

Schill

HARDINGE
ELMIRA, N.Y.

FAST - ACCURATE

HARDINGE - SJOGREN

SPEED

COLLET CHUCKS

FOR

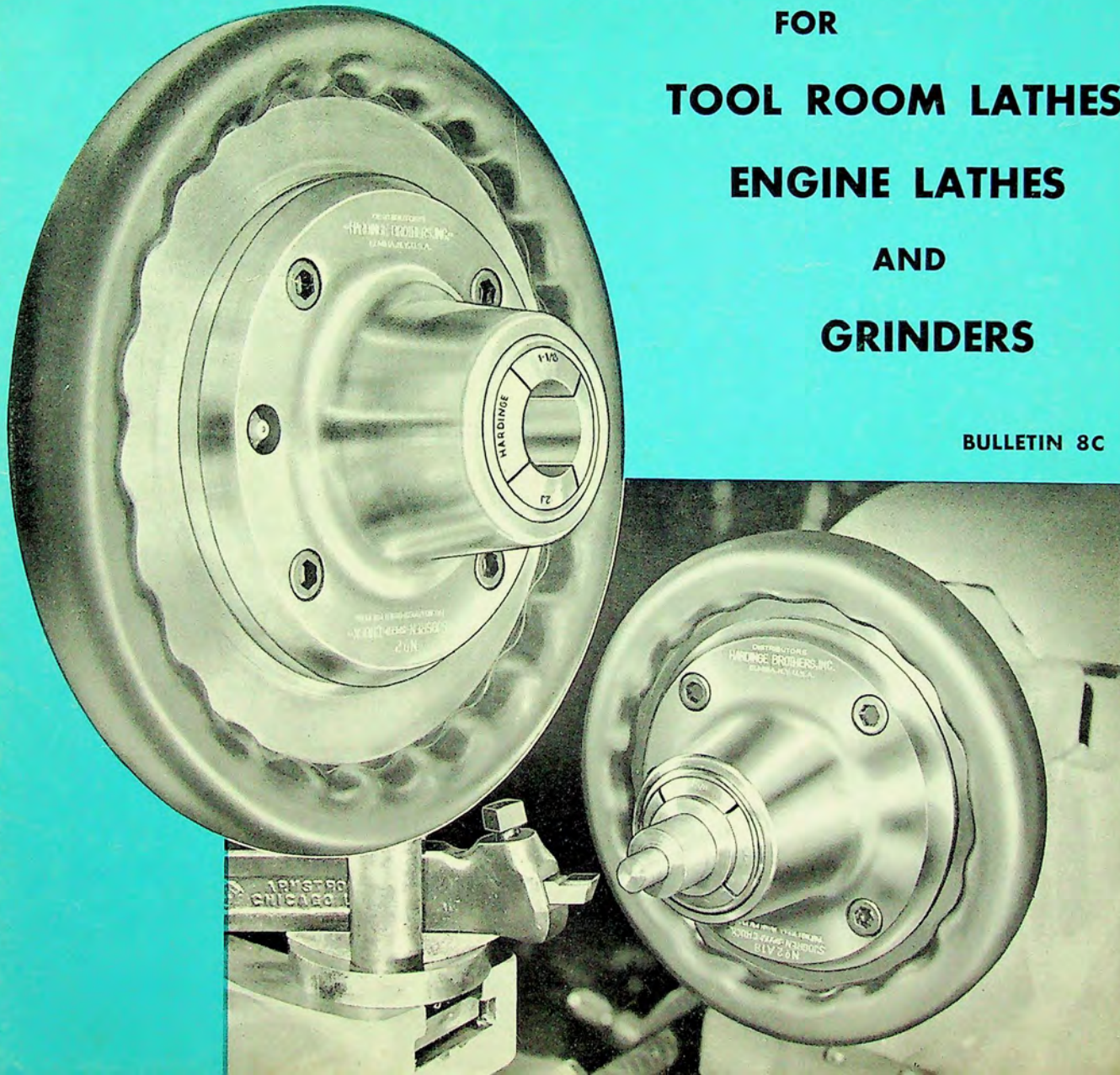
TOOL ROOM LATHES

ENGINE LATHES

AND

GRINDERS

BULLETIN 8C



HARDINGE - SJOGREN SPEED COLLET CHUCKS



REGULAR TYPE

The regular type Hardinge-Sjogren Speed Collet Chucks have proven through the years to be the most versatile and economical chuck available on the market. This quality and amazingly low cost chuck saves operator time, reduces scrap due to increased accuracy and assures better results.

The regular type chuck is available for threaded nose, cam lock, taper key drive and American standard spindles and adapts steel collets, the only really accurate method of holding stock. Steel collets can be purchased in round, hexagon or square sizes and you buy only the size you need. No extras for the shelves. Equip your tool room lathe, engine lathe, or grinder with an accurate Hardinge-Sjogren Chuck.

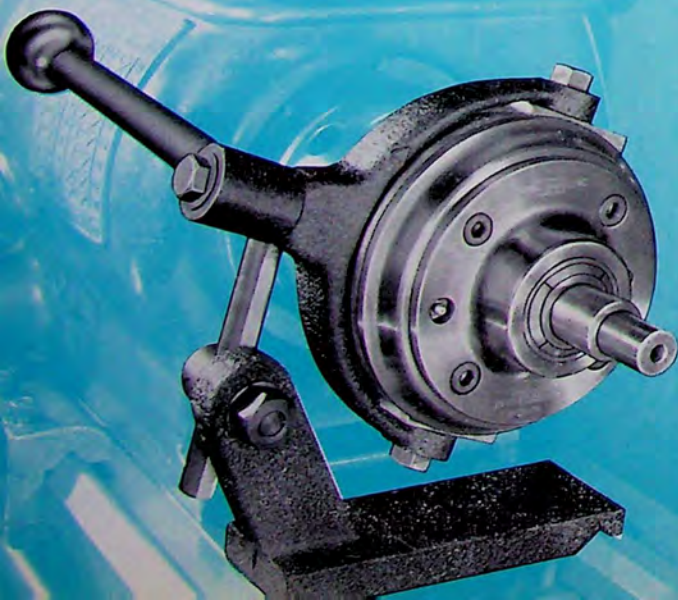
AVAILABLE IN FIVE COLLET CAPACITY SIZES

1/8", 1/4", 3/8", 1/2", 3/4"



STEP CHUCK TYPE

This new model chuck which is an addition to our regular Hardinge-Sjogren line takes both 5C Hardinge Collets and regular 5C Hardinge Step Chucks. An almost effortless turn of the handwheel automatically closes or opens the collet or step chuck. Supplied with either the standard Hardinge taper nose or Hardinge threaded nose to facilitate the use of standard Hardinge step chucks and step chuck closers as used on Hardinge machines. The step chuck type Hardinge-Sjogren chuck is available for threaded nose, cam lock, taper key drive and American standard spindles.



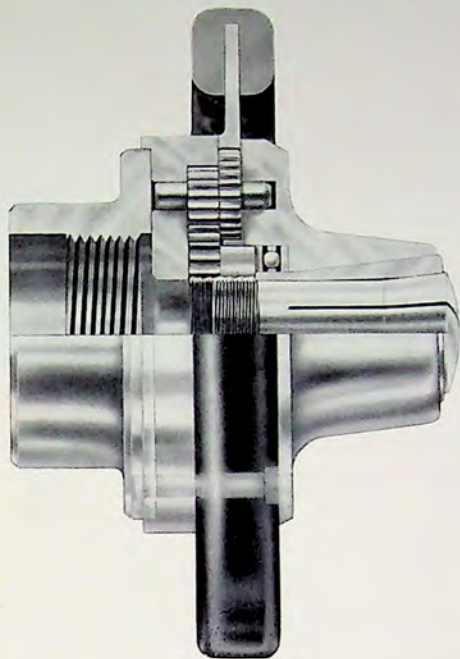
LEVER TYPE

Any tool room lathe or engine lathe can now be converted for rapid production chucking of precision work with the application of a Lever-Operated Hardinge-Sjogren Speed Collet Chuck.

The lever-operated chuck is available for threaded, cam lock, taper key drive or American standard spindle nose in 1/8", 1/4" and 3/8" capacity sizes.

Lever-Operated Hardinge-Sjogren chucks are built with the precision characteristic of all Hardinge products which is your assurance of long life, extreme accuracy, positive gripping action and rapid production.

SAVE TIME and INCREASE ACCURACY



HARDINGE-SJOGREN SPEED COLLET CHUCKS

FOR YOUR
TOOL ROOM LATHES, ENGINE LATHES AND GRINDERS

Are you getting full value from your investment in tool room and engine lathes?

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!

— For Use On —

AMERICAN
AXELSON
BOYE & EMMES
CARROLL & JAMIESON
CINCINNATI
GREAVES-KLUSMAN
HAMILTON
HENDEY

LEBLOND
LEHMANN
LOGAN
MONARCH
PORTER CABLE
PRATT & WHITNEY
RAHN-LARMON
REED-PRENTICE

ROCKFORD
SEBASTIAN
SENECA FALLS
SHELDON
SIDNEY
SOUTH BEND
SPRINGFIELD
WORCESTER

And All Other Tool Room and Engine Lathes

INCREASES CAPACITY: The Hardinge-Sjogren Speed Collet Chuck increases lathe capacity from 25% to 40%. It will accurately hold any bar that can be passed through the spindle. The ordinary collet attachment has a cumbersome draw tube and adapter or sleeve inside the spindle hole. This reduces lathe capacity.

SAVES TIME: The amazingly fast action of the Hardinge-Sjogren Speed Collet Chuck gives it full right to its name! An almost effortless turn of the handwheel, one way or the other, automatically opens or closes the collet, releasing or gripping the work as desired. Its grip is adjustable and sure.

USES LOW COST STEEL COLLETS: Which means maximum production efficiency and minimum cost. Buy only the sizes you use and pay for only what you use.

ELIMINATES KEYS AND WRENCHES: The machinist no longer wastes valuable production time looking for a lost or misplaced wrench or key because the Hardinge-Sjogren Chuck needs none!

INCREASES PRODUCTION: With the Hardinge-Sjogren Speed Collet Chuck, the operator is always in front of his work and he stays there! There is no need to reach over—or to walk back of the lathe headstock—to grip or release material in the collet.

— HANDWHEELS —

The chucks No. 5C, No. 1 and No. 2 can be supplied with small diameter handwheel without extra charge. The small diameter handwheel is $7\frac{3}{4}$ " in diameter and is used on lathes or grinders having a small swing that does not permit the use of the larger 9" or 10" diameter handwheel.

IMPORTANT—If the small diameter handwheel is desired, be sure to specify it on your order.

FOR TOOL ROOM LATHES, ENGINE LATHES AND GRINDERS

Threaded Nose
Spindle
See Pages 4 and 5

Cam Lock
Spindle
See Pages 6 and 7

Taper Key Drive
Spindle
See Pages 8 and 9

American Standard
Spindle
See Pages 10 and 11

HARDINGE Precision Collets and Step Chucks Are Listed on Page 12

HARDINGE - SJOGREN

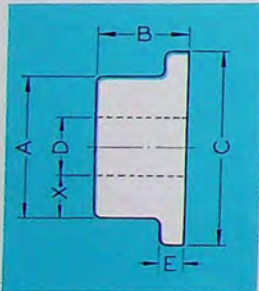
FOR THREADED NOSE SPINDLES



Tool room and engine lathes with threaded nose spindle require an adapter plate to fit the Hardinge-Sjogren Speed Chuck. It is mounted in the same manner as an ordinary 3 or 4 jaw chuck.

A semi-finished adapter plate may be readily obtained from the builder of the lathe with which the Hardinge-Sjogren Speed Chuck is to be used. If desired, we furnish an adapter plate casting for the purpose—refer to the specifications below. Complete information is furnished for the machining of the adapter casting and mounting the chuck.

Your careful machining and fitting of the adapter plate will result in greater precision in the chucking of parts and bar stock. Also, make certain that lathe thrust bearings do not cause runout.



NOTE: When finished to size, dimension "B" should be $\frac{1}{8}$ " longer than spindle nose. This overcomes spindle butting against collet chuck. Dimension "X" should be at least $\frac{3}{16}$ " when finished to size.

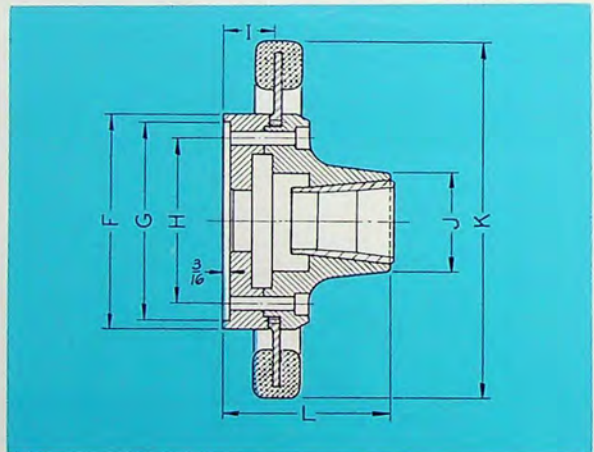
*ADAPTER CASTING SPECIFICATIONS

Chuck Number	A	B	C	D	E	Net Price
5C	3 $\frac{3}{4}$	2 $\frac{1}{4}$	5 $\frac{1}{4}$	1 $\frac{1}{8}$	$\frac{3}{4}$	\$ 7.00
1	3 $\frac{3}{4}$	2 $\frac{1}{4}$	5 $\frac{1}{4}$	1 $\frac{1}{8}$	$\frac{3}{4}$	7.00
2	4 $\frac{1}{4}$	2 $\frac{1}{2}$	6	1 $\frac{1}{2}$	$\frac{3}{4}$	8.00
3	4 $\frac{1}{4}$	2 $\frac{1}{2}$	6	1 $\frac{1}{2}$	$\frac{3}{4}$	8.00
22	4 $\frac{1}{2}$	3	6 $\frac{1}{2}$	1 $\frac{1}{4}$	1	12.50
35	5	3 $\frac{1}{2}$	8 $\frac{1}{4}$	1 $\frac{1}{4}$	1	17.50

*Applies for all plain back chucks listed on this and opposite page.

REGULAR TYPE PLAIN BACK CHUCK SIZES AND PRICES

Chuck Number	Net Price	Round Capacity	Collet Used See Page 12	Weight Pounds
5C	\$102.00	1 $\frac{1}{16}$	5C HARDINGE	15
1	102.00	1 $\frac{1}{16}$	1J HARDINGE	15
2	105.00	1 $\frac{7}{8}$	2J HARDINGE	19
3	126.00	1 $\frac{3}{4}$	3J HARDINGE	23
22	168.00	2 $\frac{1}{4}$	22J HARDINGE	28
35	330.00	3 $\frac{1}{2}$	35J HARDINGE	36



PLAIN BACK CHUCK SPECIFICATIONS

Chuck Number	F	G	H	I	J	K	L
5C	5 $\frac{1}{2}$	5	4 $\frac{1}{4}$	1 $\frac{1}{16}$	2 $\frac{1}{4}$	9"	4 $\frac{1}{4}$
1	5 $\frac{1}{2}$	5	4 $\frac{1}{4}$	1 $\frac{1}{16}$	2 $\frac{1}{4}$	9"	4
2	6 $\frac{1}{8}$	5 $\frac{3}{4}$	4 $\frac{5}{8}$	1 $\frac{1}{8}$	2 $\frac{5}{8}$	10"	4 $\frac{1}{4}$
3	6 $\frac{1}{2}$	5 $\frac{3}{4}$	5	1 $\frac{1}{16}$	3 $\frac{1}{8}$	10	4 $\frac{3}{8}$
22	7	6 $\frac{1}{4}$	5 $\frac{1}{4}$	1 $\frac{3}{16}$	3 $\frac{5}{8}$	10	4 $\frac{7}{8}$
35	8 $\frac{3}{8}$	7 $\frac{3}{4}$	6 $\frac{3}{4}$	1 $\frac{1}{4}$	5 $\frac{1}{4}$	11 $\frac{3}{4}$	6

*Small 7 $\frac{3}{4}$ " dia. handwheel available without extra charge. To order chuck with small handwheel add letter "A" to chuck number, i.e. 5CA. This will indicate small handwheel is required.

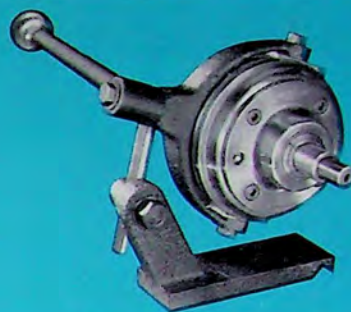
Four hollow head cap screws are furnished with each Plain Back HARDINGE-SJOGREN Speed Collet Chuck. The cap screws for the Number 5C, 1, 2 and 3 chucks have $\frac{3}{16}$ -16 threads—Number 22 chucks have $\frac{1}{2}$ -13 threads—Number 35 chucks have $\frac{3}{8}$ -11 threads.

For greater accuracy—use HARDINGE Collets with HARDINGE-SJOGREN Chucks

SPEED COLLET CHUCKS



PLAIN BACK CHUCKS
with
TAPER OR THREADED NOSE
TO ADAPT STEP CHUCKS



LEVER TYPE CHUCK

This new model chuck takes both 5C Hardinge Collets and regular 5C Hardinge Step Chucks. Supplied with either the standard Hardinge taper nose or Hardinge threaded nose to facilitate the use of standard Hardinge step chucks and step chuck closers which are carried in stock in 2", 3", 4", 5" and 6" capacity sizes. The new model chuck is available for all machines with threaded nose spindles—see opposite page for mounting instructions. Specifications for body dimensions of these chucks are the same as shown on Page 4 except for nose diameter which is $2\frac{1}{8}$ " on the 5CX chuck and is $2\frac{3}{16}$ " on the 5CT chuck.

STEP CHUCK TYPE PLAIN BACK CHUCK SIZES AND PRICES

Chuck Number*	Net Price	Round Capacity	Collet Used See Page 12	Weight Pounds
5CX	\$157.50	$1\frac{1}{8}$	5C HARDINGE	15
5CT	157.50	$1\frac{1}{8}$	5C HARDINGE	15

*5CX indicates taper chuck. 5CT indicates threaded nose chuck. Specify which one is required when ordering.

SHELDON and SOUTH BEND Lathe owners: The standard Hardinge-Sjogren chuck is available integrally mounted for direct application to the $2\frac{1}{4}$ "-8 threaded nose of Sheldon and South Bend lathes. These chucks are available to adapt 5C or 2J Hardinge collets as outlined at the right. Specify make of lathe when ordering.

REGULAR TYPE CHUCK MOUNTED FOR $2\frac{1}{4}$ "-8 SPINDLE

Chuck Number	Net Price	Round Capacity	Collet Used See Page 12	Weight Pounds
5C	\$146.00	$1\frac{1}{8}$	5C HARDINGE	18
2	154.00	$1\frac{3}{8}$	2J HARDINGE	18

Above 5C chuck with taper or threaded nose — \$199.50

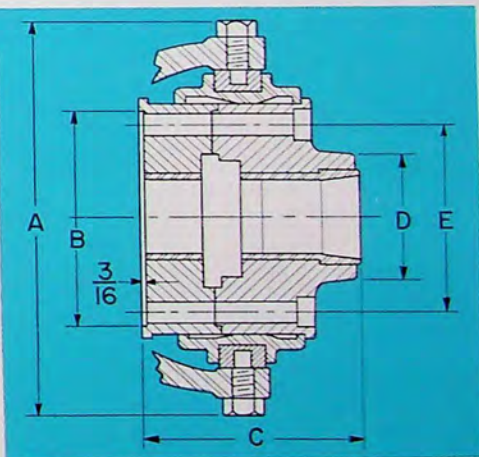
LEVER TYPE

PLAIN BACK HARDINGE-SJOGREN CHUCK

By the application of a Lever-Operated Hardinge-Sjogren Collet Chuck you can convert your tool room lathe or engine lathe for rapid production chucking of precision work.

Lever-operated chucks are assembled to order. A perforated form will be found between pages 10 and 11. Please indicate, on this blank, the bed dimensions of your machine. For proper mounting these dimensions should be accurately measured. Mail this dimension sheet with your order.

NOTE: The No. 5CL, 1L and 2AL lever chucks are of the new smaller improved design and are recommended for the smaller high speed lathes 12" and under.



SIZES AND PRICES

Chuck Number	Net Price	Round Capacity	Collet Used See Page 12	Weight Pounds
5CL	\$263.00	$1\frac{1}{8}$	5C HARDINGE	21
1L	263.00	$1\frac{1}{8}$	1J HARDINGE	21
2AL	263.00	$1\frac{3}{8}$	2J HARDINGE	20
2L	263.00	$1\frac{3}{8}$	2J HARDINGE	41
3L	289.00	$1\frac{3}{4}$	3J HARDINGE	41

SPECIFICATIONS

Chuck Number	A	B	C	D	E
5CL	$8\frac{1}{4}$	$4\frac{1}{8}$	$4\frac{23}{32}$	$2\frac{1}{4}$	$3\frac{3}{8}$
1L	$8\frac{1}{4}$	$4\frac{1}{8}$	$4\frac{11}{16}$	$2\frac{1}{4}$	$3\frac{3}{8}$
2AL	$8\frac{1}{4}$	$4\frac{1}{8}$	$4\frac{23}{32}$	$2\frac{1}{2}$	$3\frac{3}{8}$
2L	10	$5\frac{3}{4}$	$5\frac{7}{32}$	$2\frac{7}{8}$	5
3L	10	$5\frac{3}{4}$	$5\frac{11}{32}$	$3\frac{1}{4}$	5

HARDINGE - SJOGREN

FOR CAM LOCK SPINDLES

REGULAR TYPE
CAM LOCK CHUCK SIZES AND PRICES

Spindle Size	Chuck Number	Net Price	Round Capacity	Collet Used See Page 12
D1-3"	5C	\$110.00	1 $\frac{1}{16}$ "	5C HARDINGE
	1	110.00	1 $\frac{1}{16}$ "	1J HARDINGE
	2	121.00	1 $\frac{3}{8}$ "	2J HARDINGE
D1-4"	5C	110.00	1 $\frac{1}{16}$ "	5C HARDINGE
	1	110.00	1 $\frac{1}{16}$ "	1J HARDINGE
	2	121.00	1 $\frac{3}{8}$ "	2J HARDINGE
	3	144.00	1 $\frac{3}{4}$ "	3J HARDINGE
D1-5"	5C	110.00	1 $\frac{1}{16}$ "	5C HARDINGE
	1	110.00	1 $\frac{1}{16}$ "	1J HARDINGE
	2	121.00	1 $\frac{3}{8}$ "	2J HARDINGE
	3	144.00	1 $\frac{3}{4}$ "	3J HARDINGE
	22	184.00	2 $\frac{1}{4}$ "	22J HARDINGE
D1-6"	5C	110.00	1 $\frac{1}{16}$ "	5C HARDINGE
	1	110.00	1 $\frac{1}{16}$ "	1J HARDINGE
	2	121.00	1 $\frac{3}{8}$ "	2J HARDINGE
	3	144.00	1 $\frac{3}{4}$ "	3J HARDINGE
	22	184.00	2 $\frac{1}{4}$ "	22J HARDINGE
D1-8"	2	132.00	1 $\frac{3}{8}$ "	2J HARDINGE
	3	153.00	1 $\frac{3}{4}$ "	3J HARDINGE
	22	189.00	2 $\frac{1}{4}$ "	22J HARDINGE

REGULAR TYPE
CAM LOCK CHUCK SPECIFICATIONS

A	B	C	D	E	Weight Pounds
2 $\frac{1}{8}$	4 $\frac{3}{4}$	2 $\frac{1}{4}$	9"	1 $\frac{1}{2}$ "	15
2 $\frac{1}{8}$	4 $\frac{1}{2}$	2 $\frac{1}{4}$	9"	1 $\frac{5}{16}$ "	15
2 $\frac{1}{8}$	4 $\frac{3}{4}$	2 $\frac{5}{8}$	10"	1 $\frac{5}{16}$ "	15
2 $\frac{1}{2}$	4 $\frac{3}{4}$	2 $\frac{1}{4}$	9"	1 $\frac{3}{8}$ "	15
2 $\frac{1}{2}$	4 $\frac{1}{2}$	2 $\frac{1}{4}$	9"	1 $\frac{3}{8}$ "	15
2 $\frac{1}{2}$	4 $\frac{3}{4}$	2 $\frac{5}{8}$	10"	1 $\frac{3}{8}$ "	15
2 $\frac{1}{2}$	5 $\frac{1}{8}$	3 $\frac{1}{8}$	10"	1 $\frac{1}{2}$ "	23
3 $\frac{1}{4}$	4 $\frac{3}{4}$	2 $\frac{1}{4}$	9"	1 $\frac{3}{8}$ "	15
3 $\frac{1}{4}$	4 $\frac{1}{2}$	2 $\frac{1}{4}$	9"	1 $\frac{3}{8}$ "	15
3 $\frac{1}{4}$	4 $\frac{3}{4}$	2 $\frac{5}{8}$	10"	1 $\frac{3}{8}$ "	15
3 $\frac{1}{4}$	5 $\frac{1}{8}$	3 $\frac{1}{8}$	10"	1 $\frac{3}{8}$ "	23
3 $\frac{1}{4}$	5 $\frac{1}{2}$	3 $\frac{5}{8}$	10"	1 $\frac{3}{8}$ "	28
4 $\frac{1}{16}$	4 $\frac{3}{4}$	2 $\frac{1}{4}$	9"	1 $\frac{5}{16}$ "	17
4 $\frac{1}{16}$	4 $\frac{5}{8}$	2 $\frac{1}{4}$	9"	1 $\frac{5}{16}$ "	17
4 $\frac{1}{16}$	4 $\frac{7}{8}$	2 $\frac{5}{8}$	10"	1 $\frac{5}{16}$ "	17
4 $\frac{1}{16}$	5 $\frac{1}{4}$	3 $\frac{1}{8}$	10"	1 $\frac{5}{16}$ "	24
4 $\frac{1}{16}$	5 $\frac{3}{8}$	3 $\frac{5}{8}$	10"	1 $\frac{5}{16}$ "	29
5 $\frac{1}{2}$	5	2 $\frac{5}{8}$	10"	1 $\frac{5}{8}$ "	23
5 $\frac{1}{2}$	5 $\frac{3}{8}$	3 $\frac{1}{8}$	10"	1 $\frac{5}{8}$ "	26
5 $\frac{1}{2}$	5 $\frac{1}{2}$	3 $\frac{5}{8}$	10"	1 $\frac{5}{8}$ "	33

*Small 7 $\frac{3}{4}$ " dia. handwheel available without extra charge. To order chuck with small handwheel add letter "A" to chuck number, i.e. 5CA. This will indicate small handwheel is required.

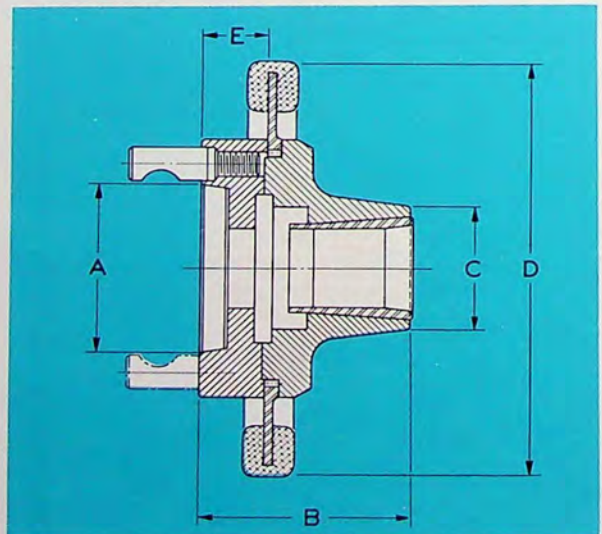
HARDINGE-SJOGREN Speed Collet Chucks are made to fit directly on machines with standard D1-3", D1-4", D1-5", D1-6" or D1-8" Cam Lock Spindles. The Cam Lock mount is an integral part of the Chuck and does not require an adapter plate.

HOW TO IDENTIFY SIZE OF CAM LOCK SPINDLES

Measure the largest diameter of the Cam Lock taper on the machine spindle. Compare this dimension to sizes given under column "A" of the above specifications. When dimensions coincide, refer to "Spindle Size" column at extreme left for correct Cam Lock spindle size.

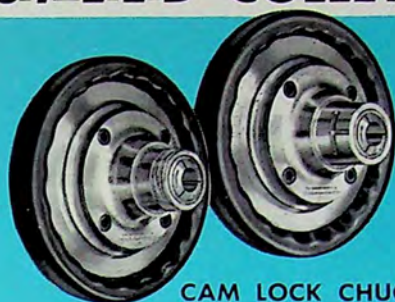
IMPORTANT

When ordering, specify the chuck number and Cam Lock spindle size. This applies for all chucks listed on this page and opposite page.

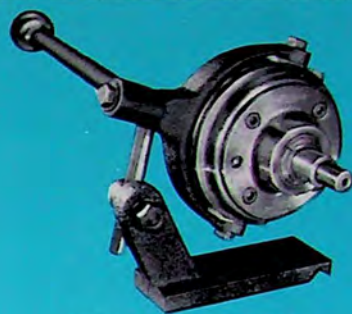


For greater accuracy—use HARDINGE Collets with HARDINGE-SJOGREN Chucks

SPEED COLLET CHUCKS



CAM LOCK CHUCKS
with
TAPER OR THREADED NOSE
TO ADAPT STEP CHUCKS



LEVER TYPE CHUCK

This new model chuck takes both 5C Hardinge Collets and regular 5C Hardinge Step Chucks. Supplied with either the standard Hardinge taper nose or Hardinge threaded nose to facilitate the use of standard Hardinge step chucks and step chuck closers which are carried in stock in 2", 3", 4", 5" and 6" capacity sizes. Specifications for body dimensions of the new model chuck are the same as shown on page 6 except for nose diameter which is 2 1/8" on the 5CX chuck and is 2 3/8" on the 5CT chuck.

STEP CHUCK TYPE CAM LOCK CHUCK SIZES AND PRICES

Spindle Size	Chuck Number*	Net Price	Round Capacity	Collet Used See Page 12	Weight Pounds
D1-3"	5CX	\$168.00	1 1/8"	5C HARDINGE	15
	5CT	168.00	1 1/8"	5C HARDINGE	15
D1-4"	5CX	168.00	1 1/8"	5C HARDINGE	15
	5CT	168.00	1 1/8"	5C HARDINGE	15
D1-5"	5CX	168.00	1 1/8"	5C HARDINGE	15
	5CT	168.00	1 1/8"	5C HARDINGE	15
D1-6"	5CX	168.00	1 1/8"	5C HARDINGE	17
	5CT	168.00	1 1/8"	5C HARDINGE	17

*5CX indicates taper nose chuck. 5CT indicates threaded nose chuck. Specify which one is required when ordering.

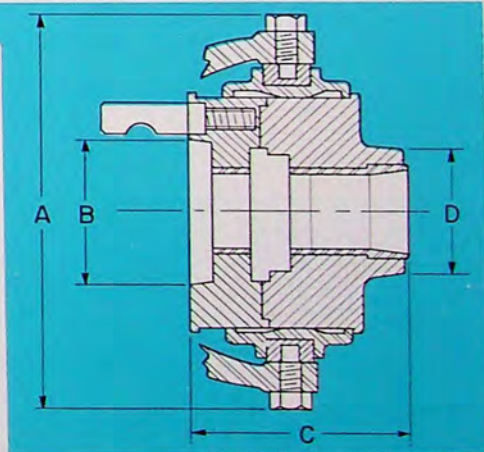
LEVER TYPE

CAM LOCK HARDINGE-SJOGREN CHUCK

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NOTE: The No. 5CL, 1L and 2AL lever chucks are of the new smaller improved design and are recommended for the smaller high speed lathes 12" and under.



SIZES AND PRICES

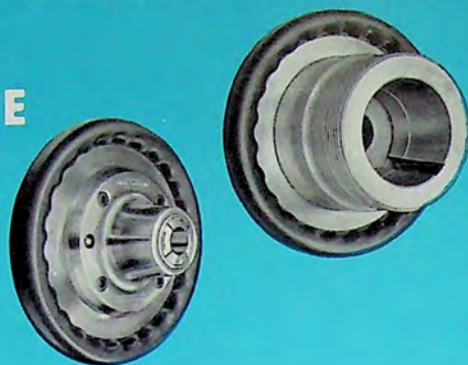
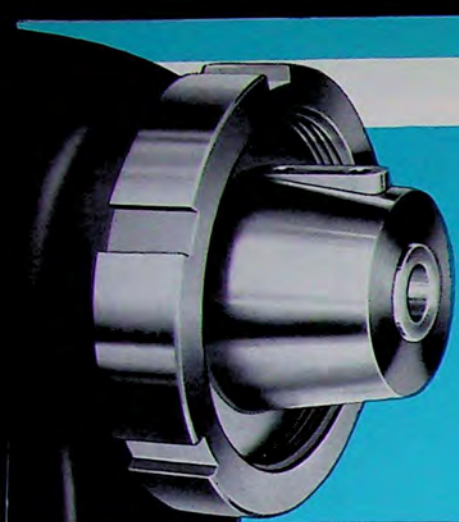
Spindle Size	Chuck Number	Net Price	Round Capacity	Collet Used See Page 12
D1-3"	5CL	\$289.00	1 1/8"	5C HARDINGE
	1L	289.00	1 1/8"	1J HARDINGE
	2AL	289.00	1 3/8"	2J HARDINGE
D1-4"	5CL	289.00	1 1/8"	5C HARDINGE
	1L	289.00	1 1/8"	1J HARDINGE
	2AL	289.00	1 3/8"	2J HARDINGE
D1-6"	2L	289.00	1 3/8"	2J HARDINGE
	3L	310.00	1 3/4"	3J HARDINGE

SPECIFICATIONS

A	B	C	D	Weight Pounds
8 3/4"	2 1/8"	4 31/32"	2 1/4"	22
8 3/4"	2 1/8"	4 11/16"	2 1/4"	22
8 3/4"	2 1/8"	4 29/32"	2 1/2"	21
8 3/4"	2 1/2"	4 31/32"	2 1/4"	22
8 3/4"	2 1/2"	4 11/16"	2 1/4"	22
8 3/4"	2 1/2"	4 29/32"	2 1/2"	21
10	4 3/16"	5 13/32"	2 7/8"	42
10	4 3/16"	5 23/32"	3 1/4"	42

HARDINGE - SJOGREN

FOR TAPER KEY DRIVE SPINDLES



REGULAR TYPE
TAPER KEY DRIVE CHUCK SIZES AND PRICES

Spindle Size	Chuck Number	Net Price	Round Capacity	Collet Used See Page 12
No. 00	5C	\$130.00	1 $\frac{1}{16}$ "	5C HARDINGE
	1	130.00	1 $\frac{1}{16}$ "	1J HARDINGE
	2	134.00	1 $\frac{3}{16}$ "	2J HARDINGE
	3	155.00	1 $\frac{1}{4}$ "	3J HARDINGE
No. 0	5C	131.00	1 $\frac{1}{16}$ "	5C HARDINGE
	1	131.00	1 $\frac{1}{16}$ "	1J HARDINGE
	2	135.00	1 $\frac{3}{16}$ "	2J HARDINGE
	3	156.00	1 $\frac{3}{4}$ "	3J HARDINGE
No. 1	5C	133.00	1 $\frac{1}{16}$ "	5C HARDINGE
	1	133.00	1 $\frac{1}{16}$ "	1J HARDINGE
	2	136.50	1 $\frac{3}{16}$ "	2J HARDINGE
	3	157.50	1 $\frac{3}{4}$ "	3J HARDINGE
	22	205.00	2 $\frac{1}{4}$ "	22J HARDINGE
No. 2	2	142.00	1 $\frac{3}{8}$ "	2J HARDINGE
	3	163.00	1 $\frac{3}{4}$ "	3J HARDINGE
	22	208.00	2 $\frac{1}{4}$ "	22J HARDINGE

REGULAR TYPE
TAPER KEY DRIVE CHUCK SPECIFICATIONS

A	B	C	D	E	Weight Pounds
2 $\frac{3}{4}$	4 $\frac{1}{4}$	9"	2 $\frac{1}{4}$	1 $\frac{1}{16}$ "	23
2 $\frac{3}{4}$	4	9"	2 $\frac{1}{4}$	1 $\frac{1}{16}$ "	23
2 $\frac{3}{4}$	4 $\frac{1}{8}$	10"	2 $\frac{5}{8}$	1 $\frac{1}{8}$ "	24
2 $\frac{3}{4}$	4 $\frac{5}{8}$	10	3 $\frac{1}{8}$	1 $\frac{3}{16}$ "	28
3 $\frac{1}{4}$	4 $\frac{1}{4}$	9"	2 $\frac{1}{4}$	1 $\frac{1}{16}$ "	25
3 $\frac{1}{4}$	4	9"	2 $\frac{1}{4}$	1 $\frac{1}{16}$ "	25
3 $\frac{1}{4}$	4 $\frac{1}{4}$	10"	2 $\frac{5}{8}$	1 $\frac{1}{8}$ "	26
3 $\frac{1}{4}$	4 $\frac{5}{8}$	10	3 $\frac{1}{8}$	1 $\frac{3}{16}$ "	32
4 $\frac{1}{8}$	4 $\frac{1}{4}$	9"	2 $\frac{1}{4}$	1 $\frac{1}{16}$ "	26
4 $\frac{1}{8}$	4	9"	2 $\frac{1}{4}$	1 $\frac{1}{16}$ "	26
4 $\frac{1}{8}$	4 $\frac{1}{4}$	10	2 $\frac{5}{8}$	1 $\frac{1}{8}$ "	27
4 $\frac{1}{8}$	4 $\frac{5}{8}$	10	3 $\frac{1}{8}$	1 $\frac{3}{16}$ "	35
4 $\frac{1}{8}$	4 $\frac{7}{8}$	10	3 $\frac{5}{8}$	1 $\frac{3}{16}$ "	40
5 $\frac{1}{4}$	4 $\frac{1}{4}$	10	2 $\frac{5}{8}$	1 $\frac{1}{8}$ "	35
5 $\frac{1}{4}$	4 $\frac{5}{8}$	10	3 $\frac{1}{8}$	1 $\frac{3}{16}$ "	41
5 $\frac{1}{4}$	4 $\frac{7}{8}$	10	3 $\frac{5}{8}$	1 $\frac{3}{16}$ "	46

*Small 7 $\frac{3}{4}$ " dia. handwheel available without extra charge. To order chuck with small handwheel add letter "A" to chuck number, i.e. 5CA. This will indicate small handwheel is required.

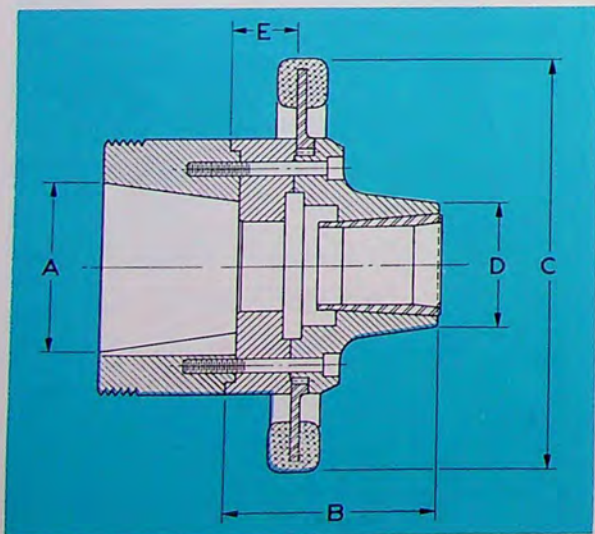
HARDINGE-SJOGREN Speed Collet Chucks are made to fit on machines with standard No. 00, No. 0, No. 1 or No. 2 Taper Key Drive Spindles. Chucks furnished complete as a single unit with Taper Key Drive Mount for direct application to machine spindle.

HOW TO IDENTIFY SIZE OF TAPER KEY DRIVE SPINDLES

Measure the largest diameter of the taper on the machine spindle. Compare this dimension to sizes under column "A" of the above specifications. When dimensions coincide, refer to "Spindle Size" column at extreme left for correct Taper Key Drive spindle size.

IMPORTANT

When ordering, always specify the chuck number and the Taper Key Drive spindle size. This applies for all chucks listed on this page and opposite page.

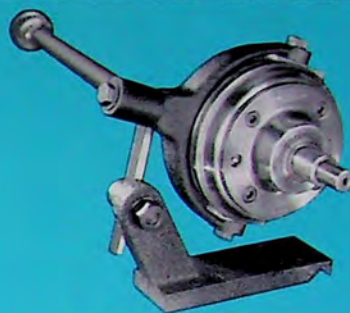


For greater accuracy—use HARDINGE Collets with HARDINGE-SJOGREN Chucks

SPEED COLLET CHUCKS



TAPER KEY DRIVE CHUCKS
with
TAPER OR THREADED NOSE
TO ADAPT STEP CHUCKS



LEVER TYPE CHUCK

This new model chuck takes both 5C Hardinge Collets and regular 5C Hardinge Step Chucks. Supplied with either the standard Hardinge taper nose or Hardinge threaded nose to facilitate the use of standard Hardinge step chucks and step chuck closers which are carried in stock in 2", 3", 4", 5" and 6" capacity sizes. Specifications for body dimensions of the new model chuck are the same as shown on page 8 except for nose diameter which is 2 1/8" on the 5CX chuck and is 2 3/8" on the 5CT chuck.

STEP CHUCK TYPE TAPER KEY DRIVE CHUCK SIZES AND PRICES

Spindle Size	Chuck Number*	Net Price	Round Capacity	Collet Used See Page 12	Weight Pounds
No. 00	5CX	\$187.00	1 1/8"	5C HARDINGE	23
	5CT	187.00	1 1/8"	5C HARDINGE	23
No. 0	5CX	188.00	1 1/8"	5C HARDINGE	25
	5CT	188.00	1 1/8"	5C HARDINGE	25
No. 1	5CX	189.00	1 1/8"	5C HARDINGE	26
	5CT	189.00	1 1/8"	5C HARDINGE	26

*5CX indicates taper nose chuck. 5CT indicates threaded nose chuck. Specify which one is required when ordering.

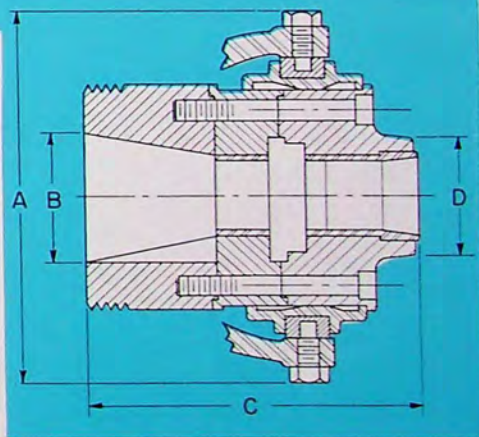
LEVER TYPE

TAPER KEY DRIVE HARDINGE-SJOGREN CHUCK

By the application of a Lever-Operated Hardinge-Sjogren Collet Chuck you can convert your tool room lathe or engine lathe for rapid production chucking of precision work.

Lever-operated chucks are assembled to order. A perforated form will be found between pages 10 and 11. Please indicate, on this blank, the bed dimensions of your machine. For proper mounting these dimensions should be accurately measured. Mail this dimension sheet with your order.

NOTE: The No. 5CL, 1L and 2AL lever chucks are of the new smaller improved design and are recommended for the smaller high speed lathes 12" and under.



SIZES AND PRICES

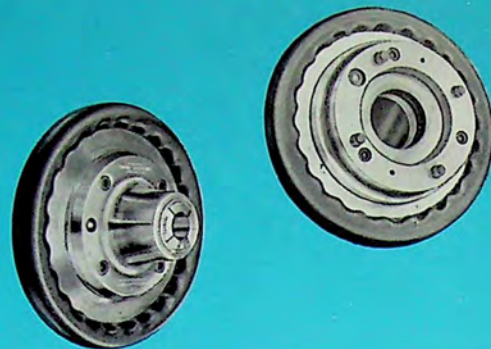
Spindle Size	Chuck Number	Net Price	Round Capacity	Collet Used See Page 12
No. 00	5CL	\$289.00	1 1/8"	5C HARDINGE
	1L	289.00	1 1/8"	1J HARDINGE
	2AL	289.00	1 3/8"	2J HARDINGE
No. 0	5CL	289.00	1 1/8"	5C HARDINGE
	1L	289.00	1 1/8"	1J HARDINGE
	2AL	289.00	1 3/8"	2J HARDINGE
	2L	289.00	1 3/8"	2J HARDINGE
	3L	310.00	1 3/4"	3J HARDINGE
No. 1	2L	289.00	1 3/8"	2J HARDINGE
	3L	310.00	1 3/4"	3J HARDINGE
No. 2	2L	294.00	1 3/8"	2J HARDINGE
	3L	315.00	1 3/4"	3J HARDINGE

SPECIFICATIONS

A	B	C	D	Weight Pounds
8 1/4	2 3/4	6 29/32	2 1/4	27
8 1/4	2 3/4	6 5/8	2 1/4	27
8 1/4	2 3/4	6 27/32	2 1/2	26
8 1/4	3 1/4	7 9/32	2 1/4	28
8 1/4	3 1/4	7	2 1/4	28
8 1/4	3 1/4	7 23/32	2 1/2	27
10	3 1/4	7 17/32	2 5/8	51
10	3 1/4	7 27/32	3 1/4	51
10	4 1/8	8 1/32	2 7/8	54
10	4 1/8	8 11/32	3 1/4	54
10	5 1/4	8 17/32	2 7/8	61
10	5 1/4	8 27/32	3 1/4	61

HARDINGE - SJOGREN

FOR
AMERICAN
STANDARD
SPINDLES



REGULAR TYPE
AMERICAN STANDARD CHUCK SIZES AND PRICES

Spindle Size	Chuck Number	Net Price	Round Capacity	Collet Used See Page 12
A1-5" or A2-5"	5C 1 2	\$110.00 110.00 121.00	1 1/8 1 1/8 1 3/8	5C HARDINGE 1J HARDINGE 2J HARDINGE
A1-6" or A2-6"	3 22	144.00 184.00	1 1/4 2 1/4	3J HARDINGE 22J HARDINGE

REGULAR TYPE
AMERICAN STANDARD CHUCK SPECIFICATIONS

A	B	C	D	E	F	G	Weight Pounds
3 1/4	5 1/2	4 3/4	2 1/4	9*	1 5/8	4 1/8	16
3 1/2	5 1/2	4 1/2	2 1/4	9*	1 5/8	4 1/8	16
3 3/4	6 1/8	4 3/4	2 5/8	10*	1 5/8	4 1/8	20
4 3/16	6 1/8	5 1/8	3 1/8	10	1 9/16	5 1/4	25
4 3/16	7	5 3/8	3 5/8	10	1 9/16	5 1/4	32

*Small 7 3/4" dia. handwheel available without extra charge. To order chuck with small handwheel add letter "A" to chuck number, i.e. 5CA. This will indicate small handwheel is required.

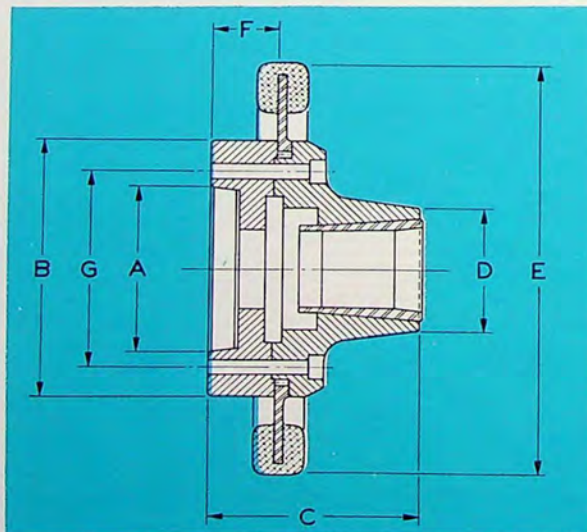
HARDINGE-SJOGREN Speed Collet Chucks are made to fit directly on machines with standard A1-5", A2-5", A1-6" or A2-6" American Standard spindles. The American Standard mount is an integral part of the Chuck and does not require an adapter plate.

HOW TO IDENTIFY SIZE OF AMERICAN STANDARD SPINDLES

Measure the largest diameter of the American Standard spindle. Compare this dimension to sizes given under column "A" of the above specifications. When dimensions coincide, refer to "Spindle Size" column at extreme left for correct American Standard spindle size. Chucks No. 5C, No. 1 and No. 2 are interchangeable between A1-5" and A2-5" spindles. Chucks No. 3 and No. 22 are interchangeable between A1-6" and A2-6" spindles.

IMPORTANT

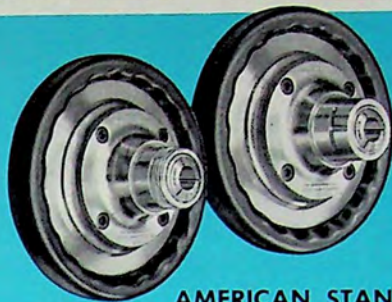
When ordering, always specify the chuck number and the American Standard spindle size. This applies for all chucks listed on this page and opposite page.



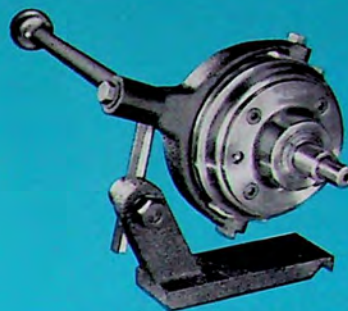
Four hollow head cap screws are furnished with each HARDINGE-SJOGREN Speed Collet Chuck for American Standard spindle. The A1-5" and A2-5" cap screws have 1/16"-14 threads. The A1-6" and A2-6" cap screws have 1/2"-13 threads.

For greater accuracy—use HARDINGE Collets with HARDINGE-SJOGREN Chucks

SPEED COLLET CHUCKS



**AMERICAN STANDARD CHUCKS
with
TAPER OR THREADED NOSE
TO ADAPT STEP CHUCKS**



LEVER TYPE CHUCK

This new model chuck takes both 5C Hardinge Collets and regular 5C Hardinge Step Chucks. Supplied with either the standard Hardinge taper nose or Hardinge threaded nose to facilitate the use of standard Hardinge step chucks and step chuck closers which are carried in stock in 2", 3", 4", 5" and 6" capacity sizes. Specifications for body dimensions of the new model chuck are the same as shown on page 10 except for nose diameter which is 2 1/8" on the 5CX chuck and is 2 3/8" on the 5CT chuck.

STEP CHUCK TYPE AMERICAN STANDARD CHUCK SIZES AND PRICES

Spindle Size	Chuck Number*	Net Price	Round Capacity	Collet Used See page 12	Weight Pounds
A1-5"	5CX	\$168.00	1 1/8"	5C HARDINGE	25
or A2-5"	5CT	168.00	1 1/8"	5C HARDINGE	32

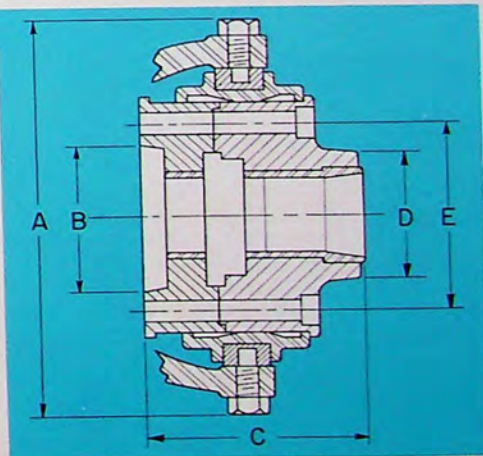
*5CX indicates taper nose chuck. 5CT indicates threaded nose chuck. Specify which one is required when ordering.

LEVER TYPE

AMERICAN STANDARD HARDINGE-SJOGREN CHUCK

By the application of a Lever-Operated Hardinge-Sjogren Collet Chuck you can convert your tool room lathe or engine lathe for rapid production chucking of precision work.

Lever-operated chucks are assembled to order. A perforated form is attached to this page. Please indicate, on this blank, the bed dimensions of your machine. For proper mounting these dimensions should be accurately measured. Mail this dimension sheet with your order.



SIZES AND PRICES

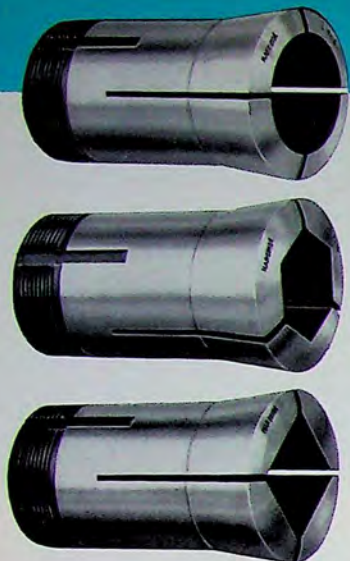
Spindle Size	Chuck Number	Net Price	Round Capacity	Collet Used See Page 12
A1-6"	2L	\$289.00	1 3/8"	2J HARDINGE
or A2-6"	3L	310.00	1 3/4"	3J HARDINGE

SPECIFICATIONS

A	B	C	D	E	Weight Pounds
10	4 3/16"	5 13/32"	2 7/8"	5 1/4"	42
10	4 3/16"	5 23/32"	3 1/4"	5 1/4"	42

HARDINGE Precision Collets and Step Chucks are listed on page 12

HARDINGE Low Cost STEEL COLLETS



for HARDINGE-SJOGREN SPEED COLLET CHUCKS

HARDINGE draw-in collets symbolize accuracy, long life, and low cost because they are hardened and ground both internally and externally, have heat treated threads—and cost no more than ordinary collets.

HARDINGE collets assure you of all-essential accuracy plus durability and economy.

Chuck Number	Collet Used	PRICE*		CAPACITY		
		Round	Hex. and Sq.	Round	Hexagon	Square
5C 1	5C HARDINGE	\$ 6.25	\$10.25	$\frac{1}{8}$ - $1\frac{1}{16}$	$\frac{1}{4}$ - $\frac{3}{8}$	$\frac{1}{4}$ - $\frac{3}{4}$
	1J HARDINGE	6.75	10.75	$\frac{1}{8}$ - $1\frac{1}{16}$	$\frac{1}{4}$ - $\frac{3}{8}$	$\frac{1}{4}$ - $\frac{3}{4}$
2 & 2A 3	2J HARDINGE	9.75	13.75	$\frac{1}{8}$ - $1\frac{3}{8}$	$\frac{1}{4}$ - $1\frac{1}{16}$	$\frac{1}{4}$ - 1
	3J HARDINGE	13.75	17.75	$\frac{1}{8}$ - $1\frac{3}{4}$	$\frac{1}{4}$ - $1\frac{1}{2}$	$\frac{1}{4}$ - $1\frac{1}{2}$
22 35	22J HARDINGE	22.50	26.50	$\frac{1}{8}$ - $2\frac{1}{4}$	$\frac{1}{4}$ - $1\frac{1}{16}$	$\frac{1}{4}$ - $1\frac{1}{16}$
	35J HARDINGE	75.00	79.00	$\frac{1}{8}$ - $3\frac{1}{2}$	$\frac{1}{4}$ - 3	$\frac{1}{4}$ - $2\frac{1}{16}$

*Prices apply for any fractional hole size within the minimum and maximum capacity shown above. For any round odd decimal size collets within the minimum and maximum capacity listed, add \$3.00 to the regular fractional price. Smaller hole sizes and over-capacity sizes on application.

Also HARDINGE EMERGENCY COLLETS

With soft face and pilot hole to permit rapid boring and stepping out.
Body and threads heat-treated as with regular HARDINGE collets.

Even with the best of planning, emergencies arise when your TOOL ROOM and PRODUCTION departments require a step type, odd size or special shape collet. On such occasions use the Hardinge Emergency Collet. The soft face and $\frac{1}{4}$ " pilot hole of the Emergency collets permit rapid drilling, boring or stepping out to the exact size required.



Chuck Number	Emergency Collet Used	Price
5C 1	5C-E HARDINGE	\$ 5.80
	1J-E HARDINGE	6.00
2 & 2A 3	2J-E HARDINGE	9.00
	3J-E HARDINGE	13.00

NOTE: Pins are provided for emergency collets and step chucks for ease in machining to desired size—complete instructions furnished.

5C HARDINGE STEP CHUCKS AND CLOSERS

For Sjogren Chucks with Taper or Threaded Nose Only

Useful for accurately holding work above $1\frac{1}{16}$ " to 6" in diameter. Step chucks are $\frac{3}{8}$ " larger in diameter than rated size so that full capacity step can be applied. Furnished in split only, or split and stepped to specifications. Many users purchase step chucks split only and then apply desired step while chuck is in place in the HARDINGE-SJOGREN chuck in their machine.

A step chuck closer is required for each size step chuck and seats directly on the taper or threaded nose of the Hardinge-Sjogren Speed Chuck.

Size	Step Chuck Price	Closer Price★★
2"	\$13.00 net	\$18.00 net
3"	17.00 net	22.25 net
4"	20.00 net	25.00 net
5"	23.00 net	26.00 net
6"	26.00 net	29.50 net

★★When ordering step chuck closers specify whether for taper or threaded nose spindle.

