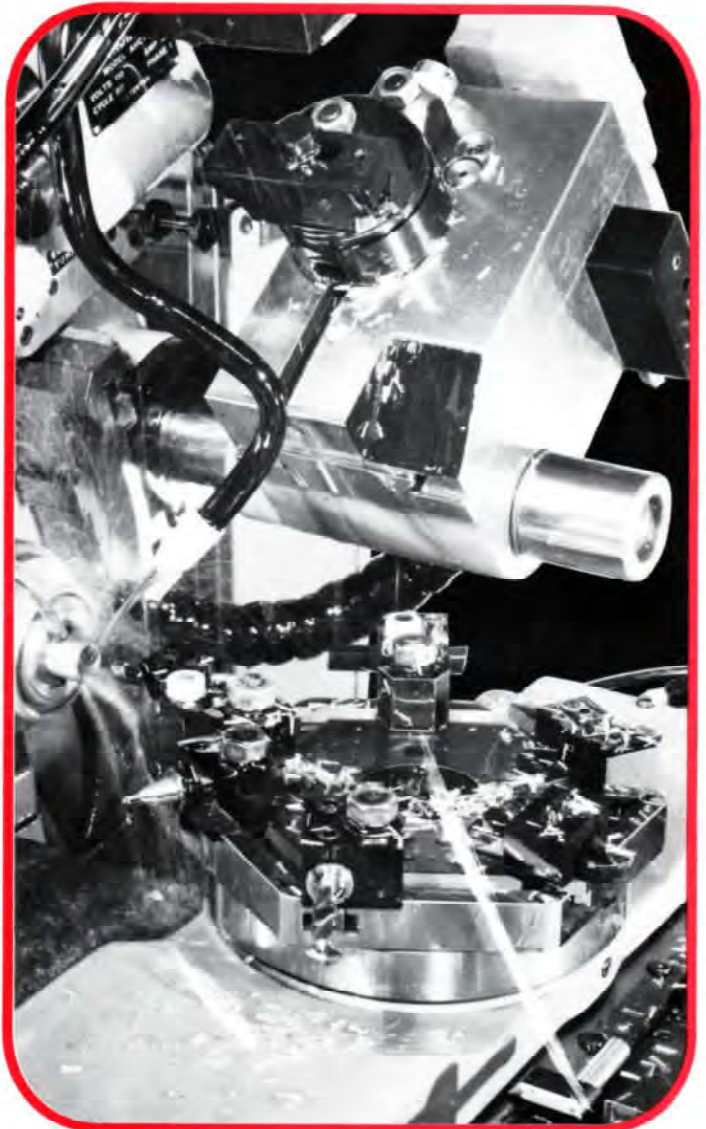


**HARDINGE**  
*SUPER-PRECISION*

**MACHINE  
TOOLS**



**GENERAL  
CATALOG**

**HARDINGE**  
SUPER-PRECISION®

## Computerized N/C

### CHNC® CHUCKER and BAR MACHINES

with Axis Repeatability within 50 Millionths of an Inch

Now Available  
with 4000 RPM  
Spindle Drive



Shown with  
General Numeric  
Control

#### CHNC®-5C and CHNC-16 Chuckers

The Super-Precision® CHNC Chucker and Bar Machines provide offset capabilities of .000010" (1/4 Micron) and Direct CSS/RPM Programming. The CHNC Chuckers are available with a 4000 rpm Inland drive, which delivers a maximum continuous seven horsepower.

The totally enclosed CHNC Chuckers permit super-close production tolerances and low micro finishes without grinding. The new guard, with extra thick Lexan® and reinforced frame, provides an improved enclosure to better confine chips and coolant.

The vertical cutoff slide, the part pickup chute and the Hardinge Pneumatic Vari-Grip® Collet Closer are standard equipment. The CHNC Chuckers use 3/8" square and 5/8" round tooling with the interchangeable 3/8" turret top plate or 1/2" square and 5/8" or 3/4" round tooling with the 1/2" top plate.

Request Bulletin C-57 for complete details.

Lexan is a Trademark of the General Electric Company

#### CNC Control Units

A choice of two Computerized Numerical Controls is offered for the HARDINGE CHNC-5C and CHNC-16 Chuckers. The General Numeric GN6T-B Control with Bubble Memory and the Allen-Bradley 7370A Control offer .000010" programmable resolution, as well as the most complete, comprehensive, practical and easy-to-use CNC features available.

##### CHNC-5C Chucker

- 1-1/16" Collet Capacity
- 6" Step Chuck Capacity
- Threading from the Turret
- Optional Spindle Speeds—  
Up to 3000 rpm with Threaded Nose Spindle  
Up to 4000 rpm with A2-5" Spindle

##### CHNC-16 Chucker

- 1-3/8" Collet Capacity—  
1-1/16" with 16C Spindle Adapter
- 6" Step Chuck Capacity
- Threading from the Turret
- Spindle Speeds Up to 4000 rpm
- A2-5" Spindle

# SUPER-PRECISION® PRODUCTION MACHINES

## Computerized Numerical Control from

### General Numeric

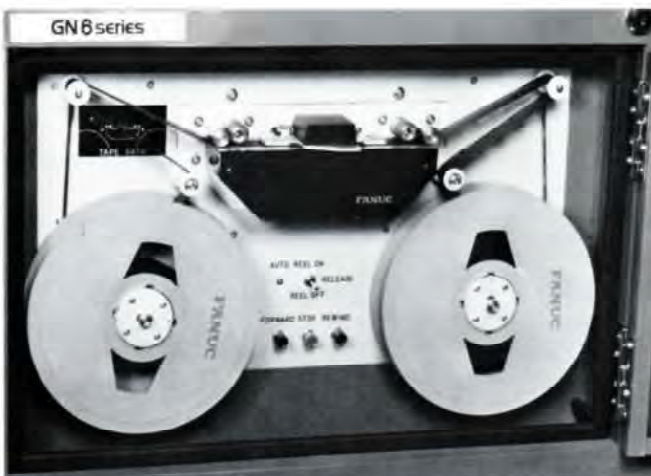


#### CONTROL PANEL

Alpha-numeric keyboard for manual data entry, editing and offset capabilities.

The 9" CRT display provides easy-to-read program information. Test and diagnostic system provides convenient method of pinpointing areas requiring maintenance.

Part programs can be loaded by tape, keyboard or remotely through the RS-232-C and ASR Teletype Interfaces.



#### TAPE READER

Photoelectric Tape Reader reads up to 300 characters/second of 1" punched tape and has automatic selection of EIA or ASCII (ISO) code.

Automatic tape rewind, parity and chad detection, multiple block buffer and part storage for approximately 132 feet (40 meters) of tape are standard.

### Allen-Bradley



#### CONTROL PANEL

Complete alpha-numeric for manual data entry and a 12" CRT for program information display.

Part programs can be loaded by tape, remotely through the RS-232-C Interface, or by keyboard. Operator messages, editing and offset information can be entered by keyboard.

Application Logic (PAL) allows rapid troubleshooting of machine interface logic in familiar ladder-diagram form. Primary and Secondary System Diagnostics provide a convenient method of locating areas requiring maintenance.



#### TAPE READER

Photoelectric Tape Reader reads up to 200 characters/second of 1" punched tape and has automatic selection of EIA or ASCII (ISO) code. Automatic tape rewind, parity and chad detection, multiple block buffer and part storage of approximately 90 feet (27 meters) of tape are standard.

**HARDINGE**  
SUPER-PRECISION®



## Specifications:

6" Step Chuck Capacity  
1½" Collet Capacity  
Speeds to 3000 rpm  
Infinitely Adjustable Feeds  
Cross Slide Travel 3"  
Carriage Travel 8"  
Machine is Completely Enclosed  
Production Threading Unit  
Taper Turn Available

## AHC®-TV Fully Automatic Chucker and Bar Machine

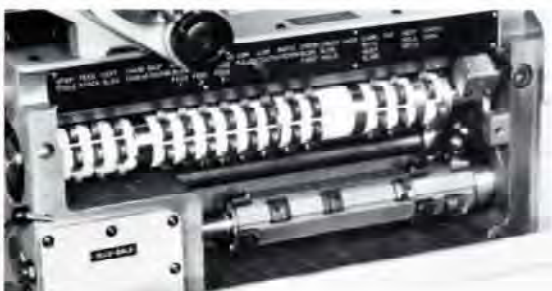
The AHC-TV Fully Automatic Chucker and Bar Machine has a simple direct unit for programming automatic cycle, including the closing and opening of collets, operation of the cross slide, carriage, vertical slide, automatic threading unit, and all six stations of the turret. The AHC-TV Automatic can turn, face, bore and thread with ONE Chucking and ONE Handling.

The totally enclosed, self-contained Automatic Chucker and Bar Machine permits super-close production tolerances and low micro inch finish without grinding. The transparent front guard door is electrically interlocked with cycle start.

Highlighting the list of several new features are the taper turn, taper bore, or taper face capabilities.

*Request Bulletin C-55 for complete details.*

### Simple Direct Programming



Guard door open for clarity

### Simply Push A Button

Once the machine has been set up and programmed, the operator is required only to push the cycle start button for completely automatic production.

Selector switches permit manual operation for setup of vertical slide, spindle direction, speed change, index, chasing head, turret four-way switch and part chute for setting tooling, stop screws, feed rates, etc.

**HARDINGE**  
SUPER-PRECISION<sup>®</sup>



**Specifications:**

- 1 $\frac{1}{16}$ " Collet Capacity
- 2 Independent Cross Slides
- 1 Vertical Slide
- 6-Station Turret
- Infinitely Adjustable Feeds
- Speeds to 4200 rpm

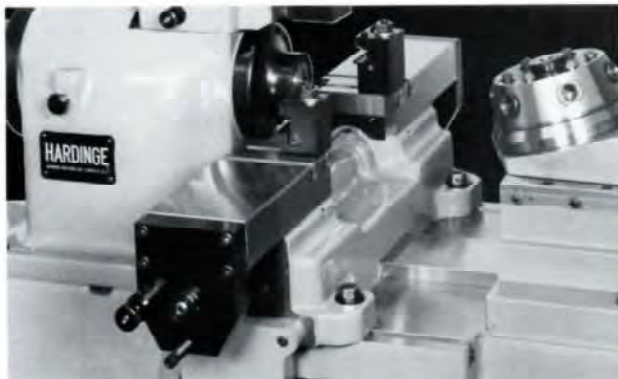
## DSM<sup>™</sup>A Bar and Second Operation Automatic

The DSM-A Bar and Second Operation Automatic provides fully automatic production for bar work and second operation chucking. Instant direct programming is accomplished at the machine. Simply press the trip blocks to instantly position with finger pressure. The trip blocks operate micro switches which control the six turret positions, front and rear slides, vertical slide, spindle speed change and other programming functions to produce Super-Precision results.

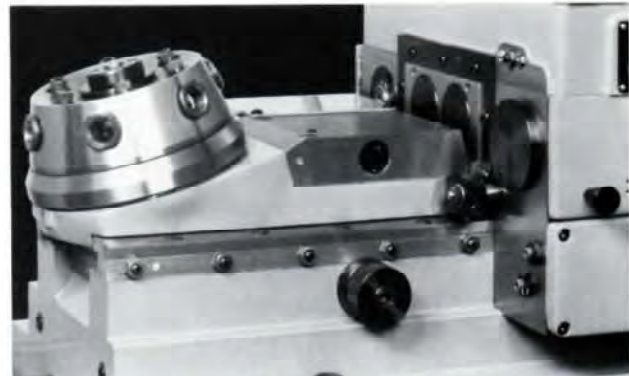
A wide variety of operations can be accomplished with low-cost standard tooling applied to the nine tooling positions to simplify fast setup and fast changeover from job to job. With a Hardinge Bar Feed you can instantly change over from second operation to bar work. Each turret station, two cross slides and the vertical slide have infinitely variable feeds to handle different materials and work configurations.

The DSM-A Automatic assures precision results at minimum cost.

*Request Bulletin C-25 for complete details.*



Independent Cross Slides



Six-Station Turret



Shown with Optional  
Pedestal and Double  
Tool Cross Slide

**HARDINGE**  
SUPER-PRECISION<sup>®</sup>

## HSL<sup>™</sup>-59 Speed Lathe

For simple lathe operations, the HSL-59 Speed Lathe is limited only by your imagination. With the wide range of interchangeable tooling and attachments available, the HSL-59 Lathe can be used to face, chamfer, drill, turn, external thread, radius turn, taper turn, form, knurl and cutoff.

An operator tending an automatic lathe can easily do a second operation on the HSL-59 Lathe while the automatic is cycling.

The Speed Lathe compactness permits installation on a work bench or is available with welded steel pedestal base.

*Request Bulletin C-30.*

### Specifications:

1½" Collet Capacity  
6" Step Chuck Capacity  
5" Jaw Chuck Capacity  
9" Swing  
Speeds to 3000 rpm

## TFB<sup>™</sup>-H Production Lathe

A high speed machine for precision power feed turning, facing and boring. Easy and fast to operate, the TFB-H Lathe is a rugged machine intended for manufacturing parts which do not require thread cutting operations.

*Request Bulletin C-20 for complete details.*

### Specifications:

1½" Collet Capacity  
6" Step Chuck Capacity  
5" Jaw Chuck Capacity  
11" Swing  
18" Center Distance  
Speeds to 3000 rpm  
Independent Electric  
Variable Feeds  
Transparent Chip and  
Coolant Shield





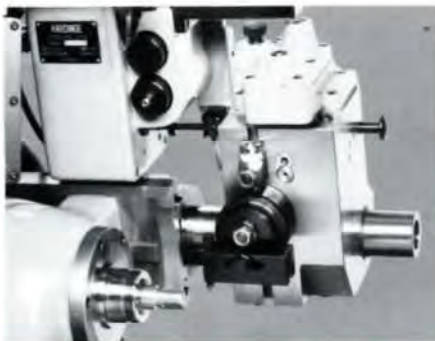
## HC™-AT With Automatic Threading Head

The HC-AT Chucking Machine can finish diameters, shoulders and end faces, and cut precision threads in one setting — all concentric with each other. Adjustable, exact cutting positions produce close tolerance parts on a production basis.

*Request Bulletin C-41.*

### Specifications:

- 6" Step Chuck Capacity
- 1 $\frac{1}{16}$ " Collet Capacity
- 5" Jaw Chuck Capacity
- 9" Fixture Diameter
- 8-Station Turret
- Speeds to 3000 rpm
- Independent Electric Variable Feeds
- 6" External, 5" Internal Max. Diameter for Threading
- 1 $\frac{3}{4}$ " Maximum Length for Threading
- 12-64 Pitch Threads (Lead Screw and Follower)
- Transparent Chip and Coolant Shield



Automatic Threading Unit



Tool Storage Compartment



Selector Speed Control



Fast Lever Collet Chucking



Independent Electrical Variable Feeds

# SUPER-PRECISION<sup>®</sup> PRODUCTION MACHINES



## DSM<sup>™</sup>-59 Bar and Second Operation Machine

This time-tested production machine is easy to set up and enables relatively inexperienced operators to turn out parts rapidly within close tolerances and to fine finish. Operations on this machine reduce expensive tooling, up-keep and downtime.

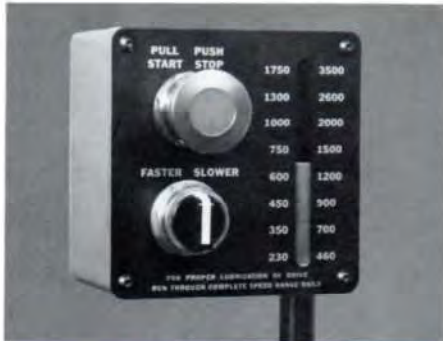
*Request Bulletin C-10 for complete details.*

### Specifications:

- 1 1/8" Collet Capacity
- 6" Step Chuck Capacity
- 5" Jaw Chuck Capacity
- 9" Fixture Diameter
- 6 Position Turret
- Two Cross Slide Positions
- Speeds to 3500 rpm
- Transparent Chip and Coolant Shield



Shown with Optional Turret Tooling



Infinitely Variable Spindle Speeds



Six-Station Turret



Double Tool Cross Slide



Fast Lever Collet Chucking



Speed Control Levers



# SUPER-PRECISION® TOOLROOM MACHINES



## HLV™-H 10" Toolroom Lathe

The Hardinge Super-Precision Toolroom Lathe meets the close tolerance and fine finish requirements of toolrooms, laboratories, and research and development departments.

The HLV-H Toolroom Lathe fills the gap between the plain precision lathe and the heavy-duty engine lathe. Its infinitely variable speeds and feeds permit the toolmaker to perform all operations needed for creating prototypes, turning and threading, collet work and jaw chucking. The Hardinge Toolroom Lathe is also available with all metric dials and gearbox for threading.

*Request Bulletin C-15 for complete details.*

### Specifications:

- 1½" Collet Capacity
- 6" Step Chuck Capacity
- 18" Center Distance
- Thread Range 11 to 108
- 11" Swing
- Speeds to 3000 rpm
- Transparent Chip and Coolant Shield

**HARDINGE**  
SUPER-PRECISION

Shown with Optional  
Worklight



Infinitely Variable  
Spindle Speeds



Independent Electric  
Variable Feeds



Gearbox for Threading Only



Solid Full Bearing Tailstock



Super-Precision  
Preloaded Ball  
Bearing Spindle

# SUPER-PRECISION® TOOLROOM MACHINES



## DV™-59 Model Shop Lathe

Designed to meet the requirements of extreme lasting accuracy, high spindle speeds, and the ease in operation required for the smaller diameter work range found in every toolroom, laboratory, and production department.

*Request Bulletin C-5 for complete details.*

### Specifications:

1½" Collet Capacity  
6" Step Chuck Capacity  
5" Jaw Chuck Capacity  
9" Swing  
Speeds to 3500 rpm

Transparent Chip and Coolant Shield

**HARDINGE**  
SUPER-PRECISION



Gearbox Thread Range  
11 to 108 English  
.275 to 2.7 mm

## HLV™-EM ENGLISH/METRIC Toolroom Lathe

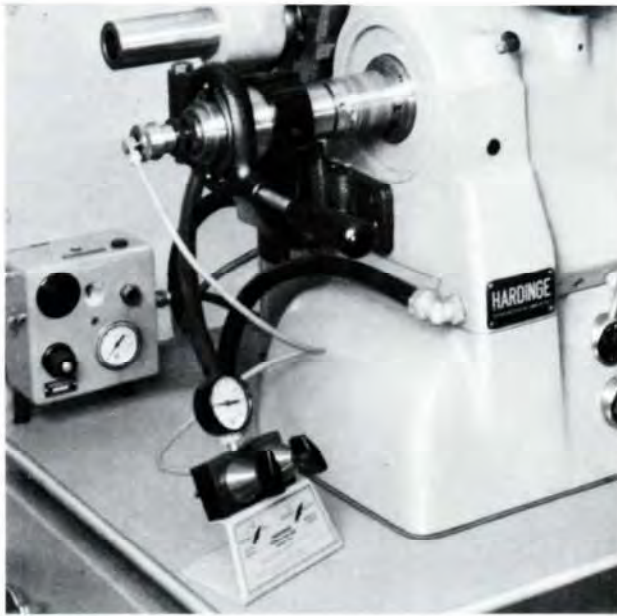
Cut English or Metric Threads through the gearbox by simply turning the shift knob. With outside change gears, pitches from 10 to 250 threads per inch or from 3.00 to .10mm can be cut.

All feed screws and the carriage handwheel have dual dials with sliding covers to expose only the dial in use.

*Request Bulletin C-16 for complete details.*



# SUPER-PRECISION<sup>®</sup> TOOLING



## HF<sup>®</sup>1 Spindle Bar Feed

The **HF-1 Spindle Bar Feed** is ideal for the small shop or limited floor space installation.

The range of the air-operated HF-1 is 1/32" round to and including 3/4" round and it will handle bars up to two feet in length. This unit rotates with the spindle, eliminating whip and bar rattle commonly associated with bar feed units.

*Request Bulletin C-200 for complete details.*



## Optional Tool Pre-Setter<sup>™</sup> Unit

The Optical Tool Pre-Setter is available for use with Hardinge Numerical Control Chuckers. Production interruptions are significantly reduced because the Pre-Setter permits tooling to be preset off and away from the machine on an interchangeable top plate by a semi-skilled worker.

*Request Bulletin C-247.*



The Hardinge-designed and manufactured Bar Feed provides quiet operation, economy and efficient performance. By equipping your Hardinge production machine with the low-cost pneumatic bar feed, you can easily change over from chucking to bar work. Two lengths are available. The HF-6 will accommodate a six-foot bar and the HF-12 will take bars up to twelve feet in length.

*Request Bulletin C-240 for complete details.*

## HF<sup>®</sup>6 and HF<sup>®</sup>12 Spindle Bar Feeds



# 5C SPINDLE TOOLING

For complete information request Bulletin HA-202.



5C Collets  
(see page 14)



Dead Length Work Stops



Dead-Length® Collet



Expanding Collet



Step Chucks



Collet Stops



Dead-Length® 2' Step Chuck



Master Expanding Collet



Face Plates



Fixture Plates



Independent Jaw Chuck



Universal Jaw Chuck



# SHANK TOOLING

For complete information request Bulletin C-226.



Knurling Holder



Knee Tool



Adjustable Knee Tool



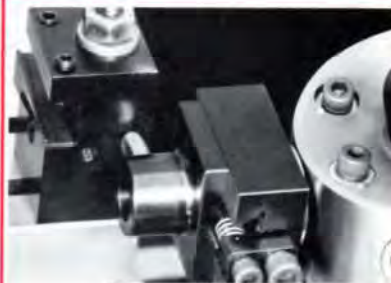
Fine Adjustable Knee Tool



Collet Releasing Tap Holder



Slide Tool



Recessing Tool



Tool Holder Bushings



Adjustable Revolving Stock Stop



Tool Holder Extension



Collet Type Holder



Adjustable Holder

# CHUCKER TOOLING

For complete information request Bulletin C-55.

**HARDINGE**  
SUPER-PRECISION



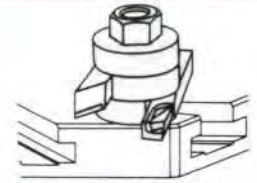
Boring Tool Adapter



Knurling Tool



Cutoff Tool



Universal Tool Post



Fine Adjustable Tooling



Triple Tool Holder



Single and Double Tool Holders



Extension Tool Holder



Fine Adjustable Tooling



Drill and Shank Tool Holder



Extension Tool Bit Holder



Boring Tool Holder

# MACHINE ATTACHMENTS and TOOLING

**HARDINGE**  
SUPER-PRECISION



Contour Tracing Attachment for HLV-H & TFB-H



Tailstock Tooling For DV-59, HLV-H & TFB-H



Radius Turning Attachment For DV-59, HLV-H, TFB-H & HSL-59



Fast-Change Tool Holder For DV-59, HLV-H, TFB-H & HSL-59

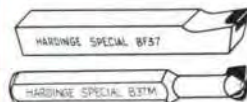


Quick-Acting Recessing Tool for DSM-59 and HC Machines

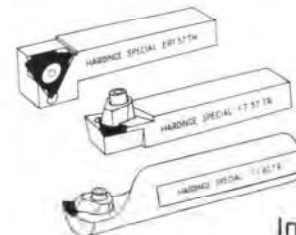


Taper Slide For HC

Tool Setting Gages for All Lathes



Carbide Cutting Tools



Indexable Insert Tooling



Round



Hexagon



Square



Metric



Decimal



## The Hardinge 5C Collet

The Hardinge 5C Collet is manufactured to exacting standards from special alloy steel. The threads are heat treated and the body spring tempered to assure accuracy and durability at low cost.

Hardinge 5C Collets offer a through-capacity to and including 1 1/16" round, 7/8" hexagon and 3/4" square.

### Stock Delivery

A complete selection of standard sizes and shapes, and some not so standard, is available for immediate off-the-shelf delivery from a Hardinge stocking office near you.

5C Collets are stocked in all fractional sizes of round, hexagon and square to capacity. In addition, round collets are stocked in metric, decimal, letter and number sizes. Round-serrated, taper hole and even rectangular collets, in popular sizes, are also available for stock delivery.

### 5C-E Emergency Collets

The soft face and pilot hole of the 5C-E Emergency Collets permit rapid drilling, boring or stepping out to the exact size required. 5C-E Emergency Collets have internal threads for positive stops.

Request 5C Spindle Tooling Bulletin HA-202.



Taper Hole



Number and Letter



Serrated



Rectangular



5C-E Emergency



### Hardinge-Sjogren Speed Collet Chucks

Five-Collet Capacity Sizes: 1 1/16", 1 3/8", 1 3/4", 2 1/4", 3 1/2".

A Hardinge-Sjogren Speed Collet Chuck gives greater capacity, saves time, increases accuracy and assures better results.

It is readily adapted for use on the spindle nose of your lathes, takes precision collets — enabling the operator to do better work ... faster!

Request Sjogren Bulletins for Toolroom Lathes, Engine Lathes and Grinders.



### Hardinge Collets for Lathes and Millers

The name HARDINGE is a guarantee of accuracy and durability. Collets in all sizes are in stock for American, Cincinnati, Hardinge, Hendey, LeBlond, Lehmann, Lodge & Shipley, Monarch, Pratt & Whitney, Sebastian, South Bend, Springfield and other lathes and milling machines.

Request Bulletin HA-5.



### Collets, Feed Fingers and Pads for Brown & Sharpe Machines

Brown & Sharpe Collets & Feed Fingers are available in fractional round, hexagon, square and decimal round sizes, round and hexagon serrated collets, extended nose, short bearing, angular slotted & rectangular collets, milled-thru-end feed fingers and finished burring collets.

Request Bulletin HA-110.



### Hardinge Solid Collets, Master Collets and Pads

For your turret lathes — Advance, Bardons & Oliver, Defiance, Diehl, Foster, Gisholt, Jones & Lamson, Logan, Midland, Morey, Oster, Pratt & Whitney, Simmons, Warner & Swasey.

*Request Catalog No. 36.*

## Master Collets, Feed Fingers and Pads

### Style "S"

Master Collet and Pads



For better performance at lower cost—Hardinge offers the only Master Collet with no work pressure on the screw and the only Master Feed Finger with no screws or pins to cause trouble.

Hardinge Style "S" Master Collets and Style "B" Master Feed Fingers are available for: Cleveland, Cone, Greenlee, Gridley and Acme-Gridley, National Acme, New Britain, and Warner & Swasey.

*Request Catalog No. 36.*

### Style "B"

Master Feed Finger and Pads



### Hardinge Collets and Feed Fingers for Automatics

For your automatic screw machines — Acme-Gridley, B.S.A., Cleveland, Cone, CVA, Davenport, Greenlee, Gridley, Index, National Acme, New Britain, Traub, Warner & Swasey and Wickman.

*Request Catalog No. 36.*

### Style "AF" Master Feed Finger

with Snap-in Bushings and Pads



HARDINGE Style "AF" Master Feed Fingers, with Snap-in Bushings and Pads are available for: Acme-Gridley, Brown & Sharpe, Cone, Davenport, Greenlee, Gridley, and New Britain.

The Hardinge "AF" Master Feed Finger is designed for maximum operating efficiency and low cost.

The low-cost hardened steel or chromed hardened steel pads are adjustable for exact tension to properly feed bars or tubing.

*Request Bulletin HA-175.*



### Special Shapes

For holding odd shaped parts or extruded stock, Hardinge will manufacture a special Collet to fill your requirements.

For an estimate, send a sample, print or diagram to your nearest Hardinge office.



# FOR SALES AND SERVICE

## ARIZONA — Phoenix

- \* Hardinge Brothers, Inc.  
3218 South Fair Lane  
Tempe, Arizona 85282  
Phone: 602-966-1493  
Telex: 165-784

## CALIFORNIA

### Los Angeles

- D\* Hardinge Brothers, Inc.  
4480 E. Olympic Boulevard  
Los Angeles, California 90023  
Phone: Sales 213-268-8225  
Service 213-268-8520  
Telex: 67-4939

### San Francisco

- \* Hardinge Brothers, Inc.  
1957 Old Middlefield Way  
Mountain View, California 94043  
Phone: 415-961-5441  
Telex: 34-8434

## COLORADO — Denver

- Duboc-Lane & Monckton, Inc.  
637 Osage Street  
Denver, Colorado 80204  
Phone: 303-623-1261  
Telex: 4-5606

## CONNECTICUT — Hartford

- \* Hardinge Brothers, Inc.  
87 Holmes Road  
Newington, Connecticut 06111  
Phone: 203-666-4641  
Telex: 99-245

## FLORIDA — St. Petersburg

- \* Hardinge Brothers, Inc.  
11203 49th St. North Route 1  
Clearwater, Florida 33520  
Phone: 813-576-4904  
Telex: 52-3469

## GEORGIA — Atlanta

- R. O. Deaderick Company, Inc.  
45 Technology Park/Atlanta  
Norcross, Georgia 30092  
Phone: 404-448-2793  
Telex: 37917 RODCO KXV

## ILLINOIS — Chicago

- D\* Hardinge Brothers, Inc.  
5244 W. Diversey Avenue  
Chicago, Illinois 60639  
Phone: 312-685-7242  
Telex: 25-3880

## INDIANA — Indianapolis

- Hardinge Brothers, Inc.  
2121 E. 56th St.  
Indianapolis, Indiana 46220  
Phone: 317-259-7779  
(Answering Service)

## KANSAS — Wichita

- Kansas-Oklahoma Machine Tools, Inc.  
P.O. Box 11263  
2234 South Mead  
Wichita, Kansas 67202  
Phone: 316-267-7308

## MARYLAND — Baltimore

- Hardinge Brothers, Inc.  
P.O. Box 202  
Riderwood, Maryland 21139  
Phone: 301-825-1666  
(Answering Service)

## MASSACHUSETTS

### Natick

- \* Hardinge Brothers, Inc.  
211 Oak Street  
Natick, Massachusetts 01760  
Phone: 617-653-2770  
Telex: 94-8454

### Boston Area

- Phone: 617-969-7980

## MICHIGAN — Detroit

- \* Hardinge Brothers, Inc.  
1302 Anderson Road  
Clawson, Michigan 48017  
Phone: 313-435-0060  
Telex: 23-0638

## MINNESOTA — Minneapolis

- \* Milton Granquist Company  
3515-48th Avenue North  
Minneapolis, Minnesota 55429  
Phone: 612-533-6300  
Telex: 29-0723

## MISSOURI — St. Louis

- \* Lee Hornery Company  
P.O. Box 12766  
St. Louis, Missouri 63141  
Phone: 314-432-4115  
TWX: 910-763-0795

## NEW JERSEY — Springfield

- \* Hardinge Brothers, Inc.  
44 Commerce Street  
Springfield, New Jersey 07081  
Phone: 201-376-2530  
Telex: 13-8288

## NEW YORK

### Rochester

- \* Hardinge Brothers, Inc.  
1796 Lyell Avenue  
Rochester, New York 14606  
Phone: 716-458-5052  
Telex: 97-8282

### New York City

- Phone: 212-925-9677

## MAIN OFFICE & FACTORY

- D \* Hardinge Brothers, Inc.  
Elmira, New York 14902  
Phone: 607-734-2281  
Telex: 93-2471

## NORTH CAROLINA — Charlotte

- \* Hardinge Brothers, Inc.  
1020 Commercial Drive  
Matthews, North Carolina 28105  
Phone: 704-821-9222  
Telex: 57-2580

## OHIO

### Dayton

- \* Hardinge Brothers, Inc.  
3015 Production Court  
P.O. Box 14211  
Dayton, Ohio 45414  
Phone: 513-890-6750  
Telex: 28-8298

### Cleveland

- Mr. Paul Brown  
2544 E. 128th Street  
Shaker Heights, Ohio 44120  
Phone: 216-229-6116  
(Answering Service)

- \* Stocking Location  
D Demonstration Room

## OKLAHOMA — Tulsa

- MARSUCO, Inc.  
7333 East 38th Street  
Tulsa, Oklahoma 74145  
Phone: 918-665-3002

## OREGON — Portland

- \* Beaver State Machinery Co.  
1309 S. E. Division Street  
Portland, Oregon 97202  
Phone: 503-232-4404

## PENNSYLVANIA

### Glenolden

- \* Hardinge Brothers, Inc.  
P.O. Box 107  
18 East Glenolden Avenue  
Glenolden, Pennsylvania 19036  
Phone: 215-534-2226  
Telex: 835-388

### Philadelphia Area

- Phone: 215-729-8696

### Pittsburgh

- Phone: 412-343-0606  
(Answering Service)  
Phone: 215-534-2226  
(Stocking Office)

## TEXAS

### Dallas

- \* P. D. Browne Company  
P.O. Box 29187  
Dallas, Texas 75229  
or  
2636 Brenner Dr.  
Dallas, Texas 75220  
Phone: 214-357-8244  
Telex: 73-0562

### Houston

- P. D. Browne Company  
16740 Hedgecroft  
Suite 400  
Houston, Texas 77060  
Phone: 713-931-9378  
Telex: 77-4458

## WASHINGTON — Seattle

- \* L. C. Keir Company, Inc.  
23831 S. E. Tiger Mountain Road  
Issaquah, Washington 98027  
Phone: 206-392-6493

## WASHINGTON, D.C. — College Park, MD

- George E. Viereck & Company, Inc.  
4914 Lehigh Road  
College Park, Maryland 20740  
Phone: 301-277-0175

## AUSTRALIA — Melbourne

- D\* Hardinge Australia Pty. Ltd.  
P.O. Box 91 Mt. Waverley 3149  
Victoria, Australia  
Phone: 03-544-9411  
Telex: AA 36929

## CANADA

### Stratford

- \* Canadian Hardinge Machine Tools, Ltd.  
P.O. Box 573  
232 Lorne Avenue, East  
Stratford, Ontario, Canada  
Phone: 519-271-6440  
Telex: 069-55139

### Montreal

- Phone: 514-636-8323

### Toronto

- Phone: 416-364-1675

## MEXICO — Mexico, D.F.

- \* J. Raul Dominguez  
Apartado 94-11  
Av. Irrigacion #37  
Mexico 10, D.F., Mexico  
Phone: 557-13-48