 1067	42"	42" 1067	42" 1067	42″ 1067	50″ 1270	50″ 1270	60″ 1524	60″ 1524
	12" 305	12" 305	12″ 305	12" 305	12" 305	14" 356	14″ 356	14" 356	14″ 356	14″ 356	16″ 406	16″ 406	16″ 406	16″ 406
	17" 432	18" 457	17″ 432	18″ 457	15¾" 400	18" 457	21″ 533	18″ 457	21″ 533	16″ 406	21″ 533	21″ 533	21″ 533	21″ 533
	24	24	16	16	Constant	24	24	16	16	Constant	24	16	24	16
15 1	to 1500	15 to 1500	50 to 1250 @ 20 hp 25 to 625 @ 10 hp	50 to 1250 @ 30 hp 25 to 625 @ 15 hp	7200 @ 30 hp 3600 @ 15 hp	15 to 1500	13 to 1300	50 to 1250 @ 30 hp 25 to 625 @ 15 hp	50 to 1250 @ 50 hp 25 to 625 @ 25 hp	7200 @ 30 hp 3600 @ 15 hp	13 to 1300	50 to 1250 @ 50 hp 25 to 625 @ 25 hp	13 to 1300	50 to 1250 @ 50 hp 25 to 625 @ 25 hp
	32	32	32	32	32	32	32	32	32	32	32	32	32	32
% 9 t	" to 90" to 2160	¾" to 90" 9 to 2160	3%" to 90" 9 to 2160	% to 90″ 9 to 2160	3⁄4" to 180" 18 to 4320	3⁄8" to 90" 9 to 2160	3%" to 90" 9 to 2160	3%" to 90" 9 to 2160	¾" to 90" 9 to 2160	34" to 180" 18 to 4320	3%" to 90" 9 to 2160	%" to 90" 9 to 2160	3%" to 90" 9 to 2160	⅔″ to 90″ 9 to 2160
Ν	No. 50	No. 50	No. 50	No. 50	No. 50	No. 50	No. 50	No. 50	No. 50	No. 50	No. 50	No. 50	No. 50	No. 50
	7200	9550	7750	9800	8000	9250	14900	9950	15400	10000	15100	15600	15300	15800

		No. 3		anteres	and and		No. 4			No.	. 5	No	. 6
СН	СК	C	SM	HS	CH	CK	С	SM	HS	СК	CSM	СК	CSM
71/2	15				10	25				25			
4"x13½" 625x343	64"x15½" 1625x394	N	N	N	74"x15½" 1880x394	90"x18" 2286x457	N	N	N	98"x18" 2489x457	N	N	N
34*	34″	0	0	0	42"	42"	0	0	0	50″	0	0	0
864	864	Т	Т	Т	1067	1067	T	T	Т	1270	Т	Т	Т
12" 305	12" 305	۵	۵	Δ.	14" 356	14" 356	٨		٨	16" 406			٥
17" 432	18″ 457	Ŷ	Ŷ	v v	18" 457	21″ 533	Ŷ	V	v	21" 533	Ŷ	V	Ŷ
24	24	8	A	A	24	24	A	A	A	24	A	A	A
to 1500	15 to 1500	Ĺ	L L	L	15 to 1500	13 to 1300	Ĺ		L L	13 to 1300	l L	i i	L
32	32	A	٨	A	32	32	A	A	A	32	A	A	A
		В	B	В			В	В	В		В	В	В
" to 90" to 2160	3⁄8" to 90" 9 to 2160	E	E	E	3% to 90" 9 to 2160	3/8" to 90" 9 to 2160	E	E	E	3/6" to 90" 9 to 2160	E	E	L E
No. 50	No. 50				No. 50	No. 50				No. 50			
7400	9750		1		9600	15400				15600			

			No. 3					No. 4			No	. 5	No	. 6
	СН	CK	CS	SM	HS	CH	СК	C	SM	HS	СК	CSM	CK	CSM
	71/2	15	20 and 20/10	30 and 30/15	30/15	10	25	30 and 30/15	50 and 50/25	30/15	25	50 and 50/25	25	50 and 50/25
	64″x13½″ 1625x343	64"x15½" 1625x394	64"x13½" 1625x343	64"x15½" 1625x394	64"x13½" 1625x343	74"x15½" 1880x394 50"x15½"† 1270x394	90"x18" 2286x457	74"x15½" 1880x394 50"x15½"† 1270x394	90"x18" 2286x457	74″x15½″ 1880x394	98"x18" 2489x457 60"x18"† 1587x457	98"x18" 2489x457 60"x18"† 1587x457	108″x18″ 2743x457	108"x18" 2743x457
	34″	34″	34"	34″	34″	42″	42″	42"	42"	42″	50″	50″	60″	60"
	864	864 14"	864 12″	864 14″	864 12″	1067 14″	1067	106/	1067	1067	1270	1270	1524	1524
10.0	305	356	305	356	305	356	406	356	406	356	406	406	406	406
-	14″ 356	16" 406	14" 356	16" 406	15" 381	16" 406	20" 508	16" 406	20″ 508	15½" 394	20" 508	20" 508	20" 508	20 " 508
	4″ 102	4*	4 ″	4 ″ 102	Fixed Spindle	4″ 102	4″ 102	4" 102	4 ″ 102	Fixed	4″ 102	4 ″ 102	4″ 102	4″ 102
-	24	24	16	16	Constant	24	24	16	16	Constant	24	16	24	16
	15 to 1500	15 to 1500	50 to 1250 @ 20 hp 25 to 625 @ 10 hp	50 to 1250 @ 30 hp 25 to 625 @ 15 hp	7200 @ 30 hp 3600 @ 15 hp	15 to 1500	13 to 1300	50 to 1250 @ 30 hp 25 to 625 @ 15 hp	50 to 1250 @ 50 hp 25 to 625 @ 25 hp	7200 @ 30 hp 3600 @ 15 hp	13 to 1300	50 to 1250 @ 50 hp 25 to 625 @ 25 hp	13 to 1300	50 to 1250 @ 50 hp 25 to 625 @ 25 hp
	32	32	32	32	32	32	32	32	32	32	32	32	32	32
	%" to 90" 9 to 2160	%" to 90" 9 to 2160	%" to 90" 9 to 2160	% to 90 9 to 2160	34" to 180" 18 to 4320	3⁄8" to 90" 9 to 2160	3⁄8" to 90" 9 to 2160	3%" to 90" 9 to 2160	⅔″ to 90″ 9 to 2160	34" to 180" 18 to 4320	⅔″ to 90″ 9 to 2160	¾″ to 90″ 9 to 2160	3%" to 90" 9 to 2160	3%" to 90" 9 to 2160
-	No. 50	No. 50	No. 50	No. 50	No. 50	No. 50	No. 50	No. 50	No. 50	No. 50	No. 50	No. 50	No. 50	No. 50
	8150	10450	8700	10700	8350	10400	15850	10900	16350	10350	16100	16600	16350	16850

17

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MONO-LEVER AND AUTOMATIC CYCLE TABLE CONTROL and WITH STANDARD DIRECTIONAL TABLE CONTROL

IN

KEARNEY&T	RECKER

G

401+101-21 381+141 1016+367 965+358

461x12

HORSEPOWER

TRAVEL

SPEEDS

FEEDS

WORKING SURFACE OF TABL

FRICAL

PLAIN

KEARNEY & TRECKER

HTP-3CSM

KNEE TYPE MILLING MACHINES

50 and 50/25

50*

21*

@ 50 hp 25 to 625

%" lo 90" 9 lo 2160

No. 50

25

108"x18" 2743x457

> 60° 1524 16° 406

21"

13 to 1300

1/6" to 90" 9 to 2160

No. 50

50 and 50/25

108"×18" 2743×457

> 60° 1524 16° 406

%" to 90" 9 to 2160

No. 50

PLAIN

25

50'

21"

13 to 1300

%" to 90" 9 to 2160

No. 50

50 end 50/25

90"x18" 2286x457

> 42° 1067 14° 356

16 50 to 1250

%" to 90" 9 to 2160 30/15

74"x1597 1880x394

42*

16'

@ 30 hp

11" to 180" 18 to 4320

No. 50

Proper choice of machine selection—for size, for range, for power, for specific production requirements — is available to you across the board in Kearney & Trecker - Milwaukee knee type milling machines. Plain style millers to cope with small parts or big, to handle light metals or hard, to hog off material or finish mill — to do the job right and economically, are illustrated and described for you on the following pages. Look them over. They are, without reservation, the finest knee type milling machines Kearney & Trecker has ever offered the metalworking industry.





50hp No. 5 MODEL CSM with Mono-Lever and Automatic Cycle Table Control

This modern line of Kearney & Trecker - Milwaukee PLAIN knee type mills is comprised of twenty-three different machines, ranging in size from the No. I to the massive No. 6. Every practical feature of design and construction has been incorporated to fulfill job requirements where work range and horsepower are the important factors.

Individual bulletins for the machines described in the comparison chart shown below are available. Write direct or see the Kearney & Trecker representative in your area.

	SIZE			No	. 1				No. 2		1
States and the second second second	MODEL		CE	CH	18-AC	24-AC	CE	CHL	CH	CK	CSM
	HORSEPOWE	R	3	3	3	3	3	3	5	10	20 and 20/10
	WORKING S	URFACE OF TABLE	46"x12" 1168x305	40"x10½" 1016x267	38″x14″ 965x356	44"x14" 1118x356	46"x12" 1168x305	46"x10½" 1168x267	50"x12" 1270x305	56"x13½" 1422x343	56"x13½" 1422x343
>		LONGITUDINAL	22″ 559	22″ 559	18″ 457	24″ 610	28″ 711	28″ 711	28″ 711	28″ 711	28″ 711
	TRAVEL	CROSS	10″ 254	8″ 203	6″ 152	6″ 152	10" 254	10" - 254	10" 254	10" 254	10" 254
CYCLE		VERTICAL	17″ 432	17″ 432	15″ 381	15″ 381	17″ 432	17″ 432	18″ 457	17" 432	17″ 432
DOL NO.		CHANGES	16	16	16	16	16	16	16	24	16
	SPEEDS	RANGE (rpm)	25 to 1300	25 to 1500* 35 to 2100	25 to 1500* 35 to 2100	25 to 1500* 35 to 2100	25 to 1300	25 to 1500* 35 to 2100	25 to 1500* 35 to 2100	15 to 1500	50 to 1250 @ 20 hp 25 to 625 @ 10 hp
ARD		CHANGES	16	16	16	16	16	16	16	32	32
ROL	FEEDS	RANGE (ipm)	1/2" to 25" 12 to 600	12 to 32"* 12 to 768 14" to 16" 1" to 64"	12 to 32"* 12 to 768 14" to 16" 1" to 64"	¹ / ₂ " to 32"* 12 to 768 14" to 16" 1" to 64"	1⁄2" to 25" 12 to 600	¹ / ₂ " to 32"* 12 to 768 1/ ₄ " to 16" 1" to 64"	¹ /4" to 32"* 6 to 768 ¹ /2" to 64"	¾″ to 90″ 9 to 2160	3⁄8" to 90" 9 to 2160
	SPINDLE SIZ	E	No. 40	No. 40	No. 40	No. 40	No. 40	No. 40	No. 50	No. 50	No. 50
shown in color	APPROXIMA	TE WEIGHT (Ib) Net	3300	3000	3150	3250	3300	3100	4100	7400	7650
lifestions	*Range fur	nished standard; all	other ran	ges listed a	re availabl	le as option	is at extra	cost.			

10hp No. 2 MODEL CK with Standard Directional Table Control

MACHINE

MONO-LEVER AUTOMATIC TABLE CONT

WITH STAND DIRECTIONAL TABLE CONT

Note — Figures are metric spe

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19

5hp No. 2 MODEL CH with Standard Directional Table Control

3hp 24" MODEL AC with Mono-Lever and Automatic Cycle Table Control

30/15hp No. 3 MODEL HS with Mono-Lever and Automatic Cycle Table Control

No	. 5	No			No. 4					No. 3		
СК	CSM	СК	HS	SM	C	СК	СН	HS	M	CS	СК	СН
25	50 and 50/25	25	30/15	50 and 50/25	30 and 30/15	25	10	30/15	30 and 30/15	20 and 20/10	15	71/2
108″x18″ 2743x457	98"x18" 2489x457 60"x18"† 1524x457	98"x18" 2489x457 60"x18"† 1524x457	74″x15½″ 1880x394	90"x18" 2286x457	74"x15½" 1820x394 50"x15½"† 1270x394	90"x18" 2286x457	74"x15½" 1880x394 50"x15½"† 1270x394	64"x13½" 1625x343	64"x15½" 1625x394	64"x13½" 1625x343	64"x15½" 1625x394	64"x13½" 1625x343
60″ 1524	50″ 1270	50″ 1270	42″ 1067	42" 1067	42″ 1067	42" 1037	42″ 1067	34″ 864	34″ 864	34″ 864	34″ 864	34″ 864
16″ 406	16″ 406	16″ 406	14″ 356	14" 356	14″ 356	14" 356	14″ 356	12" 305	12" 305	12" 305	12" 305	12" 305
21″ 533	21″ 533	21″ 533	16″ 406	21" 533	18″ 457	21″ 533	18″ 457	15¾″ 400	18″ 457	17″ 432	18″ 457	17″ 432
24	16	24	Constant	16	16	24	24	Constant	16	16	24	24
3 to 1300	50 to 1250 @ 50 hp 25 to 625 @ 25 hp	13 to 1300	7200 @ 30 hp 3600 @ 15 hp	50 to 1250 @ 50 hp 25 to 625 @ 25 hp	50 to 1250 @ 30 hp 25 to 625 @ 15 hp	13 to 1300	15 to 1500	7200 @ 30 hp 3600 @ 15 hp	50 to 1250 @ 30 hp 25 to 625 @ 15 hp	50 to 1250 @ 20 hp 25 to 625 @ 10 hp	15 to 1500	.5 to 1500
32	32	32	32	32	32	32	32	32	32	32	32	32
3%8" to 90" 9 to 2160	⅔″ to 90″ 9 to 2160	⅔″ to 90″ 9 to 2160	¾" to 180" 18 to 4320	⅔″ to 90″ 9 to 2160	¾″ to 90″ 9 to 2160	% to 90″ 9 to 2160	⅔″ to 90″ 9 to 2160	³ / ₄ " to 180" 18 to 4320	¾" to 90" 9 to 2160	%" to 90" 9 to 2160	⅔″ to 90″ 9 to 2160	%" to 90" 9 to 2160
No. 50	No. 50	No. 50	No. 50	No. 50	No. 50	No. 50	No. 50	No. 50	No. 50	No. 50	No. 50	No. 50
15300	15600	15100	10000	15400	9950	14900	9250	8000	9800	7750	9550	7200

KEARNEY & TRECKER MILWALIKEE PLAIN MILLING MACHINES

Performance-Rated FEATURES



Smoother Feed Performance because of the 2" diameter heavy-duty table feed screw. Backlash elimination is effectively accomplished by the double nut assembly which provides for efficient climb milling operations.

The Combination Spindle Nose is a new basic feature on the large Nos. 4, 5 and 6 machines to improve cutting efficiency by providing exceptionally rigid support for large diameter face mills and heavy duty flange type arbor setups. The spindle nose is designed with two driving flanges — a combination No. 60 / No. 50 National Standard. The spindle taper hole itself is No. 50.





HOW IT WORKS AUTOMATIC TABLE CYCLE and MONO-LEVER CONTROL UNIT



Greater Production and Greater Operating Convenience through Mono-Lever Control — reduces idle cutter time, makes work simpler, less fatiguing for operators. Note, too, rapid-set dials with new non-glare satin finish for improved legibility. They're easy to set and locked positively at any setting. Over 50 years of "know-how" is built into every Kearney & Trecker - Milwaukee milling machine. Included are such tested and use-proved features as a solid-back column, double overarms for arbor support, a large diameter table screw, independent motor drives for spindle and for feed and rapid traverse on machines over 5hp, greater table working surface, and extra wide ranges of speeds and feeds. In all respects they emphasize the practical needs of the user for range, accuracy, power, productive efficiency, safety and operation convenience.



Greater Rigidity — through scientifically engineered columns — heavily ribbed, double box-section, sponson construction, with all metal properly distributed to absorb vibration from heaviest cutting loads. Column is cast in one piece featuring a solid back and broad base. Greater Horsepower through independent drives for spindle and for feed and rapid traverse on machines over 5hp. Motors are interlocked with positive automatic safety control for overload conditions.





Easy to Select, quick change feeds and speeds, which are readily adaptable to the milling of all kinds of metals.



Greater Cutting Efficiency through spindle mounted flywheel, (see Machine Selection Chart, Pages 16-17) running with three bearing support, and driven through a train of heavy-duty, widefaced, steel-forged gears, hardened and specially processed for quiet operation under flywheel momentum.





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254

1013

SIZE

HORSEPOWE

TRAVEL

SPECOS

FEEDS

WORKING SURFACE OF TAB

LONGITUD

CROSS

VERTICAL

RANGE (r

RANGE (

KNEE TYPE MILLING MACHINES

25

1270

13 to 1300

32

%" to 90 9 to 2160

No. 50

0

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3%" to 90" 9 to 2160

Kearney & Trecker Universals combine rugged physical proportion with practical operating refinements for versatility and accuracy that qualify them well for your special jobs in the toolroom, in the experimental laboratory, in plant maintenance. And by the way, when you're in the market for a universal miller, don't overlook the exclusive Kearney & Trecker Universal Spiral Dividing Head, with its error-reducing, time-saving 5 to 1 index ratio, and the Low Lead Attachment which provides over 40,000 leads by power from .022" to .2918". Investigate these unmatchable features of Kearney & Trecker Universal Milling Machines before you make a choice.

UNIVERSAL

KEARNET & TRECKER

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UNIVERSAL

UNIVERSAL



MILLING MACHINES

10hp No. 2 MODEL CK with Model K Dividing Head and Low Lead Attachment

There's a Kearney & Trecker - Milwaukee UNIVERSAL milling machine for almost every job. These machines are especially adapted to intricate spiral milling applications when equipped with the 10" Model H or the exclusive 5 to 1 ratio Model K universal spiral dividing head and the conventional or low lead attachment.

Each of the eleven machines listed in the chart below provide the practical kind of field-proved features necessary to meet the demands for greater versatility. Individual descriptive bulletins on this equipment are available. Write direct or see the Kearney & Trecker representative in your area.

25hp No. 4 MODEL CK with Model K Dividing Head and Low Lead Attachment

M

S'D

	SIZE			No	. 1				No. 2		
	MODEL		CE	CH	18-AC	24-AC	CE	CHL	СН	СК	CSM
	HORSEPOWE	ER	3	3		-	3	3	5	10	
	WORKING S	URFACE OF TABLE	46"x12" 1168x305	40"x10½" 1016x267	N	N	46"x12" 1168x305	46"x10½" 1168x267	50"x12" 1270x305	56"x13½"	N
ACHINES		LONGITUDINAL	22" 559	22″ 559	0 T	0 T	28″ 711	28″ 711	28″ 711	28" 711	0 T
	TRAVEL	CROSS	10" 254	8" 203	Δ	Δ	10" 254	10″ 254	10″ 254	10" 254	۵
ANDARD		VERTICAL	17″ 432	17" 432	v	Ŷ	17" 432	17″ 432	18″ 457	17″ 432	v
ANDARD		CHANGES	16	16	A		16	16	16	24	~
	SPEEDS	RANGE (rpm)	25 to 1300	25 to 1500* 35 to 2100	Ĺ	Ĺ	25 to 1300	25 to 1500* 35 to 2100	25 to 1500* 35 to 2100	15 to 1500	Ĺ
IDLE COMIROL	-	CHANGES	16	16	A	A	16	16	16	32	A
	FEEDS	RANGE (ipm)	1/2" to 25" 12 to 600	1/2" to 32"* 12 to 768 14" to 16" 1" to 64"	L E	E E	1/2" to 25" 12 to 600	1/2" to 32"* 12 to 768 1/4" to 16" 1" to 64"	1/4" to 32"* 6 to 768 1/2" to 64"	3%" to 90" 9 to 2160	E E
	SPINDLE SIZ	E	No. 40	No. 40			No. 40	No. 40	No. 50	No. 50	
te — Figures shown in color	APPROXIMA	TE WEIGHT (Ib) Net	3500	3150			3500	3300	4300	7500	
e metric specifications.	*Range furn	ished standard; all	other rang	es listed ar	e available	as option	s at extra	cost.			



		No. 3					No. 4			No	. 5	No	. 6
СН	CK	c	SM	HS	СН	СК	c	SM	HS	СК	CSM	CK	CSM
71/2	15				10	25				25			
"x13½" 25x343	64"x151/2" 1625x394	N	N	N	74"x15½" 1880x394	90"x18" 2286x457	N	N	N	98"x18" 2489x457	N	N	N
34″ 864	34″ 864	0 T	0 T	0	42″ 1067	42″ 1067	0 T	0	0	50″ 1270	0 T	0	0 T
12" 305	12* 305				14″ 356	14″ 356	÷			16″ 406	ż		
17" 432	18″ 457	V	V A	A V	18″ 457	21" 533	A V	A V	A V	21″ 533	A V	V A	A V
24	24	A	A	A	24	24	A	A	A	24	A	A	A
to 1500	15 to 1500	Ĺ	i	Ĺ	15 to 1500	13 to 1300	Ĺ	Ľ	Ľ	13 to 1300	Ĺ	ί	ċ
32	32	A	A	A	32	32	A	A	A	32	A	A	A
to 90" o 2160	³ / ₈ " to 90" 9 to 2160	L E	L	L	3% " to 90" 9 to 2160	3%" to 90" 9 to 2160	L	L	L	3%" to 90" 9 to 2160	L	L E	LE
lo. 50	No. 50				No. 50	No. 50				No. 50		1.0	
7400	9750				9600	15400				15600		-	-

Accuracy-Producing FEATURES



E R S A L

ARNEY&TRECK

MILLING MACHINES

Illustrated is a cutaway view of the Model K Universal Spiral Dividing Head showing the 5:1 ratio hypoid bevel gear system. With this method a circle can be divided into five or more divisions with less than one revolution of the index crank.

Conveniently located rear controls, equipped with micrometer dials, provide the same hand and power feed and rapid traverse movements of the knee, saddle and table as is obtained from the front directional controls.





The Astronomical Divider, when mounted on the Model K Dividing Head, can divide a circle directly into 1,296,000 parts.



The spindle of the Model H Universal Spiral Dividing Head has an overall diameter of $3^{1}/_{2}$ inches and is driven by the exclusive 45^{\prime}_{28} inch precision ground, two-piece worm and revolves on two preloaded precision bearings, having respective diameters of 47^{\prime}_{8} and $3^{1}/_{3}$ inches. These figures demonstrate what generous reserve strength is present within the head. It is ample for all loads . . . a guarantee of perfect work and constant dependability. Featured as standard equipment with all Kearney & Trecker - Milwaukee Universal Milling Machines is the exclusive, super-precision Model H or Model K Universal Spiral Dividing Head. A Conventional or Low Lead Attachment is also included.

In addition to the features shown on these pages there are many other work-holding and cutter-driving attachments available to help increase the scope of application of every machine.

Yes, there is a definite place in every tool room and production shop for these highly versatile Universal mills.

> Shown here is a Universal Table Assembly equipped with the 12" Model K Dividing Head, Conventional Lead Attachment, Adjustable Tailstock and Center Rest. The Conventional Lead Attachment can be used with either the Model H or Model K head.



CONVENTIONAL LEAD ATTACHMENT More than 1300 leads from .670" to 149"



LOW LEAD ATTACHMENT Over 40,000 leads from .0219" to 2918.4" Either a Conventional or Low Lead Attachment can be furnished as desired at a differential in price.

The Universal Table Assembly illustrated here is the same as in above picture, but is equipped with the Low Lead Attachment. This attachment can also be used with either the Model H or Model K head.

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VERTICAL MILLING MACHINES

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with MONO-LEVER AND AUTOMATIC CYCLE TABLE CONTROL and WITH STANDARD DIRECTIONAL TABLE CONTROL



24-AC

44"x14

HORSE

TRAVEL CAPACITY

SPEEDS

FEEDS

WORKING SURFACE OF TAB

STRECKER

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VERTICAL

ISHP3CK

KNEE TYPE MILLING MACHINES

Where your job requirements call for the use of vertical milling machines, you'll find among Kearney & Trecker verticals a range of sizes that is fully adaptable to general purpose work — whether on small, medium or big part production. Light duty vertical machines are equipped with a swivel head for simplifying setups on angular milling work, while those of five horsepower capacity and above have a sliding head whose travel may be controlled by hand or power feed. This feature greatly increases production possibilities where T-slotting, profile cutting, boring, end milling and step milling comprise much of a day's work.

-		No. 4			No	. 5	No	. 6
EH	CX .	C	M	HS	CK	CS.M	CK	C5M
10	25	30 end 30/15	50 and 50/23	30/15	25	50 and 50/25	25	50 and 50/25
74"#15 - " 189"x194 50"x16"y" (12"0x394	90°418″ 22864457	74*815* 1580+194 50*815*† 1277+194	90"x18" 1226x457	74"x15!y" 1860x334	93" (18" 42 yu-2 60" x18" (15 ' y 2) (93"x18" 2489x457 60"x18"† 1587x457	108*#18* 2743±457	108°x18° 224°x457
176.7	425	40*	4.5	42*	40' 1.0	50° (270	60' 1574	60° 15.4
14*	425	19 576	15'	14* 236	18	16' 496	15° 400	164 405
lo* aGè	.52 ⁴ 523	15"	20* 503	15 m* 334	503	20* 508	20° 508	50×
	4" 102	4* 102	4° 122	Fixed Spirid e	4' 10Z	4" 132	4* 102	10% 4*
1000	:4	14	15	Contrant	24	16	24	15
10 1500	13 to 1200	50 rp 1 10 65 30 Fp 23 rp 65 66 15 Fp	50 to 1250 (m 50 hp 25 to 625 (a, 35 hp	(3.10) (3.10 hp (3.00) (5.15 hp	12 1: 1390	50 to 1250 (PV 50 hp 25 to 625 (Fx 25 hp	13 16 1309	50 to 1250 10 50 hp 25 to 1250 25 to 1250 60 25 hp
-	3.2	37	12	35	32	32	32	
9 to 2160	2 1° 10 00" 9 1° 2160	35" to 90" 9 to 2160	69 * 10 90* 9 to 2160	44" to 160" 18 to 4020	16" (a 90" 9 to 2150	3%" to 96" 9 to 2160	31° ta 90° 9 to 2160	5a* 10 90* 9 to 2160
10 50	No 50	ba 50	No 50	no 50	No 50	No. 50	Na Sa	No. 50

1.4

VERTICAL

KEARNEY&TRECKER

MILLING MACHINES



5hp No. 2 MODEL CH with Mono-Lever and Automatic Cycle Table Control

VERTICAL

Shp 24" MODEL AC with Mono-Lever and Automatic Cycle Table Control

New concepts of machine design and performance were incorporated in this line of twenty-one different Kearney & Trecker - Milwaukee VERTICAL milling machines as the key to reducing production costs.

Equipped with mono-lever and automatic cycle table control (one lever controls all table movements) these machines have the versatility of the knee type machine with the high productivity of the bed type machine. At the same time the fatigue factor of the operator is measurably decreased.

Selection by comparison can be made from the chart shown below. Individual descriptive bulletins are available. Write direct or see the Kearney & Trecker representative in your area.

SIZE	100			No	. 1		1.1		No. 2	1.0		
MOD	DEL		CE	СН	18-AC	24-AC	CE	CHL	СН	СК	CSM	
HOR	SEPOWE	R		3	3	3		3	5	10	20 and 20/10	
wor	WORKING SURFACE OF TABLE			40"x10½" 1016x267	38"x14" 965x355	44"x14" 1118x356	44″x14″ 1118x356	46"x10½" 116\$#257	50"x12" 1270x305	56"x13½" 1422x343	56"x13½" 1422x343	
	4	LONGITUDINAL	N	22″ 559	18″ 497	24 ^{<i>u</i>} 610	N	28″ 711	28" 711	28″ 712	28″ /11	
TRA	VEL	CROSS	Т	10" 254	6 " 152	6 " 152	'	10 [#]	12"	12" 305	12″ 305	
	Activ	VERTICAL	A	16″ 405	14" 35b	14″ 356	A	16″	15"	14″ 396	14″ 356	
		SLIDING HEAD	A	Head Swivels Thru 360°*	Head Swivels Thru 360°4	Head Swivels Thru 360°4	A	Head Swivels Thru 360°4	4" 102	4″ 102	4″ 102	
		CHANGES	L	16	16	16	Ļ	16	16	24	16	
SPEED	EDS	RANGE (rpm)	A B L F	25 to 1500* 35 to 2100	25 to 1500* 35 to 2100	25 to 1500* 35 to 2100	A B L E	25 to 1500* 35 to 2100	25 to 1500* 35 to 2100	15 to 1500	50 to 1250 @ 20 hp 25 to 625 @ 10 hp	
		CHANGES		16	16	16		16	16	32	32	
FEED	DS	RANGE (ipm)		1/2" to 32"* 12 to 768 1/4" to 16" 1" to 64"	1/2" to 32"* 12 to 768 1/4" to 16" 1" to 64"	1/2" to 32"* 12 to 768 1/4" to 16" 1" to 64"		1/2" to 32"* 12 to 76# 1/4" to 16" 1" to 64"	1/4 " to 32" * 1/2 " to 64"	3%8" to 90" 9 to 2160	3%" to 90" 3 to 2160	
SPIN	IDLE SIZ	E		No. 40	No. 40	No. 40		No. 40	No. 50	No. 50	No. 50	
APP	ROXIMA	TE WEIGHT (Ib) Net		3100	3250	3350	1.1	3200	4600	8200	8450	

*Range furnished standard; all other ranges listed are available as options at extra co *The spindle on these machines is quill mounted to provide 3½" of spindle adjustment.

with MONO-LEVER AND AUTOMATIC CYCLE TABLE CONTROL

MILLING

and

WITH STANDARD DIRECTIONAL TABLE CONTROL

Note — Figures shown in colo are metric specifications.



		No. 3			No. 4					No	. 5	No. 6	
СН	СК	C	M	HS	CH	CK	C	5M	HS	CK	CSM	СК	CSM
71/2	15	20 and 20/10	30 and 30/15	30/15	10	25	30 and 30/15	50 and 50/25	30/15	25	50 and 50/25	25	50 and 50/25
54″x13½″	64"x15½"	64"x13½"	64″x15½″	64"x13½"	74"x15½" 1880x394	90″x18″	74"x15½" 1880x394	90″x18″	74"x15½"	98"x18" 2489x457	98"x18" 2489x457	108"x18"	108″x18″
625x343	1625x394	1625x343	1625x394	1625×343	50"x15½"† 1270x394	2286x457	50"x15½"† 1270x394	2286x457	1880x394	60"x18"† 1587x457	60"x18"† 1587x457	2743x457	2743x457
34″	34″	34″	34″	34″	42"	42"	42″	42″	42"	50″	50″	60″	60"
854	854	864	864	864	1067	1067	1067	1067	1067	1270	1270	1524	1524
12"	14"	12" 305	14"	305	356	406	14″ 356	406	14"	406	406	406	406
14″	16″	14"	16"	15"	16"	20"	16"	20"	151/2"	20"	20"	20"	20"
356	406	356	406	381	406	508	406	508	394	508	508	508	508
4"	4"	4"	4″	Fixed	4"	4″	4"	4″	Fixed	4″	4″	4″	4"
107	102	102	102	Spindle	102	102	102	102	Spindle	102	102	102	102
24	24	16	16	Constant	24	24	16	16	Constant	24	16	24	16
5 to 1500	15 to 1500	50 to 1250 @ 20 hp 25 to 625 @ 10 hp	50 to 1250 @ 30 hp 25 to 625 @ 15 hp	7200 @ 30 hp 3600 @ 15 hp	15 to 1500	13 to 1300	50 to 1250 @ 30 hp 25 to 625 @ 15 hp	50 to 1250 @ 50 hp 25 to 625 @ 25 hp	7200 @ 30 hp 3600 @ 15 hp	13 to 1300	50 to 1250 @ 50 hp 25 to 625 @ 25 hp	13 to 1300	50 to 1250 @ 50 hp 25 to 625 @ 25 hp
32	32	32	32	32	32	32	32	32	32	32	32	32	32
%" to 90" No 7160	%" to 90" 9 to 2160	3%" to 90" 9 to 2160	¾" to 90" 9 to 2160	34" to 180" 18 to 4320	3%" to 90" 9 to 2160	%" to 90" 9 to 2160	3%" to 90" 9 to 2160	%″ to 90″ 9 to 2160	34" to 180" 18 to 4320	%" to 90" 9 to 2160	%* to 90* 9 to 2160	⅔″ to 90″ 9 to 2160	%" to 90" 9 to 2160
No. 50	No. 50	No. 50	No. 50	No. 50	No. 50	No. 50	No. 50	No. 50	No. 50	No. 50	No. 50	No. 50	No. 50
8150	10450	8700	10700	8350	10400	15850	10900	16350	10350	16100	16600	16350	16850

Time and Cost Saving



(FARNEY&TRECKFR

ILLING MACHINES

Greater production and greater operating convenience through Mono-Lever Control (one lever controls all table movements) reduces idle cutter time, makes work simpler and less fatiguing for operators. No other milling machine combines so many features so well. There's the single lever speed selector; wider speed and feed ranges; greater table working surface; spindle mounted flywheel; independent motor drives to spindle, to feed and rapid traverse and to coolant, on machines over 5hp, plus many other time and cost saving features.

Rapid-set Dials, designed for quick, positive lock settings, have vaporblasted satin finish for easy reading and accurate setting.



Conveniently located controls plus the four-position micrometer stop and dial indicator facilitate step milling operations.

HTRECKER

Especially adapted for angular milling operations, the swivel head feature makes this machine extremely versatile. The head swivels 360 degrees in a vertical plane. The spindle is provided with 31/2 inches of movement. A micrometer dial, graduated in thousandths of an inch, facilitates spindle settings.



Efficient Lubrication through automatic forced-flood system in column and knee, and positive metered pressure pump system for table, saddle and knee ways, and table feed assembly. A large (2" diam.) heavy-duty table feed screw and extra-long bronze nut provide greater bearing contact for longer screw life, greater accuracy and backlash elimination.





The setup illustrated here is made on the Chucking Table of a Kearney & Trecker Vertical Milling Machine. Using two sets of vise jaws and a pair of screw jacks for center support, a three-step milling operation is easily performed on each of the pads on this eccentric lever. The Chucking Table mill has been designed to simplify work-holding problems such as this, and to cut costs by eliminating expensive special fixtures and tooling.

> **Greater Rigidity** through scientifically engineered solid-back column design—heavily ribbed, double box-section sponson construction, with all metal properly distributed to absorb vibration from heaviest cutting loads.

Greater Cutting Efficiency through spindle mounted flywheel, running with three bearing support, and driven through a train of heavy-duty, widefaced, steel-forged gears, hardened and specially processed for quiet operation under flywheel momentum.

ATTACHMENTS & ACCESSORIES

Important frequently to a shop's efficient operation is the wise choice of attachments and accessories to broaden the work capacity of standard milling machines. Various standard attachments temporarily convert these machines into special-purpose tools and permit accurate performance on jobs not ordinarily attempted on a milling machine. In this manner the original investment in machine tools is kept to a minimum, while assuring maximum productivity. Kearney & Trecker offers a complete selection of attachments from which the exact needs of any shop can be met. They are built to the same standards of accuracy found in Kearney & Trecker Milling Machines and can be depended upon to render equally efficient service. Complete specifications may be obtained by requesting the bulletin listed under each illustration.





LIGHT HIGH SPEED UNIVERSAL MILLING ATTACHMENT — designed for accurate performance on light milling, boring, and drilling operations. The spindle has a No. 7 B & S taper to accommodate small tang-drive drills. The attachment has 8" of adjustment along the overarms and can be furnished with a fixed spindle or one with 11/2" of hand adjustment. Write for Bulletin No. CA-10.



STANDARD UNIVERSAL MILLING ATTACHMENT — designed for operations in the tool room and on the production line. The No. 40 national standard taper spindle is mounted on anti-friction bearings. Spindle speeds are in one-to-one ratio with machine speeds, a convenient operating feature. The attachment is mounted on the overarms and clamped to the column face. Write for Bulletin No. CA-14.



STANDARD SWIVEL HEAD VERTICAL MILLING ATTACHMENT — a virtual necessity where the volume of work does not warrant the purchase of a vertical machine. The attachment swivel base is graduated through 360° for angular spindle settings. The No. 40 national standard taper spindle is mounted on anti-friction bearings and has a speed range in one-to-one ratio with the machine. Write for Bulletin No. CA-12.



PLAIN AND SWIVEL VISES — available in 5", 6", 7", 8", and 9" sizes, can be used on any standard milling machine. Of minimum height, they bring workpiece as close to the machine table as possible. Base of swivel vise is graduated through 360°, can be removed when not required. Swivel bases can be applied to plain vises in the field. Write for Catalog No. G-10.



STANDARD HIGH SPEED ADJUSTABLE UNIVERSAL MILLING ATTACHMENT

-a truly versatile attachment adapted to a wide variety of applications in tool and die shops and for light manufacturing. Has a No. 40 national standard taper spindle and speeds up to 2500 rpm, depending on the machine spindle speed range. The spindle head has 10" of cross adjustment. Available with or without adjustable spindle. Write for Bulletin No. CA-11.



HEAVY DUTY UNIVERSAL MILLING ATTACHMENT — provides heavy service with accurate results. It is clamped to the column face and supported by the double overarms. A No. 40 national standard taper spindle is provided on machines of 5 hp capacity or less, and a No. 50 taper on all other machines. Attachment spindle speeds are in one-to-one ratio with machine spindle speeds. Write for Bulletin No. CA-15.



HEAVY DUTY SWIVEL HEAD VERTICAL MILLING ATTACHMENT — well suited to heavy vertical or angular milling operations. Swivel base is graduated through 360°. A No. 40 national standard taper is used on machines of 5 hp capacity or less, and a No. 50 taper on all others. Attachment spindle speeds are in one-toone ratio with machine spindle speeds. Write for Bulletin No. CA-13.





SLOTTING ATTACHMENT — a practical necessity where the volume of work does not require a slotting machine. Attachment head swivels 360°. The ram carries hardened steel V-jaws and hardened backing plate for the positive clamping of special or standard tools and tool holders. Write for Bulletin No. CA-16.



THREAD MILLING ATTACHMENT converts a standard universal milling machine into a practical thread miller. With this attachment it is possible to mill all regular thread forms cut on a standard thread miller including U.S.S., Acme and worm threads. The spindle accommodates standard cutters and hobs. Write for Bulletin No. CA-17.



RACK MILLING ATTACHMENT adapts the horizontal milling machine for rack milling operation. A splined drive collar bolted to the machine spindle nose drives the attachment through spiral bevel and helical gears. Rack indexing attachment and rack vises also are available. Write for Bulletin No. CA-18.







ROTARY TABLES — available in 12", 16", 20" and 24" diameters, used for flat, circular, and angular milling operations. Tables can be provided with or without mechanism for power feed and rapid traverse drive. Includes complete facility for indexing. Hole through the center of the table accommodates special arbor for clamping and locating purposes. Write for Bulletin No. WA-14.

PRECISION MEASURING INSTRU-MENTS — reduce time required in making movements to close tolerances in tool room work. Micrometer measuring rods and dial indicators or scales and verniers are available. Applied at factory only. Write for Bulletin No. M-11.



RACK INDEXING ATTACHMENT — With this attachment diametral pitch racks can be milled from 3 to 6 by half pitches, all pitches from 7 to 16, and from 18 to 32 by even pitches. Circular pitch racks from T_{0}^{L} " to 1" by sixteenths can also be milled. Write for Bulletin No. CA-18.



UNIVERSAL CHUCKS — These three-jaw universal scroll-type chucks bolt directly to the spindle nose of Models H and K dividing heads. They are available in 7", 8", and 9" sizes. Single step or threestep reversible jaws are obtainable. Write for Bulletin No. WA-13.





CONVENTIONAL LEAD ATTACHMENT --may be used with either the Model H or Model K dividing heads and provides a selection of more than 1300 leads from .670" to 149". All leads above 3" can be cut by power, and on leads over 10" the rapid traverse rate can be used. Both left and right hand spiral milling operations are possible. All gears safely enclosed. Write for Catalog No. WA-12.



LOW LEAD ATTACHMENT — provides over 40,000 leads by power from .022" to 2918". Normal feed or rapid traverse rates can be used on all leads. Many short leads can be stepped up or down in increments as small as .0001". May be used with Models H and K dividing heads or with rotary tables. Capable of both right and left hand milling operations. Write for Catalog No. WA-12.



ROTARY TABLE DRIVE BRACKET—This power feed and rapid traverse drive mechanism adds greatly to the versatility of the rotary table. Feed rate at the periphery of the rotary table is equal to the feed selected on the table feed dial. When the low lead attachment is used as the drive mechanism, it is possible to mill scrolls, face cams, and spirals. Write for Bulletin No. WA-14.



MODEL H UNIVERSAL SPIRAL DIVIDING HEAD — An ideal 10" head, with conventional 40 to 1 index ratio. A popular performer that offers uniform accuracy under all loads. Write for Bulletin No. WA-11.

MODEL K UNIVERSAL SPIRAL DIVIDING HEAD — Quick, accurate indexing is the big feature of this precision built unit. Exclusive five-to-one hypoid gear ratio between the index plunger and the spindle does the trick. Available in 10", 12" and 14" sizes. The No. 50 taper spindle is mounted on anti-friction bearings. Write for Catalog No. WA-12.



FULL-BACK CUTTERS—Furnished in sizes from 3" to 18" in diameter, either right or left hand, featuring solid, full blade support. Design is suitable for the face milling of cast iron, semi-steel, malleable iron, bronze, copper, brass, and aluminum. Write for Catalog No. C-10.







CSM CUTTERS — All-purpose face mills especially appropriate for carbide milling applications. Designed to minimize effects of shock and impact. Available in sizes from I'' to 16''. Cutters perform efficiently at high rates of metal removal. Write for Bulletin No. C-11.







PRODUCTION MILLING MACHINES

Production men know that profitable operations result principally from the efficient and highly productive machine tool equipment under their charge. And — as hundreds of these men have learned — they can depend upon Kearney & Trecker - Milwaukee bed type production milling machines to possess these characteristics and help them meet their production goals. For more than 25 years these profit-making machine tools — unusually simplified in design and flexible in application — have been broadly employed in solving countless and greatly varied production milling problems of manufacturing industries the world over.

Your production problems today can be solved with the same cost saving results that have been so widely achieved in the past. For Kearney & Trecker milling research has kept well ahead of the progress made in newer metals, in faster machining, in specialized tooling and in modern machine design. Besides including the benefits of such experience, Kearney & Trecker production milling machines also continue to reflect "custom built" engineering without the usual high cost that is associated with custom building. Such economy is made possible for you through the principle of unit construction which permits such factors as machine capacity, range of travel, spindle speeds, feeds, and motor power to be selected independently to meet your specific requirements. And when the problem is such that a special approach is the logical answer, here, too, you can rely upon the broad experience and know-how which Kearney & Trecker engineers have acquired and developed in successfully providing for the oftentimes complex mass production requirements of automotive, aircraft and agricultural equipment manufacturers.

A look through the following pages will help convince you of our ability to handle your production milling problems. You will find here machines that are both standard and special, ranging from 5 hp to 75 hp, from one spindle to multiple spindle applications, from 2¹/₂ tons to 40 tons, — machines which employ cutters as small as ordinary lead pencils or as large as 33" diameter straddle mills, weighing more than a ton, and driven on a single arbor.

This is but a sampling of the Kearney & Trecker production engineering experience that is available to you. It is applied with practical thoroughness to the difficulties confronting production men. Work handling, loading, clamping, automation, accuracy, finish, chip disposal — all of these problem factors are carefully considered in order to achieve a high standard of performance.

So when those knotty production milling problems come up to give you a tussle, why not join hundreds of satisfied customers in the profitable habit of using Kearney & Trecker production milling machines and production engineering service? It's the most effective combination to obtain greater volume, better quality, and lower product prices for your company.



BED TYPE PRODUCTION MILLING MACHINES

Kearney & Trecker M-Series Simplex Milling Machines are built to perform a wide variety of milling operations on small and medium size parts. Their operating features are so designed that they are readily adaptable to the production of a single workpiece or a hundred thousand. For single piece or small run operations complete manual control is available, while for moderate or long production runs they can be made fully automatic in operation. Write for Bulletin No. B10.





Mono-Lever automatic cycle table control centralized within easy reach.



Speed changes are readily accessible in conveniently located pick-off gear boxes.



M-24 SIMPLEX (left front view)

GENERAL SPECIFICATIONS NOTE: FIGURES SHOWN IN COLOR ARE IN METRIC SYSTEM

	M-SERIES	SIMPLEX MILL	ING MACHINE	S			
MACHINE NUMBER	м	-18	M	-24	M-30		
WORKING SURFACE OF TABLE	34″x13″	863x330	40″x13″	1016x330	46"x13"	1168x330	
POWER TABLE FEED	18″	457	24″	610	30″	762	
SPEED RANGE (rpm)	50 to 500* 40 to 1000	50 to 500* 40 to 1000	50 to 500* 40 to 1000	50 to 500* 40 to 1000	50 to 500* 40 to 1000	50 to 500° 40 to 1000	
FEED RANGE (ipm)	.6" to 24"* .3" to 12" 1.5" to 60"	15.2 to 610 7.62 to 305 38.1 to 1524	.6" to 24"* .3" to 12" 1.5" to 60"	15.2 to 610 7.62 to 305 38.1 · to 1524	.6" to 24"* .3" to 12" 1.5" to 60"	15.2 to 61 7.62 to 30 38.1 to 152	
HORSEPOWER	5	5	5	5	5	5	
SPINDLE SIZE	No. 50	No. 50	No. 50	No. 50	No. 50	No. 50	
APPROXIMATE WEIGHT	4525 lb	2053 kg	4600 lb	2087 kg	4675 lb	2121 kg	

* Range furnished standard; all other ranges listed are available as options at extra cost.

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34



71/2hp SIMPLEX-10hp DUPLEX

KEARNEY & TRECKER

BED TYPE PRODUCTION MILLING MACHINES

SERIES

These medium duty production milling machines are rugged in construction, fast in operation and versatile in the scope of work they will handle. Table width, table travel, feed range and spindle speed range are variable and are adaptable to the needs of the job requirements. Design and operational features promoting rigidity and accuracy include unit construction, center bearing spindle, anchored spindle quill, device for backlash elimination and adjustable double overarms. Write for Catalog No. B20.



1200-1800 SERIES DUPLEX



Three bearing spindle assures rigidity, finer finish and longer cutter life.



Saddle has broad bearing surface for the table and automatic lubrication for the ways.



Spindle block affords vertical spindle adjustment. Straddle mounting eliminates overhang.



1200-1800 SERIES SIMPLEX

GE	NI	ER	AL	SP	EC	1 F I	С	ATIO	NS	
NOTE:	FIGL	RES	SHOW	N IN	COLO	RARE	IN	METRIC S	SYSTEM	

	1200-1	800 SERIE	S SIMPLE	AND DU	JPLEX MIL	LING MAG	CHINES			
MACHINE NUMBER AND STYLE	1224		1236		1824		1836		1848	
	Simplex and Duplex		Simplex and Duplex		Simplex Only		Simplex and Duplex		Duplex Only	
WORKING SURFACE OF TABLE	12"x42"	305x1067	12″x54″	305x1372	18"x42"	457x1067	18"x54"	457x1372	18"x66"	457x1676
POWER TABLE FEED	24″	610	36″	914	24″	610	36″	914	48″	1219
SPEED RANGE (rpm)	30 to 200*	75 to 500	30 to 200*	75 to 500	30 to 200*	75 to 500	30 to 200*	75 to 500	30 to 200*	75 to 500
	20 to 135	150 to 1000	20 to 135	150 to 1000	20 to 135	150 to 1000	20 to 135	150 to 1000	20 to 135	150 to 1000
FEED RANGE (ipm)	.6" to 24"*	.3" to 12"	.6" to 24"*	.3" to 12"	.6" to 24"*	.3" to 12"	.6" to 24"*	.3″ to 12″	.6" to 24"*	.3" to 12"
	15.2 to 610	1.5" to 60"	15.2 to 610	1.5" to 60"	15.2 to 610	1.5" to 60"	15.2 to 610	1.5″ to 60″	15.2 to 610	1.5" to 60"
HORSEPOWER	Simplex	Duplex	Simplex	Duplex	Simi	plex	Simplex	Duplex	Dur	olex
	7½	10	7½	10	71	1/2	7½	10	1	O
SPINDLE SIZE	No	. 50	No	. 50	No	o. 50	No	. 50	No	. 50
APPROXIMATE WEIGHT	Simplex	Duplex	Simplex	Duplex	Sim	iplex	Simplex	Duplex	Duj	olex
	7400 lb	10750 lb	7800 lb	11050 lb	800)0 lb	8400 lb	11450 lb	117	50 lb
	3357 kg	4876 kg	3538 kp	5012 kg	362	29 kg	3810 kg	5194 kg	533) kg

* Range furnished standard; all other ranges listed are available as options at extra cost.

The Kearney & Trecker SPECIAL MACHINERY DIVISION

... offers you over 55 years of experience in the solution of production metalworking problems, plus the unmatched facilities of this all-new plant!

Here's the plant and machinery layout that will build the special machinery or tooling you need

This perspective shows how the Special Machinery Division will look on the inside. The production area of the plant covers approximately 173,000 sq. ft. Working height under the main bays is 32 ft. Crane lifting capacities range up to 30 tons. New equipment will include:

HORIZONTAL BORING MILLS (seven) three with 4-inch spindles three with 5-inch spindles one with a 6-inch spindle

PLANERS (two) one — 84 in. x 62 in. x 30 ft., (openside) one — 72 in. x 72 in. x 26 ft. PLANER MILLS (two)

one — 66 in. x 66 in. x 24 ft. one — 78 in. x 78 in. x 30 ft.

MILLING MACHINES (eleven) Horizontals (four) 10 hp (two) 7½ hp (one) 25 hp, auto. cycle (one) Verticals (three) 71/2 hp, auto. cycle (one) 10 hp, auto. cycle (one) 25 hp, auto. cycle (one)

INAL

RES

Universal, 71/2 hp (one)

KEARNEY & TRECKER is no newcomer to the field of special machine tools and allied special equipment. There are literally millions of dollars' worth of Kearney & Trecker special equipment in plants all over the world.

Today, orders involving new production ideas, new equipment and tool designs are already being processed for production in this new plant. And, Kearney & Trecker Special Engineering and Methods Analysts are ready right now to serve you with (1) prompt response to your inquiry, (2) immediate engineering help on your problems, plus, (3) the newest, finest and most complete facilities to build the special equipment you need — big or small.

So, for special machines, special tools and fixtures or special arrangements of standard machines that will help you solve your metal-working problems, consult Kearney & Trecker. Take early advantage of the \$5-million-plus investment we have made in this new plant, its new tools and new engineering.

> MAINTENANCE AND MOTOR STORAGE

> > DEPARTMENT

You're invited to visit us and discuss your problems and to see our new plant at your convenience.

Our qualifications:

EXPERIENCE: We've been in the business 55 years. During that time we have designed and built over 60,000 standard and special machine tools. In recent years, our production of special machinery has ranged up to three million dollars annually.

FACILITIES: Our new expansion is devoted exclusively to the production of special machinery. The new plant, built on a site covering 38 acres, is equipped with over \$2,500,000 worth of the very latest tools and equipment — many of them custom-built for the job.

PERSONNEL: Our Special Machinery Division engineering section has at its command nearly 100 experienced, imaginative and practical design and project engineers... men fully qualified in the sciences of applied mechanics, hydraulics, electronics and metallurgy... and metalworking.

PERFORMANCE: Kearney & Trecker's Special Machinery Division is best recommended by its outstanding record of successfully solving many hundreds of unusual machining problems , . . problems that involved demands for high volume production, as well as exacting dimensional accuracy and fine surface finish.

RESPONSIBILITY: Our Special Machinery Division is an integral part of the Kearney & Trecker Corporation . . . and is fully supported by all its financial and physical resources.

Any commitment for a product of this division is a commitment that fully involves the accepted reputation for responsibility and satisfaction that is Kearney & Trecker's.

Rotary Head (one) CSM Simplex, 50 hp (one) Bridge Type (one) LATHES (seven) Engine (four) two 16 in. x 78 in. one 25 in. x 78 in. one 16 in. x 150 in. Duplicating, 16 in. x 54 in. (one) Turret (one)

Polishing (one)

88 8 8

R ROOM

DRILLS (five) Radial (four) two — 7 ft. x 19 in. one — 6 ft. x 19 in. one — 5 ft. x 17 in. Horizontal, 25 ft., long sliding base (one) GRINDERS (nine) External (two) one — 10 in. x 96 in. one — 14 in. x 72 in. Surface (two) one — 6 in. x 18 in. one — 10 in. x 24 in. MULTIPLE SPINDLE BORING MACHINE AUTOMETRIC VERTICAL BORING MACHINE, 18 in. x 30 in. CUSTOM AUTOMETRIC VERTICAL BORING MACHINE DRILL PRESS, 4-spindle VERTICAL BORING MILL, 66 in. JIG MILL SCALE, 50-ton

A great variety of combinations are possible with Model CSM production milling machines. Quill type heads with 20 or 30hp (simplex or duplex) and Ram type heads with 30 or 50hp (simplex only) are offered as standard. Tables are available in four standard widths, 18", 24", 32", and 42", with travel from 4 to 12 feet. The rapid traverse rate is 150" per minute and the thirty-two feed rates range from 1/4" to 60" per minute. More information can be obtained from your local representative or direct from Kearney & Trecker—Milwaukee, Wisconsin Special Machinery Division for Catalog No. SMD-10.



1800

2400

3200 4200

20hp to 50hp SIMPLEX AND DUPLEX

MILLING MACHINES

SERIES

KEARNEY&TRECKER

MODEL

BED TYPE

PRODUCTION

CSM DUPLEX MILLING MACHINE with 20hp No. 2 Quill Type Pick-off Head.



Conveniently located and grouped controls feature ease of operation. Mono-lever and automatic cycle table control directs all table movements.

Spindle nose is designed with two driving flanges — a combination No. 60/No. 50 National Standard to accommodate large diameter face mills and flange-type arbors.

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Table moves on hardened a ground steel ways support by heavy, closely spaced r in rigid, one-piece bed casti

The Ram Type Head is equiped with vertical and cripower feed and rapid traver Sixteen quick change speselections are available.

CSM SIMPLEX MILLING MACHINE with 50hp No. 5 Quick Change Ram Type Head.



MODEL

1800

2400

3200 4200 SERIES

KEARNEY & TRECKER

BED TYPE PRODUCTION MILLING MACHINES

This 1808 Simplex mill is equipped with the 30hp No. 3 Quick-Change Ram Type spindle head and a power-operated outer arbor support brace. Movement of the arbor support is synchronized with the spindle head. This eliminates any possibility of distortion to the arbor during vertical movement. Strength and rigidity characterize the machine column, which carries the spindle head. This column is of a full boxsection construction with large way surfaces — designed to absorb vibration from heaviest cutting loads.





Smooth feed performance is accomplished through the use of this large diameter, heavy-duty feed screw. Elimination of backlash is effectively controlled with the long bronze nut, providing for efficient climb milling operations.



Selected for this 11/2 ton cutter-arbor setup (above) was this large 4208 CSM Simplex mill (right). A 50hp No. 5 Pickoff Quill Type spindle head is used to swing a gang of 33" diameter side milling cutters with a spindle speed range of 6 to 30 rpm.

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KEARNEY & TRECKER

PRODUCTION MILLING MACHINES The Customer Engineering Service of Kearney & Trecker's Special Machinery Division is explained in detail on pages 12 and 13. Illustrated on these pages are a few of the outstanding special production mills completely engineered and built by this facility. On the basis of accumulated data and subsequent study of a customer's problem, a standard machine is adapted with special fixtures and attachments, or a completely special machine is designed to meet exacting requirements. For more information contact our representative in your area or write direct to Kearney & Trecker Corp.—Special Machinery Division, Milwaukee, Wisconsin.

SPECIAL CAM MILLING MACHINE designed to produce a variety of cams.

100

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KEARNEY & TRECKER

KFARNEY ST

VEARNEY & TRECK

THREE-STATION ROTARY INDEX-ING MACHINE mills joint face and carburetor mounting flange on exhaust manifold.

> THREE-SPINDLE MILLING AND BORING MACHINE mills locating pads and bores and faces end of center of housing tractor casting.

SPECIAL RAIL TYPE MILLING MACHINE for light milling operations performed on large bulky workpieces.

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48

3



PRODUCTION MILLING MACHINES

KEARNEY & TRECKER

SPECIAL FACE MILL CUTTER GRINDER designed to grind face mill cutters from 3" to 40" in diameter. Included are all of the outstanding features of Kearney & Trecker's standard Cutter Grinder.

A SPECIAL VERTICAL HEAD, independently powered, and a fixture designed to accommodate five different sizes of a similar workpiece, converted this standard 1248 Series Simplex mill into a high production special type machine.

北部王

202

SPECIAL ROTARY TABLE MILLING MACHINE with two cam-activated vertical spindles, mills the contours on a variety of sewing machine beds.

MILWAUKEE

THIS SEVEN-STATION TRAVELING HEAD TRANSFER TYPE milling machine was designed to mill five faces of a tractor engine cylinder head.





The Rotary Head milling machine greatly simplifies the machining of production parts, tools, and dies. The mechanical control of the cutting element is so designed that straight, angular and radial movements in both horizontal and vertical planes can be made. These movements can be coordinated to permit combinations of the movements in both planes. The machine spindle is mounted on a cross-slide that can be set off-center radially and rotated in a horizontal planetary direction through 360° or any part of the full circle. Both rotary head and spindle can be run in either direction, independently of each other. The Rotary Head milling machine is high speed equipment. The extensive spindle speed range of 250 to 4000 rpm with an infinite number of changes, permits the selection of the proper rate for all diameter cutters and assists in producing a superior finish. The rotary head has 16 feed changes from 1/5 to 3 rpm. Table feeds in inches per minute number sixteen from 1/2" to 71/2". Write for Catalog D-20.



NEY&TREC

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KEARNEY & TRECKER

MODEL D No. 2 ROTARY HEAD MILLING MACHINE

The machine that simplifies milling jobs and does simple operations faster

The Rotary Head Method of Milling is revolutionary in that it is a simple and easy matter to transmit completely the blueprint into metal without changing the setup. Among the shapes which can be produced on the Model 2D Rotary Head Milling Machine are such geometric figures in plain geometry which can be drawn with a T-square, triangle, compass and protractor.



By adapting the cherrying attachment this field is expanded to include all shapes in solid geometry which can be drawn with this same group of draftsman's tools. Write for Bulletin D-20 for more information.

Expert for Experimental Work



First-Rate on Stamping Tools



Ideal for Die Casting Dies



Perfect on Plastic Molds



Answer to Toolroom Utility



Profitmaker on Production Jobs



Fitted for Forging Cavities

GENERAL SPECIFICATIONS

(Figures shown in color are metric system)

Description	No. 2 Model D
TABLE: Working Surface — Size Overall	30'' x 16'' 762 x 406
TABLE FEED RANGE: Longitudinal Travel — Hand or Power Feed Transverse Travel — Hand Feed Only Vertical Travel — Hand Feed Only Number of Table Feed Changes Power Feed Range (ipm)	18" 457 12" 305 18" 457 Sixteen 1/2" to 71/2" 12 to 190
SPINDLE: Size — National Standard Taper Number of Spindle Speed Changes Speed Range (rpm) Vertical Travel — Hand or Power Feed Number of Spindle Feed Changes Power Feed Range (per revolution of spindle) Radial Adjustment	No. 30 Infinite 250 to 4000 3'' 76 Eight .0002'' to .008'' .005 to .190 0 to 4'' 0 to 102
ROTARY HEAD: Power and Hand Feed Travel — Continuous Number of Rotary Head Feed Changes Power Feed Range (revolutions per minute)	360° Sixteen .2 to 3

ROTARY HEAD MILLING MACHINE ATTACHMENTS



Cherrying Attachment is an auxiliary rotary head mounted at 90° to the rotary head of the machine. It makes possible the cutting of arcs and angles from zero to 360° in the vertical plane. The maximum cherrying cut is 2" diameter, plus or minus the diameter of the cutter.

Slotting and Cornering Attachment. These operations are effected by means of a universal slotting head having a manually controlled stroke of $1/2^{"}$. Draft may be set up to 7°. Cam-like action permits slotting to blind bottoms and breaks off the chip at the end of the stroke.



The range of the Rotary Head Milling Machine can be greatly extended to complete more complex jobs at one setup economically by means of four easily adapted attachments — cherrying, universal milling, slotting and cornering, and right angle milling. Use of the cherrying attachment in combination with the rotary head motion permits accurate, mechanically controlled generation of cones and spherical sections.



Universal Milling Attachment. The spindle of this attachment is offset 4" in relation to the machine spindle, and can be adjusted radially to mill any angle within a complete circle. It has 11/2" of spindle quill adjustment.

Right Angle Milling Attachment is useful for light horizontal milling inside die cavities and for other operations at right angles to the machine spindle. The spindle has 2" of vertical adjustment. The attachment can be used in conjunction with the rotary bead motion.



(HORIZONTAL)

Automet

PRECISION BORING MACHINE

MODEL

AUTOMET

KEARNEY & THECKER

MILWAUKEE

The Model B Autometric Boring Machine combines versatility and precision to a degree unmatched in its field and range of operation. This machine features a built-in indexing table in combination with a horizontal boring spindle and it is easy to visualize the vast variety of boring operations which can be efficiently performed. Box jigs, jig plates, gear boxes or machine parts all look alike to the Model B regardless of whether they are to be produced singly or in quantity. Ease of setup, convenient operating controls and built-in measuring and indexing devices save time and contribute to its ease of operation and the elimination of errors. A wide range of boring speeds and feeds assure efficient cutting operation with modern cutting tools on either ferrous or non-ferrous materials.

Unmatched Versatility in Precision Boring

Precision boring jobs can be placed in three general classifications:

- 1. Boring one or more holes perpendicular to a finished surface;
- 2. Boring one or more holes parallel to a finished surface;
- 3. Boring two or more holes parallel to a finished surface but at angles to each other. Since the spindle of the Model B Autometric is horizontally mounted with its axis parallel to the top surface of the index table, this machine is particularly adaptable to boring operations which fall within the scope of groups two and three. The addition of a precision angle plate for handling work in group one makes the Model B the most versatile machine for precision boring. Write for Catalog BMA-10.

GENERAL SPECIFICATIONS

(Figures shown in color are in metric system)

Description	
ROTARY WORK TABLE: Diameter Graduated in Increments of Vernier Reads	16'' 406 1/2° I min. of arc
CAPACITY: Vertical Measuring Travel Transverse Measuring Travel Carriage Travel — Hand or Power	10'' 254 16'' 406 15'' 381
SPINDLE: Size — National Standard Taper Number of Speed Changes Range of Speeds (rpm)	No. 40 Infinite 50 to 2500
CARRIAGE: Number of Feed Changes Range of Feeds (Per rev. of spindle) Rapid Traverse Rate of Movement	Eight .0005'' to .0148'' .0125 to .3737 100 ipm 2500 mmpm
MEASURING SCREWS: Vertical and Transverse — Maximum Accumulative Lead Error In any 1" of Length (25mm) . In any 12" of Length (300mm).	.0001'' .0025 .0002'' .0050

Large, easy-to-read micrometer dials and

verniers, together with mechanical count-

ers simplify precision hole spacing.

Boring head is counter-balanced for quick, effortless positioning. Boring spin-dle is lubricated by circulating oil.



MODEL B AUTOMETRIC (full front view)

KEARNEY STRECK FR

Convenient controls for selection of a wide range of speeds and feeds saves time and promotes cutting efficiency.







(VERTICAL)

Automette No. 2 and No. 3

PRECISION BORING MACHINES

MODEL C

KEARNEY & TRE

Kearney & Trecker has designed and built a variety of precision boring machines during the past 50 years. These machines were used to improve the quality and expedite the manufacture of their products. From this experience came the vertical style Precision Boring Machine known as the Model C Autometric. This machine has the built-in accuracy to qualify it for performing the most exacting boring operations. High spindle speeds, fine boring feeds, and sensitivity of operation permit the boring of holes as small as The diameter. Low spindle speeds, coarse boring feeds, and rugged construction are provided for boring larger holes. Stepless variation throughout the entire range of spindle speeds, plus a wide selection of feeds in geometric progression, insures efficient, high quality boring on all work between the two extremes.



The most modern and dependable machine for precision boring

Principal features that make the Model C Autometric a standout in the field of precision boring equipment include: A stationary spindle head, outstanding design feature important to accurate performance; A long bearing surface between the quill and spindle head, constant throughout the entire II" of quill travel; Rugged foundation entire base, column and guard are cast in one solid piece; Precision and simplicity in measuring — ground and hardened steel measuring screws, accurate to .0002" in 12"; Quick-change spindle nose and; Equalizing table and saddle clamps that lock units securely without disturbing setup. Write for Catalog CMA-10.

		Mode	12C	Mode	1 3C
	Description	Inches	Millimeters	Inches	Millimeters
TABLE:	Working surface — size overall	14" x 221/2"	356 x 576	18" x 30"	457 x 762
CAPACITY:	Longitudinal Table Travel Transverse Table Travel Spindle Quill Travel — Hand or Power Feed	18" 12" 11"	457 305 279	24'' 16'' 11''	610 406 279
SPINDLE:	Size — National Standard Taper Number of Speed Changes Range of Speeds (rpm) Number of Feed Changes Range of Feeds (per revolution of spindle) Rapid Traverse Rate of Movement	No. 40 Infinite 50-2500 Eight .0005" to .0148" 100 ipm	No. 40 Infinite 50-2500 Eight .0125 to .3737 2500 mmpm	No. 40 Infinite 50-2500 Eight .0005" to .0148" 100 ipm	No. 40 Infinite 50-2500 Eight .0125 to .3737 2500 mmpm
MEASURING SCREWS:	Maximum accumulative lead error — any 1''(25mm) of length any 12''(300mm) of length	.0001'' .0002''	.0025 .0050	.0001" .0002"	.0025 .0050

GENERAL SPECIFICATIONS

V



A directional power feed lever (with built-in rapid traverse button), and a handwheel control the quill movement. Eight feed rates are available.

Large, easy-to-read micrometer dials and verniers, together with mechanical counters simplify control of table movements for accurate, easy positioning. The accurately scraped table and saddle, sliding on hardened inverted V-ways and locked by equalizing clamps, maintain continued precision.

No. 3 MODEL C AUTOMETRIC

CUTTER GRINDER

Especially Designed for Sharpening Carbide Face Mill Cutters Faster and Better

The Kearney & Trecker - Milwaukee Cutter Grinder is a heavy duty machine, incorporating every needed feature for properly sharpening many types of cutters. The basic design is one that embodies rigidity, precision and capacity. The bed is of one-piece construction, heavily reinforced to give maximum rigidity to both cutter and wheel slides. The grinder head slide is mounted on hardened and ground ball and roller bearings for permanently smooth sliding movement. A flywheel on the spindle makes it possible to maintain a constant speed of 3400 rpm during grinding operations.



KEARNEY & TRECKER

Rear view close-up of grinder head showing aircooled motor housing, adjustable limit stops, screw and stud assembly for angular adjustment of grinder head, and handwheel for actuating the grinder head cross slide.



Close-up of cutter head showing circular scales on spindle nose and at base of upright which permits accurate angular adjustments. Face mill cutters up to 20" in dia, are readily accommodated. Full Front View of Cutter Grinder

SPECIFICATIONS

KEARNEY & THECKER

GRINDING CAPACITY	All types of face milling cutters, right or left hand, up to	20'' diam.
GRINDING WHEEL SPINDLE RANGE	Longitudinal slide movement Cross slide movement Head swivels — above or below horiz. plane Spindle speed — rpm	5'' '' 5° 3400
CUTTER SPINDLE RANGE	National Standard Spindle End Cross slide movement Vertical slide movement Cutter upright swivels	No. 50 13'' 13¾'' 360°
MOTOR	Grinding wheel spindle drive motor	l hp
SHIPPING WEIGHT	Net weight (approximate)	2750 lbs.

TYPICAL APPLICATIONS



A 6" cup-type diamond wheel is used to grind the face relief and clearance angles on a 10" CSM face mill cutter.



To grind the face and periphery of an 8" HSS slotting cutter a 6" 32A46 grit cup-type wheel is employed here.



In this operation the face of a counter-bore is being ground with a 7" - 38A60 grit vitrified disk-type wheel.

This cutter grinder is capable of sharpening all types of face mill cutters, up to 20 inches in diameter, to within an accuracy of 0.0002 of an inch. Setups are made quickly, with graduated dials facilitating adjustments. Controls are handily located for simplified operation.



A 6" D150 grit cup-type diamond wheel is used to grind the periphery of an 8" carbide tipped full-back face mill cutter.



In another set-up a 6" 32A46 grit vitrified cup-type wheel is used to grind the face of a 2" HSS end mill.



A special tool holder is used here to grind the face and angles of a carbide-tipped planer tool with a 6" diamond wheel.

WALKER-TURNER LIGHT-HEAVYWEIGHTS

for jobs where neither the capacity nor expense of a heavy industrial machine is warranted, and where a "hobby machine" would be wholly inadequate, Walker-Turner has engineered a special class of light-heavyweight machines.

> Professional in design and operation, yet light for production machines, the Walker-Turner Light-heavyweights give industry the capacity needed for sustained production work, without the necessity of heavy investment.

WALKER TURNER

KEARNEY AND TRECKER CORPORATION PLAINFIELD, N. J.

Included in the complete Walker-Turner line are: 15" and 20" Drill Presses, Radial Drills, Tilting Arbor Saws, Belt and Disc Surfacers, Metal Cutting Band Saws, Lathes, Spindle Shapers and Jointers.

Walker-Turner Light-heavyweight Machine Tools are sold only through Trained Industrial Distributors.

LAWRENCE RUSSELL Sales Manager

16" BAND SAW Capacity 16" between ilade and frame—8" under guide. Table: cast iron, 18" x 17" carefully machined. Guards: cast aluminum, provide full protection. Single speed models for wood and plastic cutting and multi-speed models for metal cutting. 20" DRILL PRESS Spindle travel 6", 5 speeds. Capacity '44" in steel, 1" in cast iron. Distance spindle to column 10". Max. distance spindle nose to table 44". Balanced pulleys, ball bearings throughout. In Bench, Floor and Multi-spindle models (2 to any desired number of spindles.)

ATALKED HUDST

VERTICAL SPINDLE SHAPER Two speeds: 7000 and 11,000 r.p.m. Spindle 17'' long, journaled on preloaded ball bearnigs. Cutter spindles interchangeable and fully protected by adjustable guards. Belt and pulleys completely guarded. Table: 22' × 33'' milled slot for miter gauge 34'' x 13/32''.



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