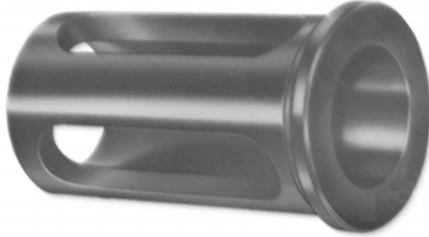


**Tool Holder  
Bushings**

# **UNITED's Tool Holder Bushings and Accessories**

***You Will Want to Hold With These!***

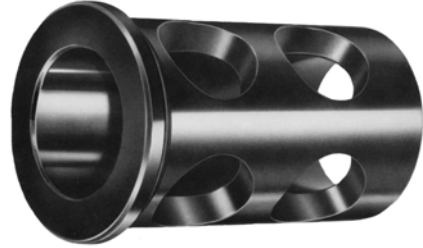
HTC — Tool Holder Bushing with Long Slots



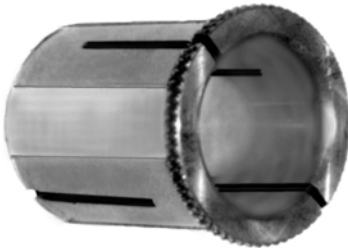
HB — Split Bushing With Flat



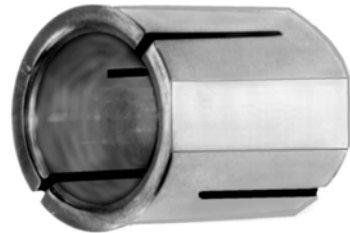
HJ — With 4 Clearance Holes



HBH — Knurled Head Collet



HBP — Headless Collet



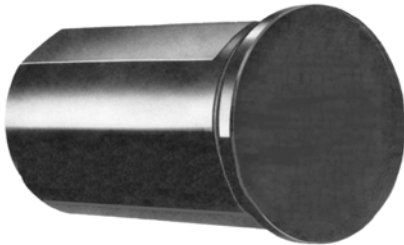
HBJ — With Clearance Holes



LHB — Liner Bushing



HS — Plain Soft Condition for Custom Holes



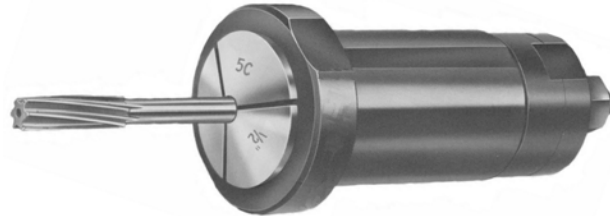
UCC-THB — Tap Holder



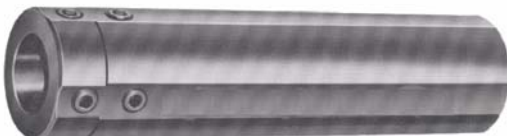
UCC-TC — Tool Collar



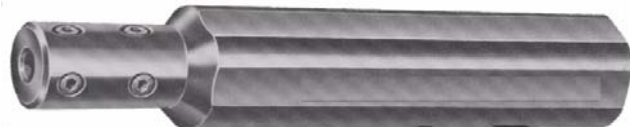
CHB — Collet Holder Bushing



BBS — Boring Bar Sleeve



BBS — Necked Down for Coolant



# Collet Bushings Single Piece Construction

Tool Holder Collet Bushings - HBH - HBP

For All Screw Machines, Automatic CNC, Turrets and Second Operation Machines

There *is* a Solution to your lost rings, bushings and missing parts!

Simply specify **UNITED's SINGLE PIECE** solid construction, precision ground, close tolerance **TOOL HOLDER BUSHINGS** with **4 SPLITS — TWO WAYS**.

They collapse concentrically and grip tools 360° in solid or floating holders.

Does your Tool Holder Bushings Inventory resemble this?

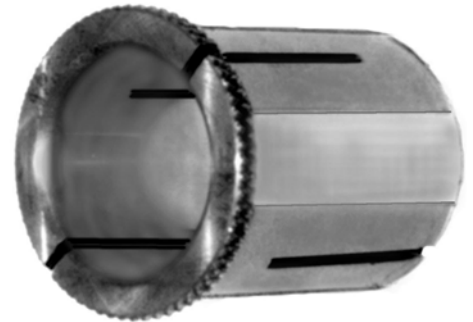
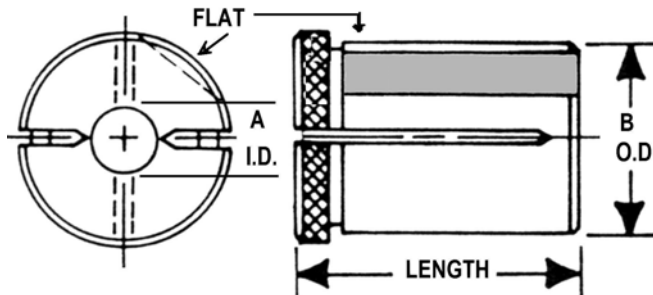


If so, take that stuff and shelve it!

Reduce the searching and assembly costs with perfect alignment bushings for your Brown & Sharpe, Acme, Hardinge, Automatic CNC Machines, Turrets and Lathes.

## HBH

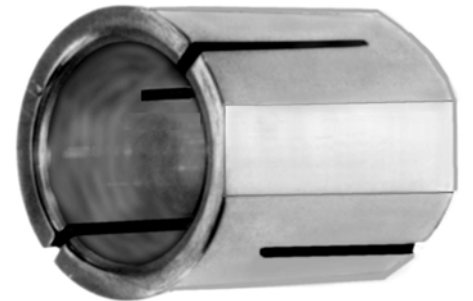
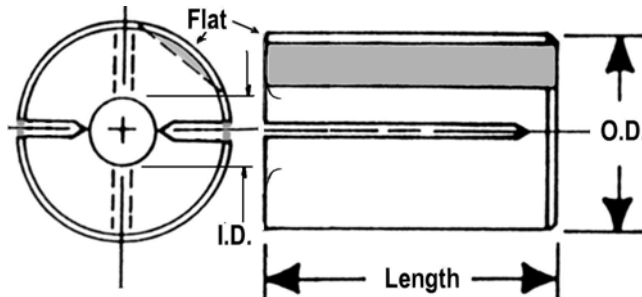
Knurled Head Type



Available in complete size ranges in both Knurled Head and Plain Headless Styles.

## HBP

Plain Headless Type



- 1 Single Piece Construction
- 2 Collapses Concentrically T.I.R. .0005 MAX
- 3 Grips Tool 360°
- 4 Precision Ground Nominal O.D. -.0005 -.0010
- 5 Precision Ground I.D. Nominal - See chart:

**I. D. TOLERANCES FOR COLLET TOOL HOLDER BUSHINGS**

Up to 1/4	+ .0005 to + .0008
1/4 to 1.000	+ .0006 to + .0010
Over 1.000	+ .0008 to + .0012

- 6 Heat Treated Alloy Steel
- 7 Perfect Alignment
- 8 Sizes Clearly Marked
- 9 Flatted Entire Length to Fit Set Screw
- 10 Long Life

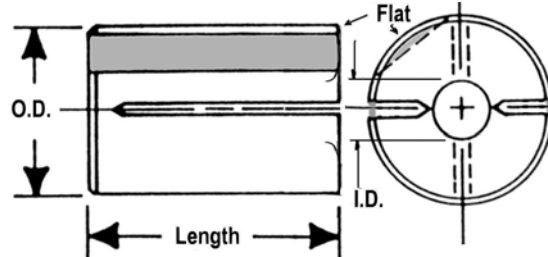
**Tool Holder Collet  
Bushings Type HBP**

**Holds Gun Drills,  
Counterbores, Taps,  
Center Drill Reamers,  
Step Drills, End Mills  
and Chamfer Tools**

**4 SPLITS TWO WAYS  
360° GRIP Concentric  
HBP**



Plain Headless



- |   |  |
|---|--|
| 1 Single Piece Construction                         | 6 Heat Treated Alloy Steel               |
| 2 Collapses Concentrically T.I.R. .0005 MAX         | 7 Perfect Alignment                      |
| 3 Grips Tool 360°                                   | 8 Sizes Clearly Marked                   |
| 4 Precision Ground Nominal O.D. -.0005 -.0010       | 9 Flatted Entire Length to Fit Set Screw |
| 5 Precision Ground I.D. Nominal -- See inset chart. | 10 Long Life                             |

**A complete range of sizes from #80 to 1-1/2"**

A I.D. DRILL RANGE STANDARD DRILL SIZE		B O.D. SIZE ANSI O.D. BY 64ths		ANSI SYMBOL	C LENGTH OVERALL/LENGTH by 16ths					
NOMINAL	DECIMAL	NOM.	DECIMAL		1/2	3/4	15/16	1-1/4	2"	2-1/2
					-8	-12	-15	-20	-32	-40
#80 - #69	.0135 - .0292	1/2	.4995 - .4990	HBP-32	32-8					
#68 - 3/64	.0310 - .0469	1/2	.4995 - .4990	HBP-32	32-8	32-12				
#55 - 1/16	.0520 - .0625	1/2	.4995 - .4990	HBP-32	32-8	32-12				
#52 - #43	.0635 - .0890	1/2	.4995 - .4990	HBP-32	32-8	32-12				
#42 - #10	.0935 - .1935	1/2	.4995 - .4990	HBP-32		32-12				
#9 - L	.1960 - .2900	1/2	.4995 - .4990	HBP-32		32-12				
M - 11/32	.2950 - .3437	1/2	.4995 - .4990	HBP-32		32-12				
S - 7/16	.3480 - .4375	1/2	.4995 - .4990	HBP-32		32-12				
3/32 - #10	.0937 - .1406	5/8	.6245 - .6240	HBP-40			40-15			
#9 - L	.1960 - .2900	5/8	.6245 - .6240	HBP-40			40-15			
M - 7/16	.2950 - .4375	5/8	.6245 - .6240	HBP-40			40-15			
29/64 - 1/2	.4531 - .5000	5/8	.6245 - .6240	HBP-40			40-15			
1/16 - #43	.0625 - .0890	3/4	.7495 - .7490	HBP-48				48-20		
#42 - #10	.0935 - .1935	3/4	.7495 - .7490	HBP-48				48-20		
#9 - L	.1960 - .2900	3/4	.7495 - .7490	HBP-48				48-20		
M - 11/32	.2950 - .3437	3/4	.7495 - .7490	HBP-48				48-20		
S - 5/8	.3480 - .6250	3/4	.7495 - .7490	HBP-48				48-20		
1/8 - #1	.1250 - .2280	1"	.9995 - .9990	HBP-64				64-20		
A - 11/32	.2340 - .3437	1"	.9995 - .9990	HBP-64				64-20		
S - 13/16	.3480 - .8125	1"	.9995 - .9990	HBP-64				64-20		
5/16 - 1"	.3125 - 1.0000	1-1/4	1.2495 - 1.2490	HBP-80					80-32	
3/8 - 1-1/8	.3750 - 1.1250	1-1/2	1.4995 - 1.4990	HBP-96						96-32
1/2 - 1-1/4	.5000 - 1.2500	1-3/4	1.7495 - 1.7490	HBP-112						112-32
5/8 - 1-1/2	.6250 - 1.5000	2"	1.9995 - 1.9990	HBP-128						128-40

I.D. TOLERANCES FOR COLLET TOOL HOLDER BUSHINGS	
Up to 1/4	+ .0005 to +.0008
1/4 to 1.000	+ .0006 to +.0010
Over 1.000	+ .0008 to +.0012

Standard Drill & Reamer Sizes			
INCH	DECIMAL	INCH	DECIMAL
80	.0135	7	.2010
79	.0145	13/64	.2031
1/64	.0156	6	.2040
78	.0160	5	.2055
77	.0180	4	.2090
76	.0200	3	.2130
75	.0210	7/32	.2187
74	.0225	2	.2210
73	.0240	1	.2280
72	.0250	A	.2340
71	.0260	15/64	.2344
70	.0280	B	.2380
69	.0292	C	.2420
68	.0310	D	.2460
1/32	.0313	E	.2500
67	.0320	1/4	.2500
66	.0330	F	.2570
65	.0350	G	.2610
64	.0360	17/64	.2656
63	.0370	H	.2660
62	.0380	I	.2720
61	.0390	J	.2770
60	.0400	K	.2810
59	.0410	9/32	.2812
58	.0420	L	.2900
57	.0430	M	.2950
56	.0465	19/64	.2968
3/64	.0469	N	.3020
55	.0520	5/16	.3125
54	.0550	O	.3160
53	.0595	P	.3230
1/16	.0625	21/64	.3281
52	.0635	Q	.3320
51	.0670	R	.3390
50	.0700	11/32	.3437
49	.0730	S	.3480
48	.0760	T	.3580
5/64	.0781	23/64	.3594
47	.0785	U	.3680
46	.0810	3/8	.3750
45	.0820	V	.3770
44	.0860	W	.3860
43	.0890	25/64	.3906
42	.0935	X	.3970
3/32	.0937	Y	.4040
41	.0960	13/32	.4062
40	.0980	Z	.4130
39	.0995	27/64	.4219
38	.1015	7/16	.4375
37	.1040	29/64	.4531
36	.1065	15/32	.4687
7/64	.1093	31/64	.4843
35	.1100	1/2	.5000
34	.1110	33/64	.5156
33	.1130	17/32	.5312
32	.1160	35/64	.5469
31	.1200	9/16	.5625
1/8	.1250	37/64	.5781
30	.1285	19/32	.5937
29	.1360	39/64	.6094
28	.1405	5/8	.6250
9/64	.1406	41/64	.6406
27	.1440	21/32	.6562
26	.1470	43/64	.6719
25	.1495	11/16	.6875
24	.1520	45/64	.7031
23	.1540	23/32	.7187
5/32	.1562	47/64	.7344
22	.1570	3/4	.7500
21	.1590	49/64	.7656
20	.1610	25/32	.7812
19	.1660	51/64	.7969
18	.1695	13/16	.8125
11/64	.1719	53/64	.8281
17	.1730	27/32	.8437
16	.1770	55/64	.8594
15	.1800	7/8	.8750
14	.1820	57/64	.8906
13	.1850	29/32	.9062
3/16	.1875	59/64	.9219
12	.1890	15/16	.9375
11	.1910	61/64	.9531
10	.1935	31/32	.9687
9	.1960	63/64	.9844
8	.1990	1"	1.0000

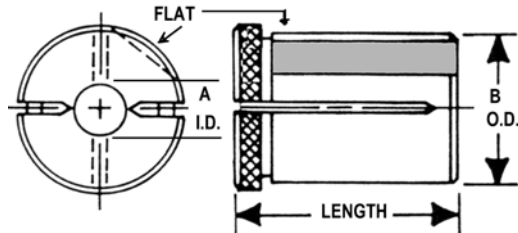
Standard Drill & Reamer Sizes			
INCH	DECIMAL	INCH	DECIMAL
80	.0135	7	.2010
79	.0145	13/64	.2031
1/64	.0156	6	.2040
78	.0160	5	.2055
77	.0180	4	.2090
76	.0200	3	.2130
75	.0210	7/32	.2187
74	.0225	2	.2210
73	.0240	1	.2280
72	.0250	A	.2340
71	.0260	15/64	.2344
70	.0280	B	.2380
69	.0292	C	.2420
68	.0310	D	.2460
1/32	.0313	E	.2500
67	.0320	1/4	.2500
66	.0330	F	.2570
65	.0350	G	.2610
64	.0360	17/64	.2656
63	.0370	H	.2660
62	.0380	I	.2720
61	.0390	J	.2770
60	.0400	K	.2810
59	.0410	9/32	.2812
58	.0420	L	.2900
57	.0430	M	.2950
56	.0465	19/64	.2968
3/64	.0469	N	.3020
55	.0520	5/16	.3125
54	.0550	O	.3160
53	.0595	P	.3230
1/16	.0625	21/64	.3281
52	.0635	Q	.3320
51	.0670	R	.3390
50	.0700	11/32	.3437
49	.0730	S	.3480
48	.0760	T	.3580
5/64	.0781	23/64	.3594
47	.0785	U	.3680
46	.0810	3/8	.3750
45	.0820	V	.3770
44	.0860	W	.3860
43	.0890	25/64	.3906
42	.0935	X	.3970
3/32	.0937	Y	.4040
41	.0960	13/32	.4062
40	.0980	Z	.4130
39	.0995	27/64	.4219
38	.1015	7/16	.4375
37	.1040	29/64	.4531
36	.1065	15/32	.4687
7/64	.1093	31/64	.4843
35	.1100	1/2	.5000
34	.1110	33/64	.5156
33	.1130	17/32	.5312
32	.1160	35/64	.5469
31	.1200	9/16	.5625
1/8	.1250	37/64	.5781
30	.1285	19/32	.5937
29	.1360	39/64	.6094
28	.1405	5/8	.6250
9/64	.1406	41/64	.6406
27	.1440	21/32	.6562
26	.1470	43/64	.6719
25	.1495	11/16	.6875
24	.1520	45/64	.7031
23	.1540	23/32	.7187
5/32	.1562	47/64	.7344
22	.1570	3/4	.7500
21	.1590	49/64	.7656
20	.1610	25/32	.7812
19	.1660	51/64	.7969
18	.1695	13/16	.8125
11/64	.1719	53/64	.8281
17	.1730	27/32	.8437
16	.1770	55/64	.8594
15	.1800	7/8	.8750
14	.1820	57/64	.8906
13	.1850	29/32	.9062
3/16	.1875	59/64	.9219
12	.1890	15/16	.9375
11	.1910	61/64	.9531
10	.1935	31/32	.9687
9	.1960	63/64	.9844
8	.1990	1"	1.0000

# HBH Holds Drills, Reamers, Center Drills, Burr Tools

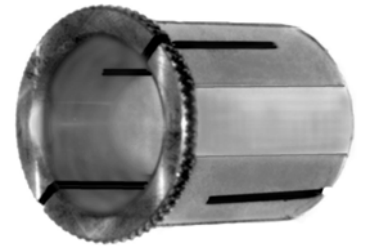
**Tool Holder Collet Head Bushings - HBH**



**4 SPLITS TWO WAYS**



**HBH**



## ONE-PIECE PRECISION CONCENTRIC SPLIT BUSHINGS TOOL HOLDER COLLET BUSHINGS FOR A WIDE VARIETY OF JOBS

A I.D. DRILL RANGE STANDARD DRILL SIZE		B O.D. SIZE ANSI O.D. BY 64ths		ANSI SYMBOL	C LENGTH OVERALL/LENGTH by 16ths					
NOMINAL	DECIMAL	NOM.	DECIMAL		1/2 -8	3/4 -12	15/16 -15	1-1/4 -20	2" -32	2-1/2 -40
#80 - #69	.0135 - .0292	1/2	.4995 - .4990	HBH-32	32-8					
#68 - 3/64	.0310 - .0469	1/2	.4995 - .4990	HBH-32	32-8	32-12				
#55 - 1/16	.0520 - .0625	1/2	.4995 - .4990	HBH-32	32-8	32-12				
#52 - #43	.0635 - .0890	1/2	.4995 - .4990	HBH-32	32-8	32-12				
#42 - #10	.0935 - .1935	1/2	.4995 - .4990	HBH-32		32-12				
#9 - L	.1960 - .2900	1/2	.4995 - .4990	HBH-32		32-12				
M - 11/32	.2950 - .3437	1/2	.4995 - .4990	HBH-32		32-12				
S - 7/16	.3480 - .4375	1/2	.4995 - .4990	HBH-32		32-12				
3/32 - #10	.0937 - .1406	5/8	.6245 - .6240	HBH-40			40-15			
#9 - L	.1960 - .2900	5/8	.6245 - .6240	HBH-40			40-15			
M - 7/16	.2950 - .4375	5/8	.6245 - .6240	HBH-40			40-15			
29/64 - 1/2	.4531 - .5000	5/8	.6245 - .6240	HBH-40			40-15			
1/16 - #43	.0625 - .0890	3/4	.7495 - .7490	HBH-48				48-20		
#42 - #10	.0935 - .1935	3/4	.7495 - .7490	HBH-48				48-20		
#9 - L	.1960 - .2900	3/4	.7495 - .7490	HBH-48				48-20		
M - 11/32	.2950 - .3437	3/4	.7495 - .7490	HBH-48				48-20		
S - 5/8	.3480 - .6250	3/4	.7495 - .7490	HBH-48				48-20		
1/8 - #1	.1250 - .2280	1"	.9995 - .9990	HBH-64					64-20	
A - 11/32	.2340 - .3437	1"	.9995 - .9990	HBH-64					64-20	
S - 13/16	.3480 - .8125	1"	.9995 - .9990	HBH-64					64-20	
5/16 - 1"	.3125 - 1.0000	1-1/4	1.2495 - 1.2490	HBH-80						80-32
3/8 - 1-1/8	.3750 - 1.1250	1-1/2	1.4995 - 1.4990	HBH-96						96-32
1/2 - 1-1/4	.5000 - 1.2500	1-3/4	1.7495 - 1.7490	HBH-112						112-32
5/8 - 1-1/2	.6250 - 1.5000	2"	1.9995 - 1.9990	HBH-128						128-40

I. D. TOLERANCES FOR COLLET TOOL HOLDER	
Up to .2500	+ .0005 to
Over .2500 to 1.000	+ .0006 to
Over 1.000	+ .0008 to

## Tool Holder Bushings HBJ and HB Styles

# Tool Holder Bushings

## STYLES HBJ and HB



### STYLE HBJ

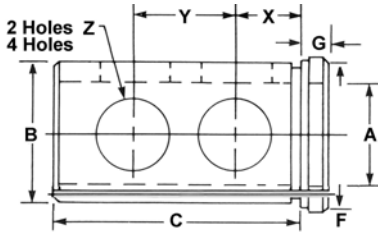
#### HBJ FEATURES:

- COMBINATION OF HB AND HJ STYLES
- CLEARANCE HOLES FOR SET SCREWS
- SPLIT WITH MILLED FLAT
- STOCKED IN STANDARD BORE SIZES



#### SETS—Style HBJ shown.

Styles HB and HJ are also available in Sets, furnished with wooden storage blocks.



UNITED combined the standard "B" style split bushing and "J" set screw clearance bushing for the new **DUAL PURPOSE HBJ TOOL HOLDER BUSHINGS.**

The improved Tool Holder with clearance holes and split milled flat is for either "B" or "J" style and is now the industry leader!

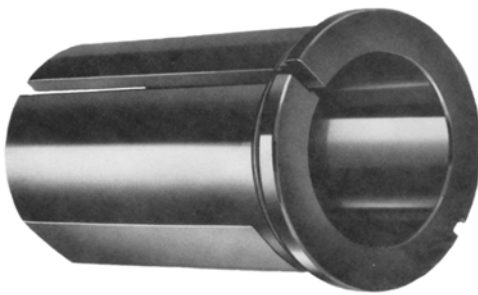
Select your machine O.D. size and tool I.D. size to order from chart.

### TOOL HOLDER BUSHING SETS

UNITED	O.D.	NO. of	INSIDE DIAMETERS
UDB-HBJ-96	1-1/2	6	1/2 - 5/8 - 3/4 - 7/8 - 1 - 1-1/4
UDB-HBJ-112	1-3/4	7	1/2 - 5/8 - 3/4 - 7/8 - 1 - 1-1/4 - 1-1/2
UDB-HBJ-128	2	6	3/4 - 7/8 - 1 - 1-1/4 - 1-1/2 - 1-3/4
UDB-HBJ-160	2-1/2	8	3/4 - 7/8 - 1 - 1-1/4 - 1-1/2 - 1-3/4 - 2 - 2-1/4

UNITED HBJ PART NO.	A I.D. STANDARD BORE SIZES	SPECIAL SIZES		B O.D. BUSH DIA.	C LENGTH Under HEAD	F HEAD DIA.	G HEAD THICKNESS	X UNDER HEAD to Center Line	Y HOLE C to Center Line	Z HOLE SIZE	NO. OF HOLES
		MIN BORE	MAX BORE								
UDB-HBJ-64-28	1/4, 5/16, 3/8, 1/2, 3/4 (7 thru 20mm)	.250	.750	1	1-3/4	1-3/16	3/16	1/2	3/4	5/8	2
UDB-HBJ-80-36	3/8, 1/2, 5/8, 3/4, 7/8, 1 (10 thru 26mm)	.375	1.000	1-1/4	2-1/4	1-7/16	1/4	9/16	1	3/4	2
UDB-HBJ-96-40	1/2, 5/8, 3/4, 7/8, 1, 1-1/4 (13-33mm)	.500	1.250	1-1/2	2-1/2	1-11/16	1/4	11/16	1-1/8	7/8	2
UDB-HBJ-112-48	1/2, 5/8, 3/4, 7/8, 1, 1-1/4, 1-1/2 (13-39mm)	.500	1.500	1-3/4	3	2-1/8	5/16	3/4	1-1/4	7/8	2
UDB-HBJ-128-56	3/4, 7/8, 1, 1-1/4, 1-1/2, 1-3/4 (20-45mm)	.750	1.750	2	3-1/2	2-3/8	5/16	3/4	1-1/2	1	2
UDB-HBJ-160-64	3/4, 7/8, 1, 1-1/4, 1-1/2, 1-3/4, 2, 2-1/4 (20-58mm)	.750	2.250	2-1/2	4	2-7/8	3/8	7/8	1-3/4	1-1/4	2
UDB-HBJ-192-72	1, 1-1/4, 1-1/2, 1-3/4, 2, 2-1/4, 2-1/2 (26-64mm)	1.000	2.500	3	4-1/2	3-5/8	7/16	1	2	1-1/4	4
UDB-HBJ-224-84	1, 1-1/4, 1-1/2, 1-3/4, 2, 2-1/4, 2-1/2, 3 (26-77mm)	1.000	3.000	3-1/2	5-1/4	4	1/2	1-1/4	2-1/2	1-1/4	4

ORDERING EXAMPLE: FOR HBJ (SPLIT TYPE) WITH 1-1/2" O.D. AND 1" I.D., SPECIFY: **UDB-HBJ-96-40-1" BUSHING** Black Oxide, Hardened and Ground



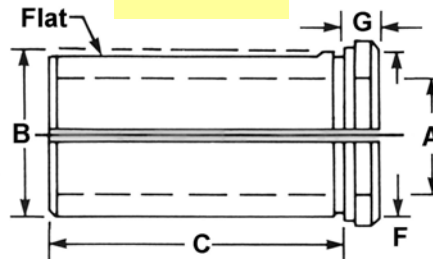
### STYLE HB

#### HB Split Bushings were manufactured for versatile systems and all sizes of CNC Lathes, Turrets and Chuckers.

Heat treated and precision ground concentric, the HB Tool Holder adapts drills, boring bars and all shank tools. Select your machine size O.D. and tool size I.D. and order from chart.

#### HB FEATURES:

- SPLIT TYPE
- MILLED FLAT
- ADAPTS ROUND SHANK TOOLS to STANDARD TURRET or TOOL HOLDERS



UNITED HB PART NO.	A I.D. STANDARD BORE SIZES	SPECIAL SIZES		B O.D. BUSH DIA.	C LENGTH Under HEAD	F HEAD DIA.	G HEAD THICKNESS	X UNDER HEAD to Center Line	Y HOLE C to Center Line	Z HOLE SIZE	NO. OF HOLES
		MIN BORE	MAX BORE								
UDB-HB-48-24	1/4, 5/16, 3/8, 1/2 (7 thru 13mm)	.250	.500	3/4	1-1/2	1	3/16	N/A	N/A	N/A	N/A
UDB-HB-64-28	1/4, 5/16, 3/8, 1/2, 3/4 (7 thru 20mm)	.250	.750	1	1-3/4	1-3/16	3/16	N/A	N/A	N/A	N/A
UDB-HB-80-36	3/8, 1/2, 5/8, 3/4, 7/8, 1 (10-26mm)	.375	1.000	1-1/4	2-1/4	1-7/16	1/4	N/A	N/A	N/A	N/A
UDB-HB-96-40	1/2, 5/8, 3/4, 7/8, 1, 1-1/4 (13-33mm)	.500	1.250	1-1/2	2-1/2	1-11/16	1/4	N/A	N/A	N/A	N/A
UDB-HB-112-48	1/2, 5/8, 3/4, 7/8, 1, 1-1/4, 1-1/2 (13-39mm)	.500	1.500	1-3/4	3	2-1/8	5/16	N/A	N/A	N/A	N/A
UDB-HB-128-56	3/4, 7/8, 1, 1-1/4, 1-1/2, 1-3/4 (20-45mm)	.750	1.750	2	3-1/2	2-3/8	5/16	N/A	N/A	N/A	N/A
UDB-HB-160-64	3/4, 7/8, 1, 1-1/4, 1-1/2, 1-3/4, 2, 2-1/4 (20-58mm)	.750	2.250	2-1/2	4	2-7/8	3/8	N/A	N/A	N/A	N/A
UDB-HB-192-72	1, 1-1/4, 1-1/2, 1-3/4, 2, 2-1/4, 2-1/2 (26-64mm)	1.000	2.500	3	4-1/2	3-5/8	7/16	N/A	N/A	N/A	N/A
UDB-HB-224-84	1, 1-1/4, 1-1/2, 1-3/4, 2, 2-1/4, 2-1/2, 3 (26-77mm)	1.000	3.000	3-1/2	5-1/4	4	1/2	N/A	N/A	N/A	N/A

ORDERING EXAMPLE: FOR HB (SPLIT TYPE) WITH 1-1/2" O.D. AND 1" I.D., SPECIFY: **UDB-HB-96-40-1" BUSHING** Black Oxide, Hardened and Ground

# Tool Holder Bushings

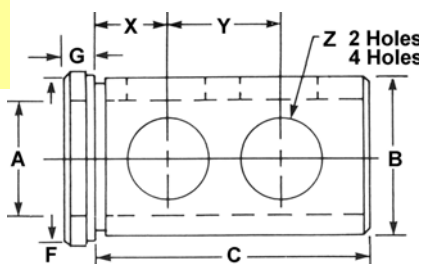
## STYLES HJ and HS

## Tool Holder Bushings HJ and HS Styles

### STYLE HJ

#### HJ FEATURES:

- NO-SPLIT TYPE
- CLEARANCE HOLES FOR SET SCREWS
- STOCKED IN STANDARD BORE SIZES



#### UNITED HJ BUSHINGS WITH 2 OR 4 HOLES

HJ Bushings clamp directly on the tool through the clearance holes for positive alignment of your cutting tool edges. Hardened and ground concentric.

UNITED HJ PART NO.	A I.D. STANDARD BORE SIZES	SPECIAL SIZES		B O.D. BUSH DIA.	C LENGTH Under HEAD	F HEAD DIA.	G HEAD THICKNESS	X UNDER HEAD to Center Line	Y HOLE C to Center Line	Z HOLE SIZE	NO. OF HOLES
		MIN BORE	MAX BORE								
UDB-HJ-48-24	1/4, 5/16, 3/8, 1/2 (7 thru 13mm)	.250	.500	3/4	1-1/2	1	3/16	1/2	3/4	1/2	2
UDB-HJ-64-28	1/4, 5/16, 3/8, 1/2, 3/4 (7 thru 20mm)	.250	.750	1	1-3/4	1-3/16	3/16	1/2	3/4	5/8	2
UDB-HJ-80-36	3/8, 1/2, 5/8, 3/4, 7/8, 1 (10 thru 26mm)	.375	1.000	1-1/4	2-1/4	1-7/16	1/4	9/16	1	3/4	2
UDB-HJ-96-40	1/2, 5/8, 3/4, 7/8, 1, 1-1/4 (13-33mm)	.500	1.250	1-1/2	2-1/2	1-11/16	1/4	11/16	1-1/8	7/8	2
UDB-HJ-112-48	1/2, 5/8, 3/4, 7/8, 1, 1-1/4, 1-1/2 (13-39mm)	.500	1.500	1-3/4	3	2-1/8	5/16	3/4	1-1/4	7/8	2
UDB-HJ-128-56	3/4, 7/8, 1, 1-1/4, 1-1/2, 1-3/4 (20-45mm)	.750	1.750	2	3-1/2	2-3/8	5/16	3/4	1-1/2	1	2
UDB-HJ-160-64	3/4, 7/8, 1, 1-1/4, 1-1/2, 1-3/4, 2, 2-1/4 (20-45mm)	.750	2.250	2-1/2	4	2-7/8	3/8	7/8	1-3/4	1-1/4	2
UDB-HJ-192-72	1, 1-1/4, 1-1/2, 1-3/4, 2, 2-1/4, 2-1/2 (26-64mm)	1.000	2.500	3	4-1/2	3-5/8	7/16	1	2	1-1/4	4
UDB-HJ-224-84	1, 1-1/4, 1-1/2, 1-3/4, 2, 2-1/4, 2-1/2, 3 (26-64mm)	1.000	3.000	3-1/2	5-1/4	4	1/2	1-1/4	2-1/2	1-1/4	4

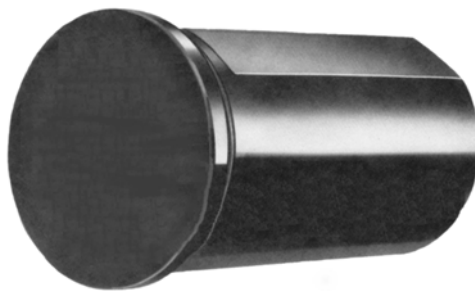
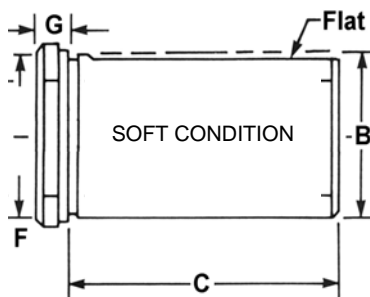
**ORDERING EXAMPLE:** FOR HJ WITH 1-1/2" O.D. AND 1" I.D., SPECIFY: **UDB-HJ-96-40-1" BUSHING** Black Oxide, Hardened and Ground

### STYLE HS

#### HS FEATURES:

- SOFT CONDITION BLANK (No Hole)
- PRECISION GROUND O.D.
- CENTERS — BOTH ENDS
- MILLED FLAT

YOU  
SPECIFY I.D.  
DIMENSION!



#### UNITED "DO IT YOURSELF" TOOL HOLDER BUSHINGS

HS Bushings have no holes so you can drill them to your special needs.

Centers are soft solid ready to fit to odd size requirements or last minute need. We can ship the same day as you call. Ideal for all sizes of drills, reamers, bucking bars and shank tools. Ready to machine to your specifications.

UNITED HS PART NO.	I.D. SOLID - NO HOLE STANDARD BORE SIZES	SPECIAL SIZES		B O.D. BUSH DIA.	C LENGTH Under HEAD	F HEAD DIA.	G HEAD THICKNESS	X UNDER HEAD to Center Line	Y HOLE C to Center Line	Z HOLE SIZE	NO. OF HOLES
		MIN BORE	MAX BORE								
UDB-HS-48-24	SOFT SOLID NO HOLE — DO IT YOURSELF!			3/4	1-1/2	1	3/16	N/A	N/A	N/A	N/A
UDB-HS-64-28	SOFT SOLID NO HOLE — DO IT YOURSELF!			1	1-3/4	1-3/16	N/A	N/A	N/A	N/A	N/A
UDB-HS-80-36	SOFT SOLID NO HOLE — DO IT YOURSELF!			1-1/4	2-1/4	1-7/16	3/16	N/A	N/A	N/A	N/A
UDB-HS-96-40	SOFT SOLID NO HOLE — DO IT YOURSELF!			1-1/2	2-1/2	1-11/16	1/4	N/A	N/A	N/A	N/A
UDB-HS-112-48	SOFT SOLID NO HOLE — DO IT YOURSELF!			1-3/4	3	2-1/8	5/16	N/A	N/A	N/A	N/A
UDB-HS-128-56	SOFT SOLID NO HOLE — DO IT YOURSELF!			2	3-1/2	2-3/8	5/16	N/A	N/A	N/A	N/A
UDB-HS-160-64	SOFT SOLID NO HOLE — DO IT YOURSELF!			2-1/2	4	2-7/8	3/8	N/A	N/A	N/A	N/A
UDB-HS-192-72	SOFT SOLID NO HOLE — DO IT YOURSELF!			3	4-1/2	3-5/8	7/16	N/A	N/A	N/A	N/A
UDB-HS-224-84	SOFT SOLID NO HOLE — DO IT YOURSELF!			3-1/2	5-1/4	4	1/2	N/A	N/A	N/A	N/A

**ORDERING EXAMPLE:** FOR HS WITH 1-1/2" O.D., SPECIFY: **UDB-HS-96-40 BUSHING** Black Oxide, Hardened and Ground

## HZ - HC Tool Holder Bushings

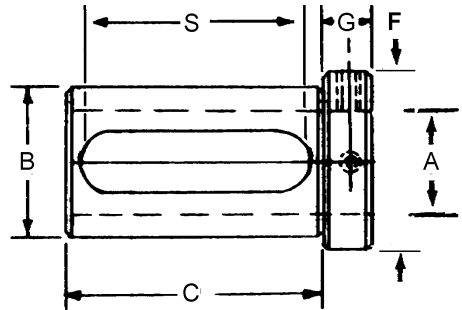
# Tool Holder Bushings

With Elongated Slots

Made by **UNITED USA** — Built to Last!



**STYLE  
HZ**



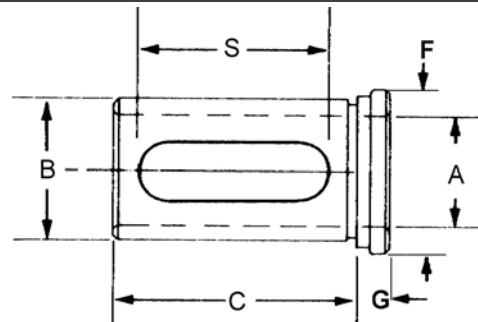
Fits all Turrets — Chuckers — CNC — NC — Machines. Hardened Precision Ground Concentric — Universally accepted

UNITED PART NO.	I.D. STANDARD BORE SIZES A		O.D. BUSH DIA. B		LENGTH Under HEAD C	HEAD DIA F	G HEAD THICKNESS	LENGTH of SLOT S
	INCH	MM	INCH	MM				
UDB-HZ-80-48	3/8 - 1/2 - 5/8 - 3/4 - 7/8 - 1	10, 12, 16, 20, 25	1-1/4	32	3	1-7/16	5/8	2-5/8
UDB-HZ-96-52	3/8 - 1/2 - 5/8 - 3/4 - 7/8 - 1 - 1-1/4	10, 12, 16, 20, 25, 32	1-1/2	40	3-1/4	1-3/4	3/4	2-7/8
UDB-HZ-112-56	1/2 - 5/8 - 3/4 - 7/8 - 1 - 1-1/4 - 1-1/2	12, 16, 20, 25, 32	1-3/4	45	3-1/2	2-1/8	3/4	3-1/8
UDB-HZ-128-60	1/2 - 5/8 - 3/4 - 7/8 - 1 - 1-1/4 - 1-1/2 - 1-3/4	12, 16, 20, 25, 32, 40, 45	2	50	3-3/4	2-3/8	3/4	3-3/8
UDB-HZ-160-68	5/8 - 3/4 - 1 - 1-1/4 - 1-1/2 - 1-3/4 - 2 - 2-1/4	16, 20, 25, 32, 40, 45, 50	2-1/2	65	4-1/4	2-7/8	3/4	3-7/8
UDB-HZ-192-76	1 - 1-1/4 - 1-1/2 - 1-3/4 - 2 - 2-1/4 - 2-1/2	25, 32, 40, 50, 65	3	80	4-3/4	3-5/8	3/4	4-3/8
UDB-HZ-224-88	1-1/4 - 1-1/2 - 1-3/4 - 2 - 2-1/4 - 2-1/2 - 3	25, 32, 40, 50, 65	3-1/2	90	5-1/2	4	1	5-1/8
UDB-HZ-256-190	1-1/2 - 1-3/4 - 2 - 2-1/4 - 2-1/2 - 3	40, 50, 60, 65, 80	4	100	6-1/4	4-1/2	1	5-7/8



LONG SLOTS ALLOW SET SCREWS TO HOLD TOOL FIRMLY

**STYLE  
HTC**



Precision Concentrically Ground — Black Oxidized — Adapts to all Drills, Reamers and Boring Bars

UNITED PART NO.	I.D. STANDARD BORE SIZES A		O.D. BUSH DIA. B		LENGTH Under HEAD C	HEAD DIA F	HEAD THICKNESS G	LENGTH of SLOT S
	INCH	MM	INCH	MM				
UDB-HTC-64-44	1/4 - 5/16 - 3/8 - 1/2 - 5/8 - 3/4	8, 10, 12, 16, 20	1	25	2-3/4	1-3/16	3/16	2-3/8
UDB-HTC-80-52	3/8 - 1/2 - 5/8 - 3/4 - 7/8 - 1	10, 12, 16, 20, 25	1-1/4	32	3-1/4	1-7/16	1/4	2-7/8
UDB-HTC-96-54	3/8 - 1/2 - 5/8 - 3/4 - 7/8 - 1 - 1-1/4	10, 12, 16, 20, 25, 32	1-1/2	40	3-3/8	1-11/16	1/4	3
UDB-HTC-112-56	1/2 - 5/8 - 3/4 - 7/8 - 1 - 1-1/4 - 1-1/2	12, 16, 20, 25, 32, 40	1-3/4	45	3-1/2	2-1/8	5/16	3-1/8
UDB-HTC-128-64	1/2 - 5/8 - 3/4 - 1 - 1-1/4 - 1-1/2 - 1-3/4	12, 16, 20, 25, 32, 40, 45	2	50	4	2-3/8	5/16	3-5/8
UDB-HTC-160-72	3/4 - 1 - 1-1/4 - 1-1/2 - 1-3/4 - 2 - 2-1/4	20, 25, 32, 40, 45, 50	2-1/2	65	4-1/2	2-7/8	3/8	4-1/8
UDB-HTC-192-80	1 - 1-1/4 - 1-1/2 - 1-3/4 - 2 - 2-1/4 - 2-1/2	25, 32, 40, 50, 60, 65	3	80	5	3-1/8	7/16	4-5/8
UDB-HTC-224-92	1 - 1-1/4 - 1-1/2 - 1-3/4 - 2 - 2-1/4 - 2-1/2 - 3	25, 32, 40, 50, 60, 65	3-1/2	100	5-3/4	3-5/8	7/16	5

# New Collet Holder Bushing

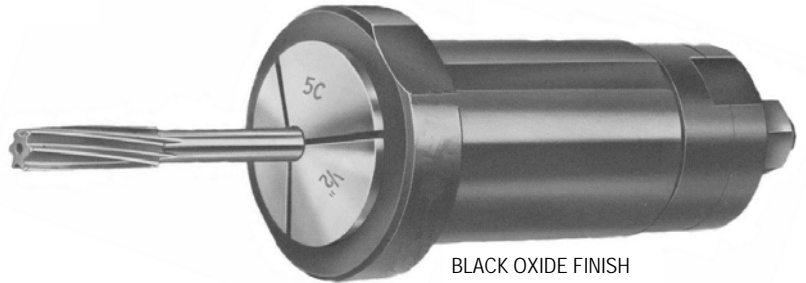
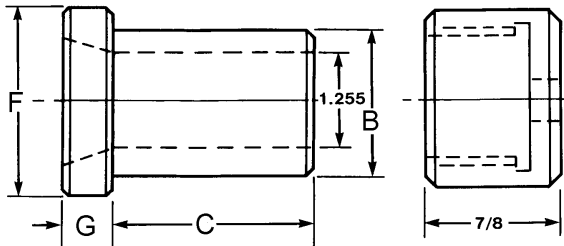
UNITED's Superior Quality by Design

CHB Collet Holder Bushing

Fits all screw machines, lathes, turrets.  
Ideal for CNC

Accommodates all drills, reamers, counterbores, end mills

## CHB 5C-Collet Holder Bushing

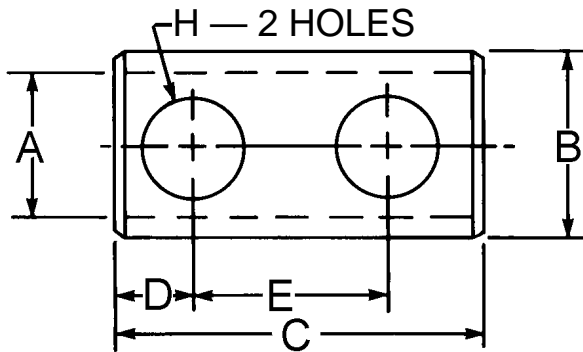


This unique tool holds all sizes of 5C Collets for every conceivable drill, reamer, counterbore, end mill, core drill and countersink. Provides clean concentric grip and location — Complete flexibility to your machines!

UNITED PART NO.	O.D. BUSH DIA. B		LENGTH C	HEAD DIA F	HEAD THICKNESS G	LOCK NUT O.D.
	INCH	MM				
UCC-CHB-96-40	1-1/2	40	2-1/4	2	1/2	1-7/16 x 7/8
UCC-CHB-112-40	1-3/4	45	2-1/4	2-1/4	1/2	1-11/16 x 7/8
UCC-CHB-128-40	2	50	2-1/4	2-1/2	1/2	1-15/16 x 7/8
UCC-CHB-192-40	2-1/2	65	2-1/4	3	1/2	2-7/16 x 7/8

Screw Holes Clearance  
Split with O.D. Flat  
Adapts with all tools

## LHB Tool Holder Liner Bushing



Convenient — Easily used — Most important — To Hold — Let UNITED's Liner Do It!

UNITED PART NO.	SPECIFY I.D. STANDARD BORE SIZES A		O.D. BUSH DIA. B		OVERALL LENGTH C	LENGTH DIMENSIONS D E		HOLES H SIZE NO.		SPECIAL BORE SIZE MIN MAX	
	INCH	MM	INCH	MM							
UCC-LHB-96-48	3/8 - 1/2 - 5/8 - 3/4 - 7/8 - 1 - 1-1/4	10, 12, 16, 20, 25, 32	1-1/2	40	3	3/4	1-5/8	7/8	2	3/8	1-1/4
UCC-LHB-112-48	1/2 - 5/8 - 3/4 - 7/8 - 1 - 1-1/4 - 1-1/2	12, 16, 20, 25, 32, 40	1-3/4	45	3	5/8	1-5/8	7/8	2	3/8	1-1/2
UCC-LHB-144-72	5/8 - 3/4 - 1 - 1-1/4 - 1-1/2 - 1-3/4 - 2	16, 20, 25, 32, 40, 45, 50	2-1/4	60	4-1/2	7/8	2	1	2	1/2	2
UCC-LHB-176-72	3/4 - 1 - 1-1/4 - 1-1/2 - 1-3/4 - 2 - 2-1/4	20, 25, 32, 40, 50	2-3/4	70	4-1/2	7/8	2	1	2	1/2	2-1/4



# Tap Tool Holder Bushings

# Tap Holder Bushings

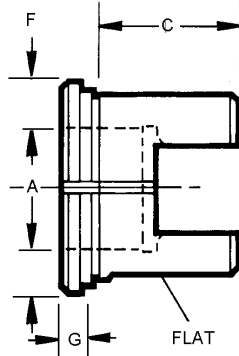
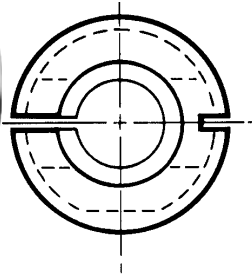
Precision Made by **UNITED** USA — Quality to Last!

## UCC-THB

## TAP HOLDER BUSHINGS



SPECIFY TAP SIZE



Sometimes referred to as 'K' type Tap Holder Bushings.

**UNITED's** precision milled bushings are hard ground and concentric.

Manufactured to close tolerances for maximum grip and minimum slippage.

UNITED PART NO.	INDUSTRY BUSH TYPE	BUSHING DIA. O.D.	MIN TAP I.D.	MAX TAP I.D.	MAX PIPE TAP	BUSHING LENGTH	F HEAD DIA	G HEAD THICKNESS	TAP SIZES AVAILABLE SPECIFY WHEN ORDERING
UCC-THB-64-15	K	1	8	5/8	1/8 PIPE	15/16	1-3/16	3/16	8-10-12-1/8-1/4-5/16-3/8-7/16-1/2-9/16-5/8
UCC-THB-96-19	K	1-1/4	1/4	1-1/4	1 PIPE	1-3/16	1-7/16	1/4	1/4 thru 5/8-11/16-3/4-13/16-7/8-15/16-1- 1-1/8- 1-1/4
UCC-THB-112-21	K	1-1/2	1/4	1-1/4	1 PIPE	1-5/16	1-11/16	1/4	1/4 thru 5/8-11/16-3/4-13/16-7/8-15/16-1- 1-1/8- 1-1/4

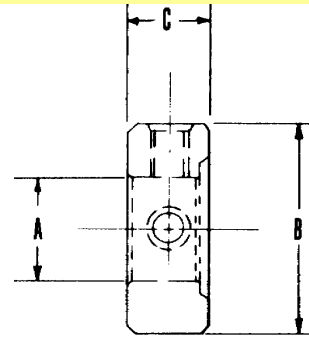
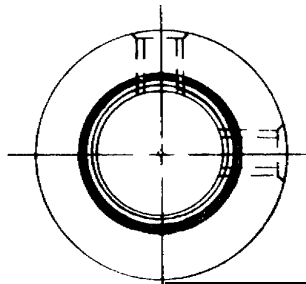
ORDERING EXAMPLE INCLUDES TAP SIZE: UCC-THB-64-15-1/4-20

## UCC-TC

## TOOL COLLARS



SCREWS ARE PROVIDED



**UNITED** Tool Collars are designed for use with Boring Bars, Boring Bar Sleeves, Spindle shaft leveling collars, and preset type tooling.

Collars are hardened and ground with black oxide finish.

Excellent Stop Jam collar nuts for all leveling tools and leveling pad threaded shanks.

Special sizes and metric sizes are available on request.

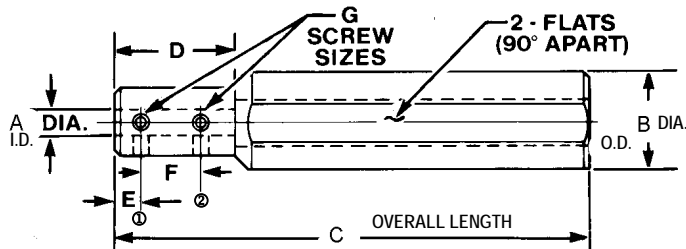
UNITED PART NO.	I.D. STANDARD BORE SIZES A		O.D. BUSH DIA. B	THICKNESS C
	INCH	MM		
UCC-TC-128-12	1	25	2	3/4
UCC-TC-144-12	1-1/4	32	2-1/4	3/4
UCC-TC-160-12	1-1/2	40	2-1/2	3/4
UCC-TC-176-12	1-3/4	45	2-3/4	3/4
UCC-TC-192-12	2	50	3	3/4
UCC-TC-208-12	2-1/2	60	3-1/4	3/4
UCC-TC-324-12	2-1/2	60	3-1/2	3/4
UCC-TC-240-12	2-3/4	40	3-3/4	3/4
UCC-TC-256-16	3	80	4	1
UCC-TC-288-16	3-1/2	90	4-1/2	1
UCC-TC-320-16	4	100	5	1

# Boring Bar Sleeves

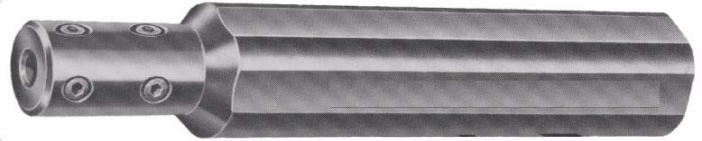
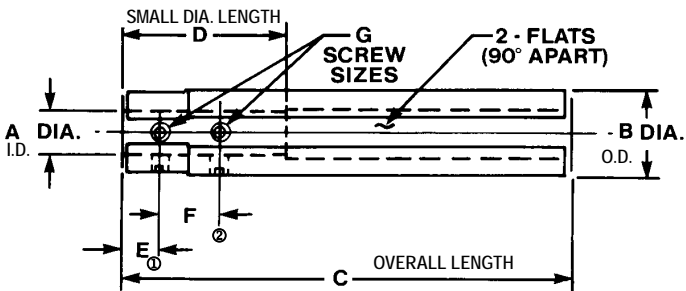
For CNC -- NC -- TURRETS -- LATHES -- CHUCKERS  
TOUGH and WEAR RESISTANT -- YEARS OF DEPENDABILITY

Boring Bar Sleeves  
UCC-BBS

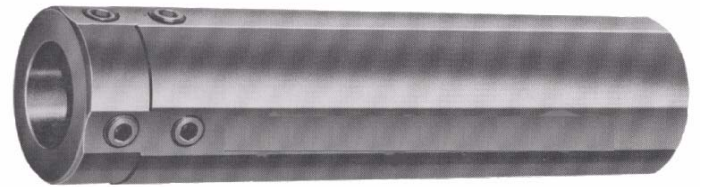
## BBS BORING BAR SLEEVES



I.D. (Fractions) O.D. (1/64ths) LENGTH (1/16ths)



Necked Down allowing coolant to pass  
Precision Ground, Concentrically Hardened and Ground



Black Oxide Finish

**UNITED Boring Bar Sleeves adapt to and support most all Boring Bars, Shank type tools, Drills, Reamers, and Counterbores to any CNC Machines and conventional Turrets and Lathes. They are the extensions for hard to reach areas. 90° Spacing between flat and set screws, allowing clamping from top or bottom — assures aligned clamping. The necked down boring bar**

UNITED PART NO.	A IN.	A MM	B IN.	B MM	C LENGTH H	D LEN.	E Ø 1ST	F Ø 2ND	G SCREW	UNITED PART NO.	A IN. I.D.	A MM	B IN. O.D.	B MM	C LENGTH OVERALL	D LEN. LOC.	E Ø 1ST SCREW	F Ø 2ND SCREW	G SCREW SIZE
UCC-BBS-48-80-1/4	1/4	6	3/4	20	5	1-1/2	3/8	3/4	10-32	UCC-BBS-112-128-7/8	7/8	22	1-3/4	45	8	3	7/16	1	3/8-24
UCC-BBS-48-80-5/16	5/16	8	3/4	20	5	1-1/2	3/8	3/4	10-32	UCC-BBS-112-128-1	1	25	1-3/4	45	8	3	7/16	1	3/8-24
UCC-BBS-48-80-3/8	3/8	10	3/4	20	5	1-1/2	3/8	3/4	10-32	UCC-BBS-128-144-5/8	5/8	16	2	50	9	2	7/16	1	7/16-20
UCC-BBS-48-80-1/2	1/2	12	3/4	20	5	2	3/8	3/4	10-32	UCC-BBS-128-144-3/4	3/4	20	2	50	9	2-3/4	1/2	1	7/16-20
UCC-BBS-64-96-5/16	5/16	8	1	25	6	1-3/4	7/16	7/8	1/4-28	UCC-BBS-128-144-7/8	7/8	22	2	50	9	2	7/16	1	7/16-20
UCC-BBS-64-96-3/8	3/8	10	1	25	6	1-3/4	7/16	7/8	1/4-28	UCC-BBS-128-144-1	1	25	2	50	9	3	1/2	1	1/2-20
UCC-BBS-64-96-1/2	1/2	12	1	25	6	2	7/16	7/8	1/4-28	UCC-BBS-128-144-1-1/4	1-1/4	32	2	50	9	3	1/2	1	1/2-20
UCC-BBS-80-104-3/8	3/8	10	1-1/4	32	6-1/2	1-1/2	3/8	7/8	1/4-28	UCC-BBS-160-160-5/8	5/8	16	2-1/2	65	10	2-1/2	1/2	1	1/2-20
UCC-BBS-80-104-1/2	1/2	12	1-1/4	32	6-1/2	2	7/16	1	1/4-28	UCC-BBS-160-160-3/4	3/4	20	2-1/2	65	10	3	1/2	1	1/2-20
UCC-BBS-80-104-5/8	5/8	16	1-1/4	32	6-1/2	2	7/16	1	1/4-28	UCC-BBS-160-160-1	1	25	2-1/2	65	10	3-1/2	1/2	1	1/2-20
UCC-BBS-80-104-3/4	3/4	20	1-1/4	32	6-1/2	2	7/16	1	1/4-28	UCC-BBS-160-160-1-1/4	1-1/4	32	2-1/2	65	10	4	1/2	1	1/2-20
UCC-BBS-80-104-7/8	7/8	22	1-1/4	32	6-1/2	2	7/16	1	10-32	UCC-BBS-160-160-1-1/2	1-1/2	40	2-1/2	65	10	4	1/2	1	1/2-20
UCC-BBS-80-104-1	1	25	1-1/4	32	6-1/2	2	7/16	1	10-32	UCC-BBS-192-184-1	1	25	3	80	11-1/2	3-1/2	1/2	1	1/2-20
UCC-BBS-96-112-3/8	3/8	10	1-1/2	40	7	1-1/2	3/8	7/8	1/4-28	UCC-BBS-192-184-1-1/4	1-1/4	32	3	80	11-1/2	4	1/2	1	1/2-20
UCC-BBS-96-112-1/2	1/2	12	1-1/2	40	7	2	7/16	1	5/16-24	UCC-BBS-192-184-1-1/2	1-1/2	40	3	80	11-1/2	4	1/2	1	1/2-20
UCC-BBS-96-112-5/8	5/8	16	1-1/2	40	7	2	7/16	1	5/16-24	UCC-BBS-192-184-1-3/4	1-3/4	45	3	80	11-1/2	4	5/8	1-1/4	1/2-20
UCC-BBS-96-112-3/4	3/4	20	1-1/2	40	7	2-1/2	7/16	1	5/16-24	UCC-BBS-192-184-2	2	50	3	80	11-1/2	4	1/2	1	1/2-20
UCC-BBS-96-128-7/8	7/8	22	1-1/2	40	8	2-1/2	7/16	1	5/16-24	UCC-BBS-256-224-1-1/2	1-1/2	40	4	100	14	4	19/32	1-7/8	5/8-18
UCC-BBS-96-128-1	1	25	1-1/2	40	8	3	7/16	1	5/16-24	UCC-BBS-256-224-1-3/4	1-3/4	45	4	100	14	4	5/8	1-7/8	5/8-18
UCC-BBS-112-128-1/2	1/2	12	1-3/4	45	8	2-1/2	7/16	1	5/16-24	UCC-BBS-256-224-2	2	50	4	100	14	4	19/32	1-3/4	5/8-18
UCC-BBS-112-128-5/8	5/8	16	1-3/4	45	8	2-1/2	7/16	1	5/16-24	UCC-BBS-256-224-2-1/2	2-1/2	65	4	100	14	5	5/8	2	5/8-18
UCC-BBS-112-128-3/4	3/4	20	1-3/4	45	8	2-1/2	7/16	1	3/8-24	UCC-BBS-256-224-3	3	80	4	100	14	5	3/4	1-1/4	5/8-18

**Spacer Bushings  
With NEW P/Ns**

# Arbor Spacing Collar Bushings

## ARBOR SPACING COLLAR BUSHINGS

**UNITED ARBOR SPACER BUSHINGS**  
assure accurate positioning  
of milling cutters.

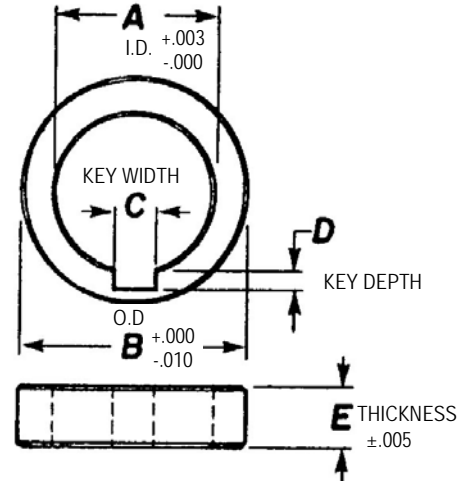
These close-tolerance  
Collar Bushings are furnished with  
Standard Keyways.

Hardened and ground.  
Rockwell 35-48

Edges are chamfered.

Faces are ground parallel.

Ends parallel & flat within .0005  
Ends square to I.D. within .001 T.I.R.



Also known as Collar Bushings

Sold in Sets of 15 from 1/8" to 3"  
(SEE ITEMS LISTED BY COLUMNS BELOW.)

NEW PART NUMBERS BELOW:

Specials are available on request.

or Separately

C WIDTH	KEYWAY SIZES							
	1/8	1/8	1/8	1/4	5/16	3/8	1/2	1/2
D DEPTH	1/16	1/16	1/16	3/32	1/8	5/32	3/16	3/16
E THICKNESS BELOW	A x B 5/8 x 1" I.D. O.D.	A x B 3/4 x 1-1/8 I.D. O.D.	A x B 7/8 x 1-3/8 I.D. O.D.	A x B 1" x 1-1/2 I.D. O.D.	A x B 1-1/4 x 1-3/4 I.D. O.D.	A x B 1-1/2 x 2-1/8 I.D. O.D.	A x B 2" x 2-3/4 I.D. O.D.	A x B 2-1/2 x 3-1/4 I.D. O.D.
1/8	ASB-101602	ASB-121802	ASB-142202	ASB-162402	ASB-202802	ASB-243402	ASB-324402	ASB-405202
3/16	ASB-101603	ASB-121803	ASB-142203	ASB-162403	ASB-202803	ASB-243403	ASB-324403	ASB-405203
1/4	ASB-101604	ASB-121804	ASB-142204	ASB-162404	ASB-202804	ASB-243404	ASB-324404	ASB-405204
5/16	ASB-101605	ASB-121805	ASB-142205	ASB-162405	ASB-202805	ASB-243405	ASB-324405	ASB-405205
3/8	ASB-101606	ASB-121806	ASB-142206	ASB-162406	ASB-202806	ASB-243406	ASB-324406	ASB-405206
7/16	ASB-101607	ASB-121807	ASB-142207	ASB-162407	ASB-202807	ASB-243407	ASB-324407	ASB-405207
1/2	ASB-101608	ASB-121808	ASB-142208	ASB-162408	ASB-202808	ASB-243408	ASB-324408	ASB-405208
5/8	ASB-101610	ASB-121810	ASB-142210	ASB-162410	ASB-202810	ASB-243410	ASB-324410	ASB-405210
3/4	ASB-101612	ASB-121812	ASB-142212	ASB-162412	ASB-202812	ASB-243412	ASB-324412	ASB-405212
7/8	ASB-101614	ASB-121814	ASB-142214	ASB-162414	ASB-202814	ASB-243414	ASB-324414	ASB-405214
1"	ASB-101616	ASB-121816	ASB-142216	ASB-162416	ASB-202816	ASB-243416	ASB-324416	ASB-405216
1-1/4	ASB-101620	ASB-121820	ASB-142220	ASB-162420	ASB-202820	ASB-243420	ASB-324420	ASB-405220
1-1/2	ASB-101624	ASB-121824	ASB-142224	ASB-162424	ASB-202824	ASB-243424	ASB-324424	ASB-405224
2"	ASB-101632	ASB-121832	ASB-142232	ASB-162432	ASB-202832	ASB-243432	ASB-324432	ASB-405232
3"	ASB-101648	ASB-121848	ASB-142248	ASB-162448	ASB-202848	ASB-243448	ASB-324448	ASB-405248
COMPLETE SETS BY P/N INCLUDE	ASB-101650 ALL ABOVE	ASB-121850 ALL ABOVE	ASB-142250 ALL ABOVE	ASB-162450 ALL ABOVE	ASB-202850 ALL ABOVE	ASB-243450 ALL ABOVE	ASB-324450 ALL ABOVE	ASB-405250 ALL ABOVE