

DAVIS

by  **ClineTool**

BORING BARS

BLOCKS

TOOL SETS



866.561.3022

ClineTool.com

THE DAVIS BLOCK-TYPE BORING TOOL SYSTEM

Increases productivity and reduces tooling costs for vertical and horizontal boring machines and machining centers.

Up to 50% lower initial cost.

Your investment in tooling is far less because just five standard Davis bars handle all boring jobs from 1" through 12.5" diameter (less than half the number of conventional boring bars normally required).

Cut three times faster.

Two cutters cut faster than one. Feeds with Davis two-cutter blocks are up to three times faster than with single point tools ... finishes are improved, too.

Greater range of operations per bar.

Seven types of interchangeable, cutter blocks enable one Davis bar to handle multiple machining operations - boring, counterboring, facing, chamfering, and combinations of these operations. Bore ranges to 20" diameter available.

Balanced chip load promotes accuracy.

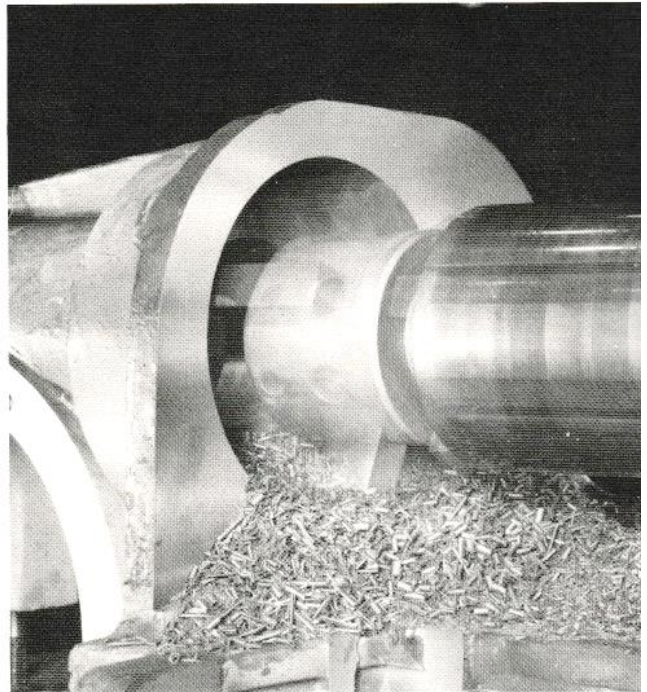
The Davis system assures accurate, round taper free bores everytime ... regardless of core shift or other irregularities. Chip load is balanced between the two cutters. The opposed cutting action minimizes the effect of tool wear and bar deflection.

Presetting holds tolerances of $\pm.0005"$.

Davis adjustable tooling provides full presetting of both radial and axial accuracies, with tolerances of $\pm.0005"$ on diameters easily held with normal care. Finer tolerances can also be achieved when required.

Fast tool changeover improves productivity.

Most tool changing becomes simple block changing. With only two concerns ... cutter block and taper locating screw ... it takes just 20-seconds to change tools. There are no miscellaneous parts to assemble, no alignment to check. The Davis block-type cutter system gets you back in the cut fast.

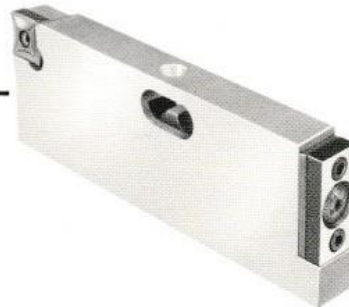


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THE DAVIS SYSTEM COMPRISES INTERCHANGEABLE BLOCK-TYPE CUTTERS

Any of the seven block styles can be exchanged in the same Davis bar.



Type STL & ST — *Two-cutter roughing & semi-finish blocks.*
Blocks with standard throwaway inserts are an excellent choice for fast removal of excess stock in rough bores. Pages 6 & 7.

Type AT — *Two-cutter semi-finish & finishing block.*
Has adjustable throwaway inserts that lock and adjust radially. Patented block does production boring with maximum economy .. no carbide grinding, less tool inventory, lower cutter costs. Page 8 & 9.

Type E — *Two-cutter rough & finishing block.*
A popular type with expandable cutters that adjust to compensate for wear. Regrinding for both diameter and depth provides complete positive control of machining accuracy from the toolroom. Page 10 & 11.

Type MST — *All-purpose single-cutter block.*
Micrometer adjustable in increments of .001" radially over a wide range of bore diameters. Best used for short runs and one-of-a-kind applications. Page 12 & 13.

Type STC — *Single-cutter chamfering block.*
Blocks with throwaway insert offer convenience for 45° chamfering applications. Page 6 & 7.

Solid Block — *All-purpose boring & facing tool.*
Manufactured from super high speed steel, or with brazed carbide for machining large faces or chamfering holes. Page 14.

BORING ACCURACY DEPENDENT UPON TOOL SELECTION

Choice of stub bars or line bars

Tool selection is foremost

Boring is the operation of enlarging a previously drilled, cored, or punched hole to the desired dimensional accuracy.

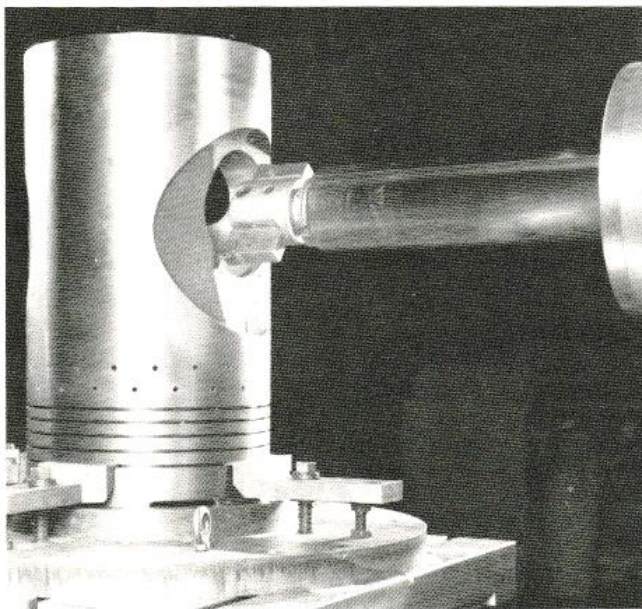
Davis two cutter boring blocks can be used in two ways: (1) by feeding a rotating block through a stationary partpiece, or (2) by feeding a rotating partpiece over a stationary block. The selection of Davis tooling in proportional sizes provides, proper chip clearance, solid cutter support and maximum bore accuracy.

Boring bar selection

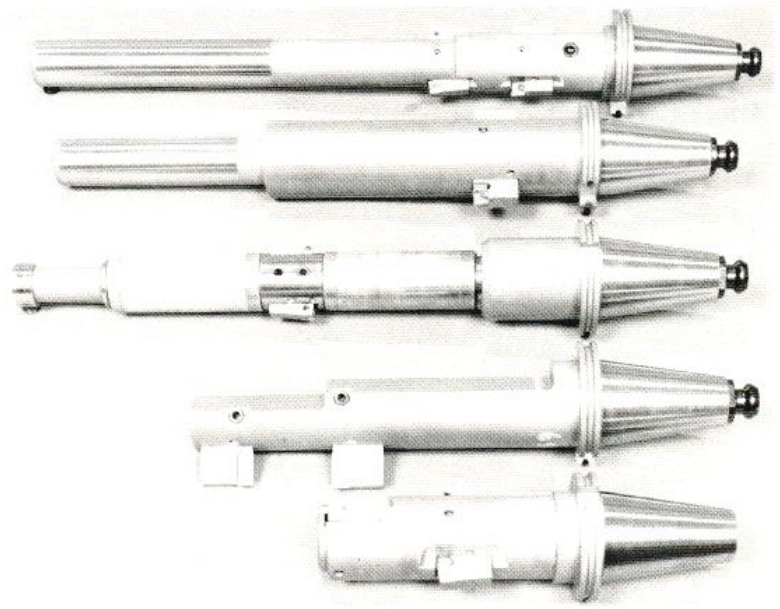
Boring bars provide support for the cutting tool and are driven by a machine tool or an external power source. Most boring bars fit into one of two categories:

- **Stub bars** - This style is supported only by the machine spindle. Its effective length should not exceed four (4) times diameter of the shank gage line or bar diameter, (whichever is smaller) when boring with carbide, or seven (7) times the diameter per above when boring with super high speed steel.
- **Line bars** - Are supported on one end by the machine spindle and requires outboard supports. The maximum length between supports should not exceed ten (10) times the bar diameter.

NOTE: Additional support for either style bar can be obtained through supplementary external members, such as antifricition bearings or bronze bushings.



Stub Bar



Line and Special Bars

DAVIS PRECISION-MATCHED TOOLING FOR AUTOMATIC TOOLCHANGING MACHINES

Hold boring tolerances better than $\pm.0005$ " diameter

Davis integral-shank, V-flange, B5.50 tooling is crafted to complement the "standard" toolchanging mechanisms of CNC machining centers and turning centers.

The V-flange allows tools to be held firmly throughout the full toolchanging cycle. The tool retention knob locks the tool into its spindle position for quality machining.

Davis one piece boring bars are not the next best thing to a solid bar as other bar manufactures proclaim ... they are the best thing.

Symmetrical design of each tool assures a balanced condition during high speed cutting. Solid one-piece boring bars retain their dynamic stiffness for accuracy and consistency.

Full presetting of both axial and radial dimensions. Tolerances of $\pm.0005$ " on diameters can be held with normal care.

Consult Giddings & Lewis Tooling Systems for custom bar arrangement.



Standard Range

Block Series	Block Size	Bar Diameter	Bore Diameter
10X	.312 x .875"	.875"	1.000 to 2.000"
9X	.375 x 1.250"	1.125"	1.375 to 2.750"
G8	.562 x 1.625"	2.000"	2.250 to 5.000"
G6	.750 x 2.500"	3.000"	3.500 to 7.500"
G4	1.000 x 3.500"	4.000"	5.500 to 10.000"
G4	1.000 x 3.500"	5.000"	5.500 to 12.500"

Optional Range

Block Series	Block Size	Bar Diameter	Bore Diameter
10X	.312 x .875"	.875 to 1.125"	1.000 to 2.813"
9X	.375 x 1.250"	1.125 to 3.250"	1.313 to 7.813"
G8	.562 x 1.625"	1.750 to 4.000"	2.100 to 10.000"
G6	.750 x 2.500"	2.500 to 6.000"	3.500 to 15.000"
G4	1.000 x 3.500"	4.000 to 8.000"	5.500 to 20.000"

NOTE: See page 14 for programming dimensions.

Stock Inserts for ST, STL and STC Blocks

Insert No.	Series	Style	Design	Type	ANSI No.	Class	Carbide	Form	Inscribed Circle	Corner Radius
311-51100-00	10X	STL	Insert Screw	Pos	SCMT 21.51-2A	C2 & 7	Coated	Square	.250 (6 mm)	.015
311-51100-01	10X	STL	Insert Screw	Flat	SCMW 21.51	C2 & 7	Coated	Square	.250 (6 mm)	.015
311-51100-02	10X	STL	Insert Screw	Pos	SCMT 21.51-2A	C2 & 3	Uncoated	Square	.250 (6 mm)	.015
311-51100-03	10X	STL	Insert Screw	Flat	SCMW 21.51	C2 & 3	Uncoated	Square	.250 (6 mm)	.015
311-51100-04	9X	STL	Insert Screw	Pos	SCMT 3(2.5)2-UR	C5-7	Coated	Square	.375 (9 mm)	.031
311-51100-05	9X	STL	Insert Screw	Flat	SCMW 3(2.5)2	C2-4, 6-8	Coated	Square	.375 (9 mm)	.031
311-51100-06	9X	STL	Insert Screw	Pos	SCMT 3(2.5)2-UR	C2 & 3	Uncoated	Square	.375 (9 mm)	.031
311-51100-07	9X	STL	Insert Screw	Flat	SCMW 3(2.5)2	C2 & 3	Uncoated	Square	.375 (9 mm)	.031
311-51100-08	G8, G6 & G4	STL	Insert Screw	Pos	SCMT 432-UR	C5-7	Coated	Square	.500 (12 mm)	.031
311-51100-09	G8, G6 & G4	STL	Insert Screw	Flat	SCMW 432	C2-4, 6-8	Coated	Square	.500 (12 mm)	.031
311-51100-10	G8, G6 & G4	STL	Insert Screw	Pos	SCMT 432-UR	C2 & 3	Uncoated	Square	.500 (12 mm)	.031
311-51100-11	G8, G6 & G4	STL	Insert Screw	Flat	SCMW 432	C2 & 3	Uncoated	Square	.500 (12 mm)	.031
311-52100-00	G8 & G6	STL	Locking Pin	5 Neg	SNMM 432	C5-8	Coated	Square	.500 (12 mm)	.031
311-52100-01	G8 & G6	STL	Locking Pin	Flat	SNMA 432	C2-8	Coated	Square	.500 (12 mm)	.031
311-52100-02	G8 & G6	STL	Locking Pin	5 Pos	SNMP 432	C5-8	Coated	Square	.500 (12 mm)	.031
311-52100-03	G8 & G6	STL	Locking Pin	Flat	SNMA 432	C2-5	Uncoated	Square	.500 (12 mm)	.031
311-52100-04	G8 & G6	STL	Locking Pin	5 Pos	SNMP 432	C2-5	Uncoated	Square	.500 (12 mm)	.031
311-52100-05	G4	STL	Locking Pin	5 Neg	SNMM 642	C5-8	Coated	Square	.750 (19 mm)	.031
311-52100-06	G4	STL	Locking Pin	Flat	SNMA 642	C2-8	Coated	Square	.750 (19 mm)	.031
311-52100-07	G4	STL	Locking Pin	5 Pos	SNMP 642	C6-8	Coated	Square	.750 (19 mm)	.031
311-52100-08	G4	STL	Locking Pin	5 Pos	SNMP 642	C2-5	Uncoated	Square	.750 (19 mm)	.031
311-51200-00	10X	ST	Insert Screw	Pos	CCMT 2(1.5)1	C5-7	Coated	80 Deg. Dia.	.250 (6 mm)	.015
311-51200-01	10X	ST	Insert Screw	Flat	CCMW 2(1.5)1	C2-4, 6-8	Coated	80 Deg. Dia.	.250 (6 mm)	.015
311-51200-02	10X	ST	Insert Screw	Pos	CCMT 2(1.5)1	C2 & 3	Uncoated	80 Deg. Dia.	.250 (6 mm)	.015
311-51200-03	10X	ST	Insert Screw	Flat	CCMW 2(1.5)1	C2 & 3	Uncoated	80 Deg. Dia.	.250 (6 mm)	.015
311-51200-04	9X	ST	Insert Screw	Pos	CCMT 3(2.5)2	C5-7	Coated	80 Deg. Dia.	.375 (9 mm)	.031
311-51200-05	9X	ST	Insert Screw	Flat	CCMW 32.52	C2-4, 6-8	Coated	80 Deg. Dia.	.375 (9 mm)	.031
311-51200-06	9X	ST	Insert Screw	Pos	CCMT 3(2.5)2	C2 & 3	Uncoated	80 Deg. Dia.	.375 (9 mm)	.031
311-51200-07	9X	ST	Insert Screw	Flat	CCMW 32.52	C2 & 3	Uncoated	80 Deg. Dia.	.375 (9 mm)	.031
311-51200-08	G8, G6 & G4	ST	Insert Screw	Pos	CCMT 432	C5-7	Coated	80 Deg. Dia.	.500 (12 mm)	.031
311-51200-09	G8, G6 & G4	ST	Insert Screw	Flat	CCMW 432	C2 & 7	Coated	80 Deg. Dia.	.500 (12 mm)	.031
311-51200-10	G8, G6 & G4	ST	Insert Screw	Pos	CCMT 432	C2 & 3	Uncoated	80 Deg. Dia.	.500 (12 mm)	.031
311-52200-00	G8 & G6	ST	Locking Pin	5 Neg	CNMM 432	C5-7	Coated	80 Deg. Dia.	.500 (12 mm)	.031
311-52200-01	G8 & G6	ST	Locking Pin	Flat	CNMA 432	C2-4, 6-8	Coated	80 Deg. Dia.	.500 (12 mm)	.031
311-52200-02	G8 & G6	ST	Locking Pin	5 Pos	CNMP 432	C5-8	Coated	80 Deg. Dia.	.500 (12 mm)	.031
311-52200-03	G8 & G6	ST	Locking Pin	Flat	CNMA 432	C2-3	Uncoated	80 Deg. Dia.	.500 (12 mm)	.031
311-52200-04	G8 & G6	ST	Locking Pin	5 Pos	CNMP 432	C2-5	Uncoated	80 Deg. Dia.	.500 (12 mm)	.031
311-52200-05	G4	ST	Locking Pin	5 Neg	CNMM 642	C5-7	Coated	80 Deg. Dia.	.750 (19 mm)	.031
311-52200-06	G4	ST	Locking Pin	Flat	CNMA 642	C2-4, 6-8	Coated	80 Deg. Dia.	.750 (19 mm)	.031
311-52200-07	G4	ST	Locking Pin	5 Pos	CNMP 642	C5-8	Coated	80 Deg. Dia.	.750 (19 mm)	.031
311-52200-08	G4	ST	Locking Pin	Flat	CNMA 642	C2	Uncoated	80 Deg. Dia.	.750 (19 mm)	.031
311-52200-09	G4	ST	Locking Pin	5 Pos	CNMP 642	C2-5	Uncoated	80 Deg. Dia.	.750 (19 mm)	.031
311-51300-00	10X	STC	Insert Screw	Pos	TCMT 21.51-UR	C5-7	Coated	Triangle	.250 (6 mm)	.015
311-51300-01	10X	STC	Insert Screw	Flat	TCMW 21.51	C2-4, 6-8	Coated	Triangle	.250 (6 mm)	.015
311-51300-02	10X	STC	Insert Screw	Pos	TCMT 21.51-UR	C2 & 3	Uncoated	Triangle	.250 (6 mm)	.015
311-51300-03	10X	STC	Insert Screw	Flat	TCMW 21.51	C2 & 3	Uncoated	Triangle	.250 (6 mm)	.015
311-51300-04	9X	STC	Insert Screw	Pos	TCMT 32.52-UR	C5-7	Coated	Triangle	.375 (9 mm)	.031
311-51300-05	9X	STC	Insert Screw	Flat	TCMW 32.52	C2-4, 6-8	Coated	Triangle	.375 (9 mm)	.031
311-51300-06	9X	STC	Insert Screw	Pos	TCMT 32.52-UR	C2 & 3	Uncoated	Triangle	.375 (9 mm)	.031
311-51300-07	9X	STC	Insert Screw	Flat	TCMW 32.52	C2 & 3	Uncoated	Triangle	.375 (9 mm)	.031
311-51300-08	G8, G6 & G4	STC	Insert Screw	Pos	TCMT 432-UR	C2-4, 6-8	Coated	Triangle	.500 (12 mm)	.031
311-51300-09	G8, G6 & G4	STC	Insert Screw	Pos	TCMT 432-UR	C2 & 3	UnCoated	Triangle	.500 (12 mm)	.031
311-52350-00	G8, G6 & G4	STC	Locking Pin	5 Neg	TNMM 432-ER	C2-7	Coated	Triangle	.500 (12 mm)	.031
311-52350-01	G8, G6 & G4	STC	Locking Pin	Flat	TNMA 432	C2-8	Coated	Triangle	.500 (12 mm)	.031
311-52350-02	G8, G6 & G4	STC	Locking Pin	5 Pos	TNMP 432	C5-7	Coated	Triangle	.500 (12 mm)	.031
311-52350-03	G8, G6 & G4	STC	Locking Pin	5 Neg	TNMM 432-ER	C2	Uncoated	Triangle	.500 (12 mm)	.031
311-52350-04	G8, G6 & G4	STC	Locking Pin	Flat	TNMA 432	C2-3	Uncoated	Triangle	.500 (12 mm)	.031
311-52350-05	G8, G6 & G4	STC	Locking Pin	5 Pos	TNMP 432	C2-5	Uncoated	Triangle	.500 (12 mm)	.031

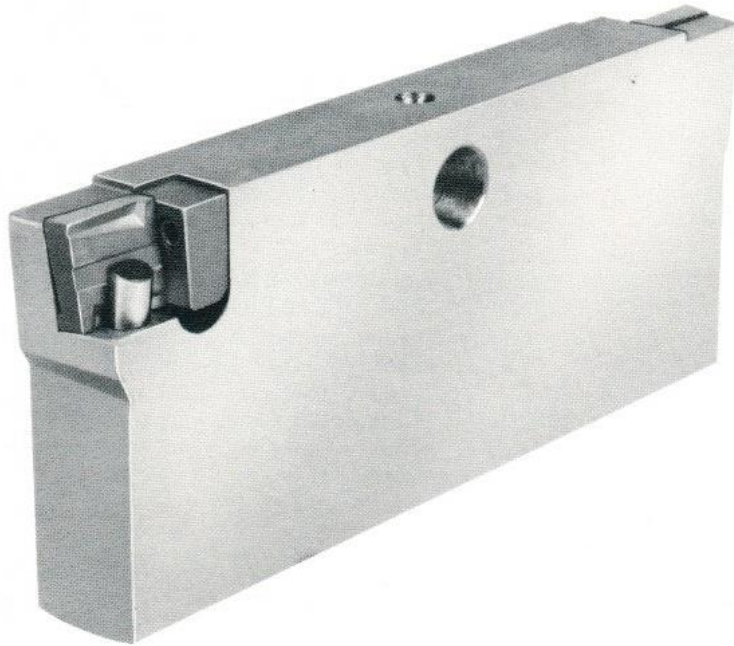
Accessories

Series	Design	Part Number	Series	Design	Part Number
10X	Insert Screw	019-44260-05	G8	Locking Pin	314-02289-00
9X	Insert Screw	019-44260-06	G6	Locking Pin	314-02289-01
G8, G6 & G4	Insert Screw	019-44260-07	G4	Locking Pin	314-02289-02

SEMIFINISH/FINISH BLOCK*

Type AT two-cutter blocks use adjustable indexable inserts

- Economical
- Positive lock
- 2.375 to 17.00" bore diameters
- Simple adjustment
- Case hardened alloy steel body



The AT block is designed to machine bores quickly and to close tolerances ($\pm 0.0005''$). Finish bores are rounder, virtually taper-free, and more uniform hole-to-hole. This is all possible because two opposing cutters stabilize the boring bar against movement from the bore center line due to insert wear and bar deflection. All these benefits are possible without expensive pre-setting machines because all blocks can be pre-set using bench center.

Davis blocks with adjustable indexable carbide inserts significantly reduce boring costs three ways; (1) by eliminating carbide grinding (2) reducing cutter costs (3) minimizing tool inventory.

When cutting edges are worn, the carbide insert is merely indexed to a new cutting edge. When all four edges are worn, the insert is discarded and a new one is quickly clamped into position.

The indexable carbide insert is held in place by a patented positive lock and clamping arrangement.

Series G8-AT Blocks

Bore Dia.	Part No.	Bore Dia.	Part No.	Bore Dia.	Part No.	Bore Dia.	Part No.
2.375 to 2.500"	374-00376-03	3.625 to 3.750"	374-00376-13	4.750 to 4.875"	374-00376-22	5.875 to 6.000"	374-00376-31
2.500 to 2.625"	374-00376-04	3.750 to 3.875"	374-00376-14	4.875 to 5.000"	374-00376-23	6.000 to 6.125"	374-00376-32
2.625 to 2.750"	374-00376-05	3.875 to 4.000"	374-00376-15	5.000 to 5.125"	374-00376-24	6.125 to 6.250"	374-00376-33
2.750 to 2.875"	374-00376-06	4.000 to 4.125"	374-00376-16	5.125 to 5.250"	374-00376-25	6.250 to 6.375"	374-00376-34
2.875 to 3.000"	374-00376-07	4.125 to 4.250"	374-00376-17	5.250 to 5.375"	374-00376-26	6.375 to 6.500"	374-00376-35
3.000 to 3.125"	374-00376-08	4.250 to 4.375"	374-00376-18	5.375 to 5.500"	374-00376-27	6.500 to 6.625"	374-00376-36
3.125 to 3.250"	374-00376-09	4.375 to 4.500"	374-00376-19	5.500 to 5.625"	374-00376-28	6.625 to 6.750"	374-00376-37
3.250 to 3.375"	374-00376-10	4.500 to 4.625"	374-00376-20	5.625 to 5.750"	374-00376-29	6.750 to 6.875"	374-00376-38
3.375 to 3.500"	374-00376-11	4.625 to 4.750"	374-00376-21	5.750 to 5.875"	374-00376-30	6.875 to 7.000"	374-00376-39
3.500 to 3.625"	374-00376-12						

Series G6-AT Blocks

Bore Dia.	Part No.	Bore Dia.	Part No.	Bore Dia.	Part No.	Bore Dia.	Part No.
4.000 to 4.125"	374-00377-05	5.000 to 5.125"	374-00377-13	6.000 to 6.125"	374-00377-21	7.000 to 7.125"	374-00377-29
4.125 to 4.250"	374-00377-06	5.125 to 5.250"	374-00377-14	6.125 to 6.250"	374-00377-22	7.125 to 7.250"	374-00377-30
4.250 to 4.375"	374-00377-07	5.250 to 5.375"	374-00377-15	6.250 to 6.375"	374-00377-23	7.250 to 7.375"	374-00377-31
4.375 to 4.500"	374-00377-08	5.375 to 5.500"	374-00377-16	6.375 to 6.500"	374-00377-24	7.375 to 7.500"	374-00377-32
4.500 to 4.625"	374-00377-09	5.500 to 5.625"	374-00377-17	6.500 to 6.625"	374-00377-25	7.500 to 7.625"	374-00377-33
4.625 to 4.750"	374-00377-10	5.625 to 5.750"	374-00377-18	6.625 to 6.750"	374-00377-26	7.625 to 7.750"	374-00377-34
4.750 to 4.875"	374-00377-11	5.750 to 5.875"	374-00377-19	6.750 to 6.875"	374-00377-27	7.750 to 7.875"	374-00377-35
4.875 to 5.000"	374-00377-12	5.875 to 6.000"	374-00377-20	6.875 to 7.000"	374-00377-28	7.875 to 8.000"	374-00377-36

Series G6-AT Blocks (cont.)

Bore Dia.	Part No.	Bore Dia.	Part No.	Bore Dia.	Part No.	Bore Dia.	Part No.
8.000 to 8.125"	374-00377-37	9.000 to 9.125"	374-00377-45	10.000 to 10.125"	374-00377-53	11.000 to 11.125"	374-00377-61
8.125 to 8.250"	374-00377-38	9.125 to 9.250"	374-00377-46	10.125 to 10.250"	374-00377-54	11.125 to 11.250"	374-00377-62
8.250 to 8.375"	374-00377-39	9.250 to 9.375"	374-00377-47	10.250 to 10.375"	374-00377-55	11.250 to 11.375"	374-00377-63
8.375 to 8.500"	374-00377-40	9.375 to 9.500"	374-00377-48	10.375 to 10.500"	374-00377-56	11.375 to 11.500"	374-00377-64
8.500 to 8.625"	374-00377-41	9.500 to 9.625"	374-00377-49	10.500 to 10.625"	374-00377-57	11.500 to 11.625"	374-00377-65
8.625 to 8.750"	374-00377-42	9.625 to 9.750"	374-00377-50	10.625 to 10.750"	374-00377-58	11.625 to 11.750"	374-00377-66
8.750 to 8.875"	374-00377-43	9.750 to 9.875"	374-00377-51	10.750 to 10.875"	374-00377-59	11.750 to 11.875"	374-00377-67
8.875 to 9.000"	374-00377-44	9.875 to 10.000"	374-00377-52	10.875 to 11.000"	374-00377-60	11.875 to 12.000"	374-00377-68

Series G4-AT Blocks

Bore Dia.	Part No.	Bore Dia.	Part No.	Bore Dia.	Part No.	Bore Dia.	Part No.
5.500 to 5.625"	374-00378-05	8.375 to 8.500"	374-00378-28	11.250 to 11.375"	374-00378-51	14.125 to 14.250"	374-00378-74
5.625 to 5.750"	374-00378-06	8.500 to 8.625"	374-00378-29	11.375 to 11.500"	374-00378-52	14.250 to 14.375"	374-00378-75
5.750 to 5.875"	374-00378-07	8.625 to 8.750"	374-00378-30	11.500 to 11.625"	374-00378-53	14.375 to 14.500"	374-00378-76
5.875 to 6.000"	374-00378-08	8.750 to 8.875"	374-00378-31	11.625 to 11.750"	374-00378-54	14.500 to 14.625"	374-00378-77
6.000 to 6.125"	374-00378-09	8.875 to 9.000"	374-00378-32	11.750 to 11.875"	374-00378-55	14.625 to 14.750"	374-00378-78
6.125 to 6.250"	374-00378-10	9.000 to 9.125"	374-00378-33	11.875 to 12.000"	374-00378-56	14.750 to 14.875"	374-00378-79
6.250 to 6.375"	374-00378-11	9.125 to 9.250"	374-00378-34	12.000 to 12.125"	374-00378-57	14.875 to 15.000"	374-00378-80
6.375 to 6.500"	374-00378-12	9.250 to 9.375"	374-00378-35	12.125 to 12.250"	374-00378-58	15.000 to 15.125"	374-00378-81
6.500 to 6.625"	374-00378-13	9.375 to 9.500"	374-00378-36	12.250 to 12.375"	374-00378-59	15.125 to 15.250"	374-00378-82
6.625 to 6.750"	374-00378-14	9.500 to 9.625"	374-00378-37	12.375 to 12.500"	374-00378-60	15.250 to 15.375"	374-00378-83
6.750 to 6.875"	374-00378-15	9.625 to 9.750"	374-00378-38	12.500 to 12.625"	374-00378-61	15.375 to 15.500"	374-00378-84
6.875 to 7.000"	374-00378-16	9.750 to 9.875"	374-00378-39	12.625 to 12.750"	374-00378-62	15.500 to 15.625"	374-00378-85
7.000 to 7.125"	374-00378-17	9.875 to 10.000"	374-00378-40	12.750 to 12.875"	374-00378-63	15.625 to 15.750"	374-00378-86
7.125 to 7.250"	374-00378-18	10.000 to 10.125"	374-00378-41	12.875 to 13.000"	374-00378-64	15.750 to 15.875"	374-00378-87
7.250 to 7.375"	374-00378-19	10.125 to 10.250"	374-00378-42	13.000 to 13.125"	374-00378-65	15.875 to 16.000"	374-00378-88
7.375 to 7.500"	374-00378-20	10.250 to 10.375"	374-00378-43	13.125 to 13.250"	374-00378-66	16.000 to 16.125"	374-00378-89
7.500 to 7.625"	374-00378-21	10.375 to 10.500"	374-00378-44	13.250 to 13.375"	374-00378-67	16.125 to 16.250"	374-00378-90
7.625 to 7.750"	374-00378-22	10.500 to 10.625"	374-00378-45	13.375 to 13.500"	374-00378-68	16.250 to 16.375"	374-00378-91
7.750 to 7.875"	374-00378-23	10.625 to 10.750"	374-00378-46	13.500 to 13.625"	374-00378-69	16.375 to 16.500"	374-00378-92
7.875 to 8.000"	374-00378-24	10.750 to 10.875"	374-00378-47	13.625 to 13.750"	374-00378-70	16.500 to 16.625"	374-00378-93
8.000 to 8.125"	374-00378-25	10.875 to 11.000"	374-00378-48	13.750 to 13.875"	374-00378-71	16.625 to 16.750"	374-00378-94
8.125 to 8.250"	374-00378-26	11.000 to 11.125"	374-00378-49	13.875 to 14.000"	374-00378-72	16.750 to 16.875"	374-00378-95
8.250 to 8.375"	374-00378-27	11.125 to 11.250"	374-00378-50	14.000 to 14.125"	374-00378-73	16.875 to 17.000"	374-00378-96

Stock Inserts

G8 Block	Code	Part No.	G6 Block	Code	Part No.	G4 Block	Code	Part No.
.125" x .500" Parallelogram	N2308	314-01411-00	.187" x .625" Parallelogram	N2306	314-01412-00	.187" x .750" Parallelogram	N2304	314-01413-00
	N2058	314-01411-02		N2056	314-01412-02		N2054	314-01413-02
	B6308	314-01411-01		B6306	314-01412-01		B6304	314-01413-01
	P6308	314-01411-04		P6306	314-01412-04		P6304	314-01413-04
	P6058	314-01411-05		P6056	314-01412-05		P6054	314-01413-05
	NC308	314-01411-11		NC306	314-01412-11		NC304	314-01413-11
	BC308	314-01411-12		BC306	314-01412-12		BC304	314-01413-12
	PC308	314-01411-14		PC306	314-01412-14		PC304	314-01413-14
	BC158	314-01411-26		BC156	314-01412-19		BC154	314-01413-19
	PC158	314-01411-27		PC156	314-01412-20		PC154	314-01413-20
	NC158	314-01411-28		NC156	314-01412-21		NC154	314-01413-21

Parallelogram Inserts



Negative Negative W/Chip Control Positive

Code
N C 30 8

Block Series
 8 = G8
 6 = G6
 4 = G4

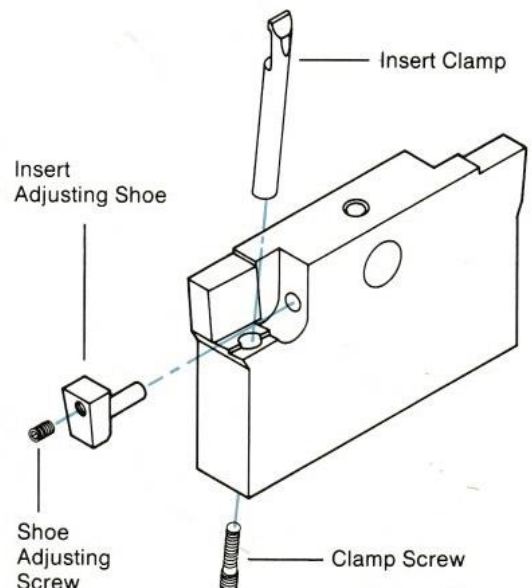
Corner Radius
 30 = .030
 05 = .005
 15 = .015

Davis Carbide Grade
 2 = DC-2
 6 = DC-6
 C = Coated

Style
 N = Negative
 B = Negative W/Chip Control
 P = Positive

Repair Parts - Blocks

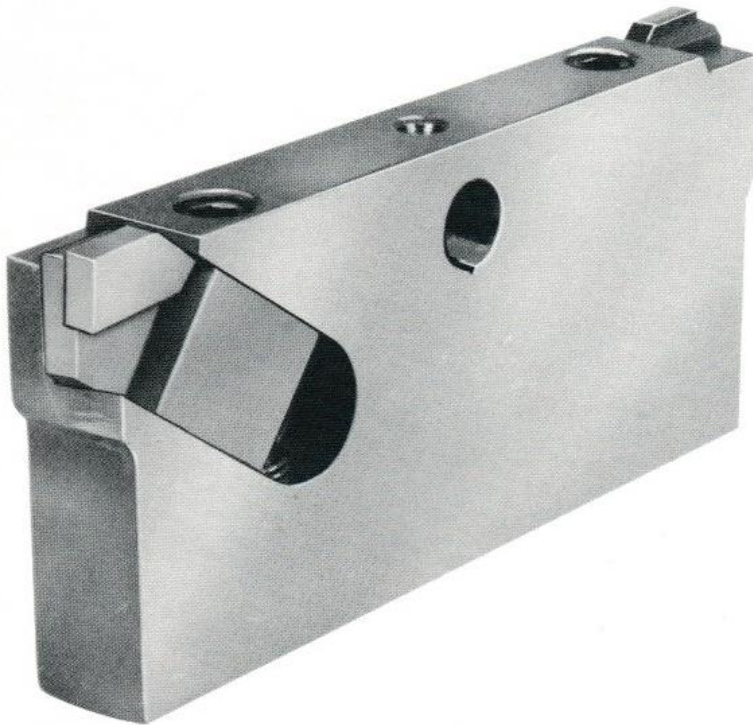
Block	Insert Adjusting Shoe	Insert Clamp	Clamp Screw	Shoe Adjusting Screw
G8 2.375" 2.500" 2.625" 2.750" 2.875 to 6.875"	314-00370-02 314-00370-03 314-00370-04 314-00370-05 314-00370-00	314-01262-00	305-80606-01	0502 x 5178
G6	314-00372-00	314-01264-00	305-80590-01	0512 x 5214
G4	314-00372-00	314-01300-00	305-80590-01	0512 x 5214



ALL-PURPOSE BLOCK

Type E expandable two-cutter blocks and cutters for rough, semifinish and finish boring

- Low cost
- 3/4" thru 17" diameter bores
- Tolerances to $\pm .0005''$
- Eliminates trial cuts



The E block permits complete control of bore diameters from the tool room. This block is assembled and ground to the finished bore size, then centrally located in the Davis boring bar within $\pm .0005''$ automatically. No expensive pre-setting equipment is necessary.

These blocks are designed to close tolerances of ($\pm .0005''$), and provide fixed coordinates for both diameter and depth on 1.000 to 17.000" diameter bores. Finish bores are rounder, virtually taper-free, and more uniform hole-to-hole.

When cutting edges are worn, the block is sent to the toolroom where cutters are expanded using the adjusting screws. The cutters are then reground for bore diameter and depth - providing complete control of machining accuracy from the toolroom. Time is saved by eliminating trial cuts and size checking at the machine.

In use, the block is locked firmly against the back of the slot in the bar. This centralizes the block radially within $\pm .0005''$ and axially within $\pm .005''$ from the gage line. Toolroom accuracy is thus translated to workpiece bore diameter and depth.

Series 10X-E Blocks

Bore Range	Part No.	Bore Range	Part No.	Bore Range	Part No.	Bore Range	Part No.
1.000 to 1.062"	304-52111-00	1.187 to 1.250"	304-52114-00	1.375 to 1.437"	304-52117-00	1.562 to 1.625"	304-52120-00
1.062 to 1.125"	304-52112-00	1.250 to 1.312"	304-52115-00	1.437 to 1.500"	304-52118-00	1.625 to 1.687"	304-52121-00
1.125 to 1.187"	304-52113-00	1.312 to 1.375"	304-52116-00	1.500 to 1.562"	304-52119-00	1.687 to 1.750"	304-52122-00

Series 9X-E Blocks

Bore Range	Part No.	Bore Range	Part No.	Bore Range	Part No.
1.312 to 1.500"	304-52210-00	2.250 to 2.434"	304-52215-00	3.187 to 3.375"	304-52220-00
1.500 to 1.687"	304-52211-00	2.437 to 2.625"	304-52216-00	3.375 to 3.562"	304-52221-00
1.687 to 1.875"	304-52212-00	2.625 to 2.812"	304-52217-00	3.562 to 3.750"	304-52222-00
1.875 to 2.062"	304-52213-00	2.812 to 3.000"	304-52218-00	3.750 to 3.937"	304-52223-00
2.062 to 2.250"	304-52214-00	3.000 to 3.187"	304-52219-00	3.937 to 4.125"	304-52224-00

Series G8-E Blocks

Bore Range	Part No.	Bore Range	Part No.	Bore Range	Part No.	Bore Range	Part No.
2.125 to 2.312"	304-52309-00	3.250 to 3.500"	304-52314-00	4.500 to 4.750"	304-52319-00	5.750 to 6.000"	304-52324-00
2.312 to 2.500"	304-52310-00	3.500 to 3.750"	304-52315-00	4.750 to 5.000"	304-52320-00	6.000 to 6.250"	304-52325-00
2.500 to 2.750"	304-52311-00	3.750 to 4.000"	304-52316-00	5.000 to 5.250"	304-52321-00	6.250 to 6.500"	304-52326-00
2.750 to 3.000"	304-52312-00	4.000 to 4.250"	304-52317-00	5.250 to 5.500"	304-52322-00	6.500 to 6.750"	304-52327-00
3.000 to 3.250"	304-52313-00	4.250 to 4.500"	304-52318-00	5.500 to 5.750"	304-52323-00	6.750 to 7.000"	304-52328-00

*For extremely close tolerance bores, see centralizing procedure on page 22.

Series G6-E Blocks

Bore Range	Part No.
3.500 to 3.875"	304-52508-00
3.875 to 4.250"	304-52509-00
4.250 to 4.500"	304-52510-00
4.500 to 4.875"	304-52511-00
4.875 to 5.250"	304-52512-00
5.250 to 5.625"	304-52513-00

Bore Range	Part No.
5.625 to 6.000"	304-52514-00
6.000 to 6.375"	304-52515-00
6.375 to 6.750"	304-52516-00
6.750 to 7.125"	304-52517-00
7.125 to 7.500"	304-52518-00
7.500 to 7.875"	304-52519-00

Bore Range	Part No.
7.875 to 8.250"	304-52520-00
8.250 to 8.625"	304-52521-00
8.625 to 9.000"	304-52522-00
9.000 to 9.375"	304-52523-00
9.375 to 9.750"	304-52524-00
9.750 to 10.125"	304-52525-00

Bore Range	Part No.
10.125 to 10.500"	304-52526-00
10.500 to 10.875"	304-52527-00
10.875 to 11.250"	304-52528-00
11.250 to 11.625"	304-52529-00
11.625 to 12.000"	304-52530-00

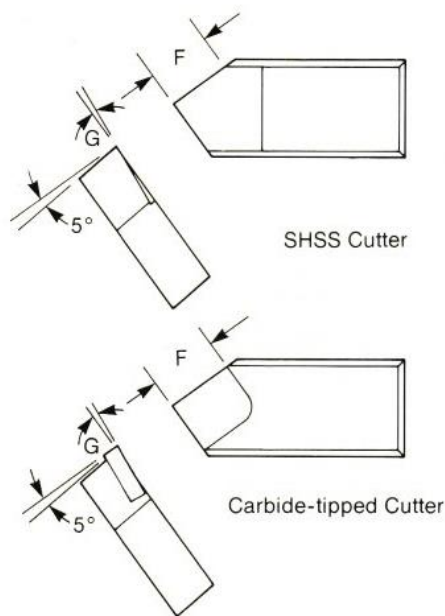
Series G4-E Blocks

Bore Range	Part No.
5.500 to 5.875"	304-52708-00
5.875 to 6.250"	304-52709-00
6.250 to 6.500"	304-52710-00
6.500 to 6.875"	304-52711-00
6.875 to 7.250"	304-52712-00
7.250 to 7.625"	304-52713-00
7.625 to 8.000"	304-52714-00
8.000 to 8.375"	304-52715-00

Bore Range	Part No.
8.375 to 8.750"	304-52716-00
8.750 to 9.125"	304-52717-00
9.125 to 9.500"	304-52718-00
9.500 to 9.875"	304-52719-00
9.875 to 10.250"	304-52720-00
10.250 to 10.625"	304-52721-00
10.625 to 11.000"	304-52722-00
11.000 to 11.375"	304-52723-00

Bore Range	Part No.
11.375 to 11.750"	304-52724-00
11.750 to 12.125"	304-52725-00
12.125 to 12.500"	304-52726-00
12.500 to 12.875"	304-52727-00
12.875 to 13.250"	304-52728-00
13.250 to 13.625"	304-52729-00
13.625 to 14.000"	304-52730-00
14.000 to 14.375"	304-52731-00

Bore Range	Part No.
14.375 to 14.750"	304-52732-00
14.750 to 15.125"	304-52733-00
15.125 to 15.500"	304-52734-00
15.500 to 15.875"	304-52735-00
15.875 to 16.250"	304-52736-00
16.250 to 16.625"	304-52737-00
16.625 to 17.000"	304-52738-00

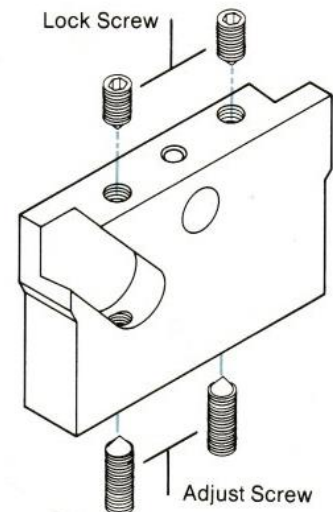


"E" Cutters

Series	F	G	SHSS	Carbide Tipped	
				DC-2	DC-6
10XE					
1.000 - 1.250"	.14"	0°	304-01200-08	373-81200-05	373-81201-05
1.000 - 1.250"	.14"	5°			
1.312 - 1.687"	.14"	0°	304-01300-08	373-81300-05	373-81301-05
1.312 - 1.687"	.14"	5°			
9XE					
1.312 - 1.687"	.31"	5°	301-00002-00	371-02022-00	371-02062-00
1.875 - 4.687"	.31"	5°	301-00102-00	371-02122-00	371-02162-00
G8E					
2.125 - 2.312"	.39"	5°	301-00202-00	371-02222-00	371-02262-00
2.500 - 6.750"	.39"	5°	301-00302-00	371-02322-00	371-02362-00
G6E High Range	.60	5°	301-00500-00	371-02520-00	371-02560-00
G6E Low Range	.51	5°	301-00400-00	371-02420-00	371-02460-00
G4E High Range	.75"	5°	301-00700-00	371-02720-00	371-02760-00
G4E Low Range	.65"	5°	301-00600-00	371-02620-00	371-02660-00

Repair Parts - Blocks

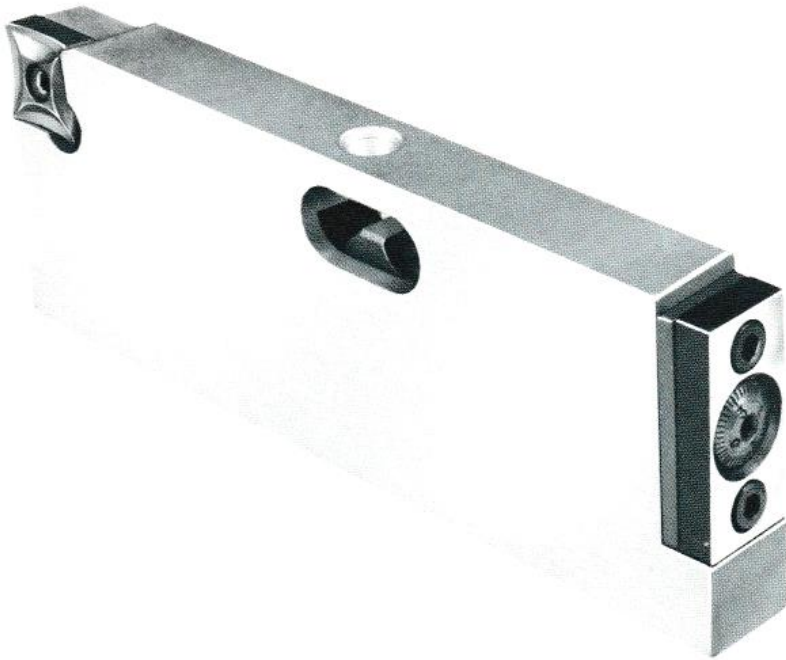
Series	Lock Screw	Adjust Screw
10X		
1.000 - 1.250"	0828 x 1290	0828 x 1280
1.312 - 1.687"	0828 x 1291	0828 x 1281
9X		
1.312"	0828 x 1292	0828 x 1282
1.500 - 1.687"	0828 x 1293	0828 x 1283
1.875 - 4.687"	0828 x 1294	0828 x 1284
G8		
2.125 - 2.312"	0828 x 1295	0828 x 1285
2.500 - 6.750"	0828 x 1296	0828 x 1286
G6	0828 x 1297	0828 x 1287
G4	0828 x 1298	0828 x 1288



ALL-PURPOSE BLOCK

Type MST micrometer-adjustable single-cutter blocks

- Wide bore range/block
- Simple adjustment
- Case hardened alloy steel body
- Industry standard 80° diamond indexable inserts
- Available in locking pin and insert screw style inserts



Each Davis MST block will cover a considerably greater bore range than is attainable with a two-cutter block. Machine operator can easily adjust the block in increments of .001" across its full range. As a result, short-run work can be handled with fewer tool changes. The block utilizes industry standard 80° diamond throwaway carbide inserts.

Special designs available to allow incremental adjustment of .0001". Please consult factory.

Series G8-MST Blocks

Block Size Range	Locking Pin* .500 IC Insert	Insert Screw .375 IC Insert
2.00 - 2.50	-	374-02335-06
2.50 - 3.00	374-02334-00	374-02335-00
3.00 - 3.50	374-02334-01	374-02335-01
3.50 - 4.25	374-02334-02	374-02335-02
4.25 - 5.00	374-02334-03	374-02335-03
5.00 - 5.75	374-02334-04	374-02335-04
5.75 - 6.50	374-02334-05	374-02335-05

Series G6-MST Blocks

Block Size Range	Locking Pin* .500 IC Insert	Insert Screw .375 IC Insert
3.50 - 4.00	374-02338-00	374-02339-00
4.00 - 4.50	374-02338-01	374-02339-01
4.50 - 5.12	374-02338-02	374-02339-02
5.12 - 6.00	374-02338-03	374-02339-03
6.00 - 7.00	374-02338-04	374-02339-04
7.00 - 8.50	374-02338-05	374-02339-05
8.50 - 10.00	374-02338-06	374-02339-06
10.00 - 11.50	374-02338-07	374-02339-07
11.50 - 13.00	374-02338-08	374-02339-08

Series G4-MST Blocks

Block Size Range	Locking Pin* .500 IC Insert	Insert Screw .500 IC Insert
4.50 - 5.00	374-02336-00	374-02337-00
5.00 - 5.50	374-02336-01	374-02337-01
5.50 - 6.25	374-02336-02	374-02337-02
6.25 - 7.50	374-02336-03	374-02337-03
7.50 - 9.50	374-02336-04	374-02337-04
9.50 - 12.00	374-02336-05	374-02337-05
12.00 - 14.50	374-02336-06	374-02337-06
14.50 - 17.00	374-02336-07	374-02337-07
17.00 - 19.50	374-02336-08	374-02337-08

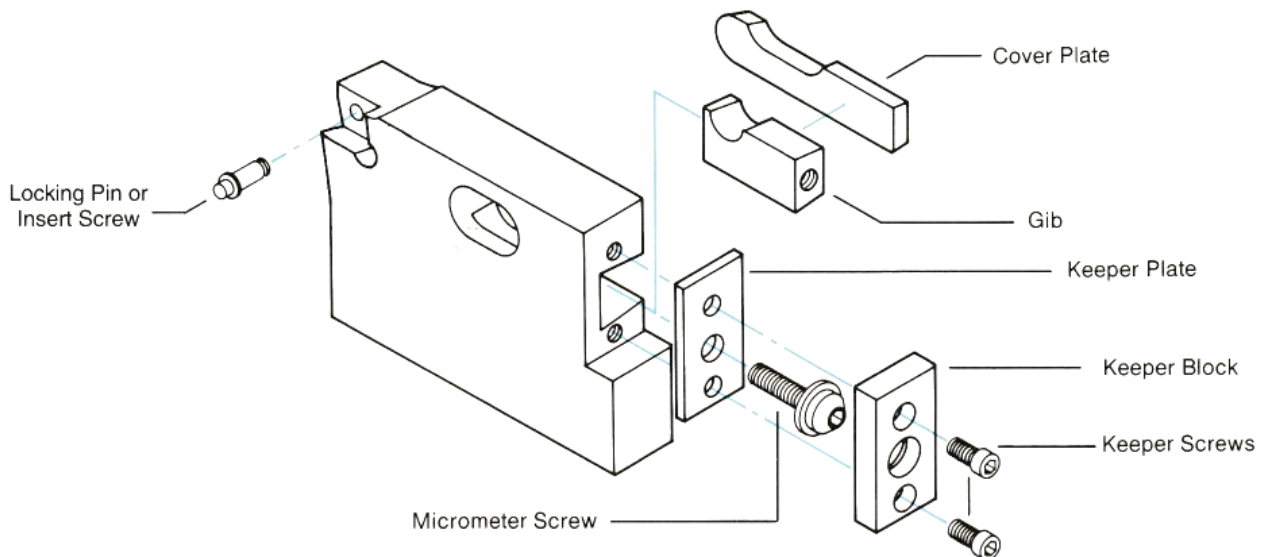
Insert screw type is made-to-order.

Stock Inserts

Insert No.	Series	Style	Design	Type	ANSI No.	Class	Carbide
311-51200-04	G8 & G6	MST	Insert Screw	Pos	CCMT 3(2.5)2	C5-7	Coated
311-51200-05	G8 & G6	MST	Insert Screw	Flat	CCMW 3(2.5)2	C2-4, 6-8	Coated
311-51200-06	G8 & G6	MST	Insert Screw	Pos	CCMT 3(2.5)2	C2 & 3	Uncoated
311-51200-07	G8 & G6	MST	Insert Screw	Flat	CCMW 3(2.5)2	C2 & 3	Uncoated
311-51200-08	G8, G6 , G4	MST	Insert Screw	Pos	CCMT 432	C5-7	Coated
311-51200-09	G8, G6 , G4	MST	Insert Screw	Flat	CCMW 432	C2 & 7	Coated
311-51200-10	G8, G6 , G4	MST	Insert Screw	Pos	CCMT 432	C2 & 3	Uncoated
311-52200-00	G8, G6, G4	MST	Locking Pin	5 Neg	CNMM 432	C5-7	Coated
311-52200-01	G8, G6, G4	MST	Locking Pin	Flat	CNMA 432	C2-4, 6-8	Coated
311-52200-02	G8, G6, G4	MST	Locking Pin	5 Pos	CNMP 432	C5-8	Coated
311-52200-03	G8, G6, G4	MST	Locking Pin	Flat	CNMA 432	C2-3	Uncoated
311-52200-04	G8, G6, G4	MST	Locking Pin	5 Pos	CNMP 432	C2-5	Uncoated

Repair Parts - Blocks

Bore Range	Gib	Micrometer Screw	Cover Plate	Keeper Plate	Keeper Block	Keeper Screw	Insert Screw	Locking Pin
G8								
2.50 - 3.00"	303-41311-00	303-42311-00	303-43311-00					
3.00 - 3.50"	303-41312-00	303-42312-00	303-43312-00					
3.50 - 4.25"	303-41313-00	303-42313-00	303-43313-00	303-45300-00	303-44300-00	0558 x 0101	019-44260-07	314-02289-00
4.25 - 5.00"	303-41314-00	303-42313-00	303-43314-00					
5.00 - 5.75"	303-41315-00	303-42313-00	303-43315-00					
5.75 - 6.50"	303-41316-00	303-42313-00	303-43316-00					
G6								
3.50 - 4.00"	303-41510-00	303-42510-00	303-43510-00					
4.00 - 4.50"	303-41511-00	303-42511-00	303-43511-00					
4.50 - 5.12"	303-41512-00	303-42512-00	303-43512-00	303-45500-00	303-44500-00	0558 x 0152	019-44260-07	314-02289-01
5.12 - 6.00"	303-41513-00	303-42513-00	303-43513-00					
6.00 - 7.00"	303-41514-00	303-42514-00	303-43514-00					
7.00 - 10.00"	303-41515-00	303-42515-00	303-43515-00					
G4								
4.50 - 5.00"	303-41611-00	303-42611-00	303-43611-00					
5.00 - 5.50"	303-41612-00	303-42611-00	303-43612-00					
5.50 - 6.25"	303-41613-00	303-42613-00	303-43613-00	303-45700-00	303-44700-00	0559 x 0202	019-44260-07	314-02289-01
6.25 - 7.50"	303-41614-00	303-42613-00	303-43614-00					
7.50 - 9.50"	303-41615-00	303-42615-00	303-43615-00					
9.50 - 17.0"	303-41616-00	303-42616-00	303-43616-00					



SHSS Cutter Blanks

Super high-speed steel



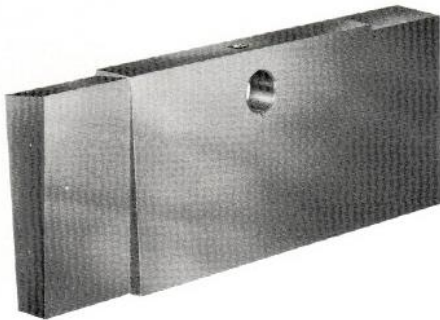
Solid block blanks are stocked in a variety of unfinished lengths for quick delivery to customers who want to grind blocks to suit specific applications. Finish ground on flats and edges through hardened to Rc 64-66.

Stock SHSS Cutter Blanks

Series	Length	Part No.
11X	3-1/32"	304-20380-08
10X	4-1/32"	304-21480-08
9X	4-1/32"	304-22480-08
9X	5-1/32"	304-22580-08
9X	6-1/32"	304-22680-08
G8	5-1/32"	304-23580-08
G8	7-1/32"	304-23780-08
G8	8-1/32"	304-23880-08
G6	7-1/32"	304-25780-08
G6	9-1/32"	304-25980-08
G6	11-1/32"	304-25180-18
G4	11-1/32"	304-27180-18

Solid Block Cutters

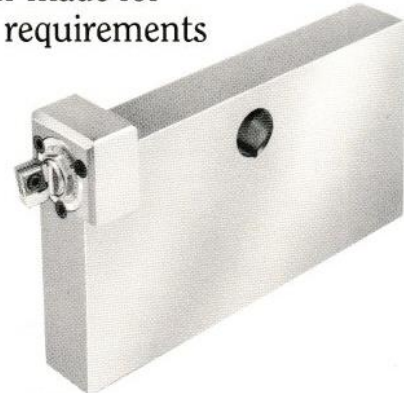
Maximum face width for any boring or facing job



These super high speed steel or brazed carbide blocks are custom-made with the cutting edges either ground directly on the block body or on brazed carbide tips. Where cutting face requirements exceed standard two-cutter blocks, these products speed up machining time considerably.

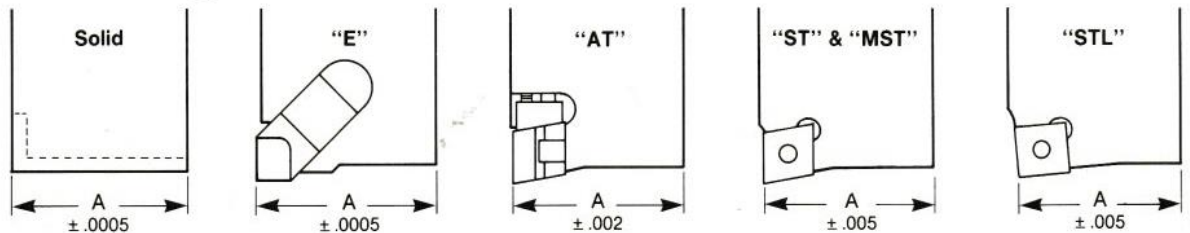
Custom Blocks

Custom-made for special requirements



Davis custom blocks can be adapted for a multitude of special machining applications. Micro-adjustable, multiple cutting diameters and special cutting edge configurations are some of the many time saving applications. In addition, these special blocks can be used with the standard bars in this catalog.

Programming Dimensions

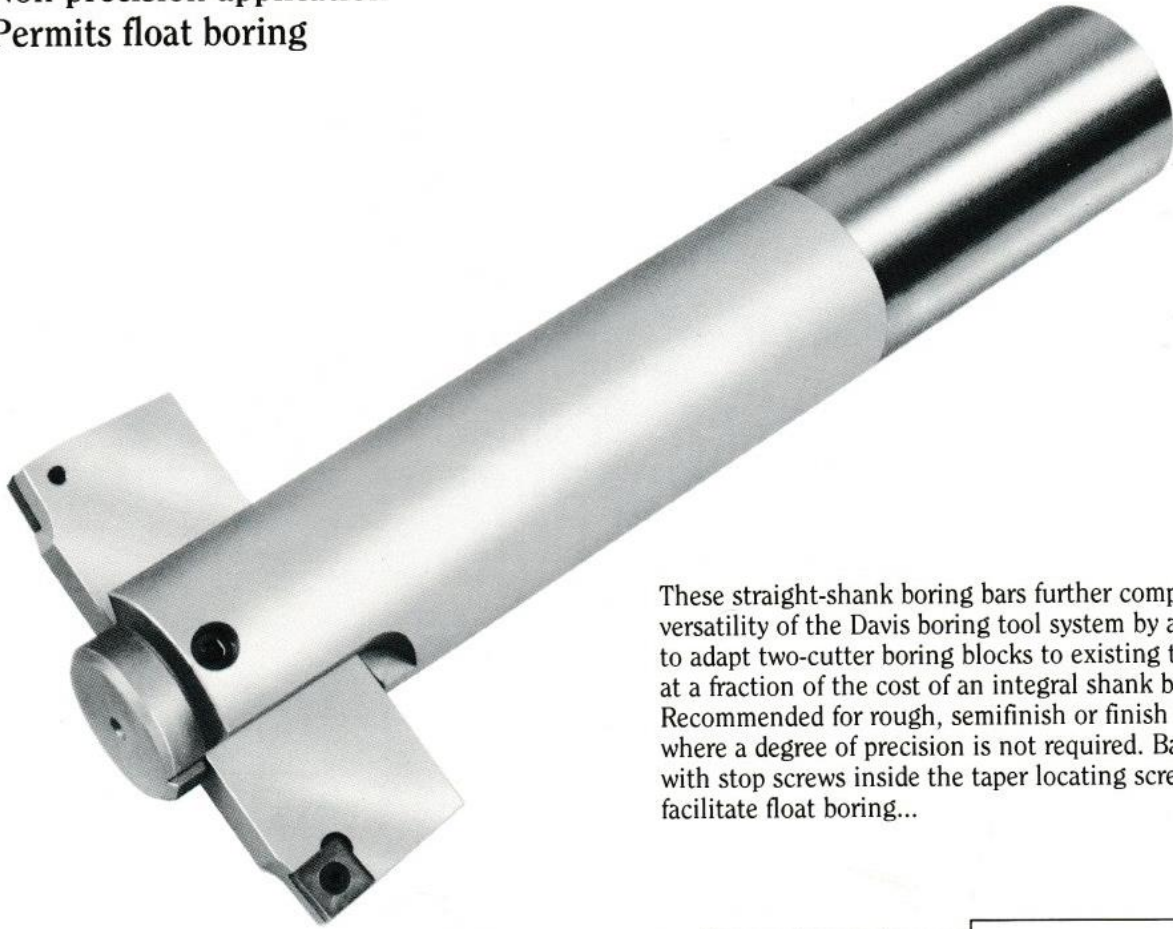


Block	A			A		A	
	Pin	Screw	Pin	Screw	Pin	Screw	
10X	.8625	.8625	NA	NA	.842	NA	.820
9X	1.2365	1.2365	NA	NA	1.206	NA	1.166
G8	1.6115	1.6115	1.581	1.581	1.581	1.541	1.518
G6	2.4855	2.4855	2.456	2.456	2.456	2.416	2.387
G4	3.4855	3.4855	3.456	3.456	3.456	3.388	3.387

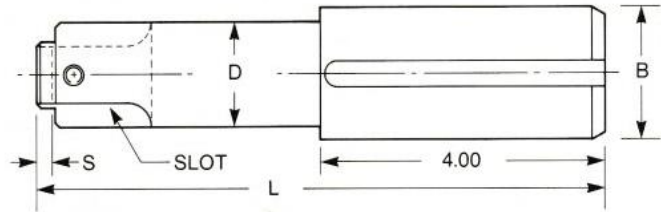
STRAIGHT-SHANK BORING BARS

An economical way to adapt Davis boring tools to turret lathe or machining center applications.

- Low cost versatility
- Non-precision application
- Permits float boring



These straight-shank boring bars further complement the versatility of the Davis boring tool system by allowing you to adapt two-cutter boring blocks to existing toolholders at a fraction of the cost of an integral shank bar. Recommended for rough, semifinish or finish boring where a degree of precision is not required. Bars equipped with stop screws inside the taper locating screw hole facilitate float boring...



Dimensions and Specifications

Bore Range	Slot	D	B	L	S	Part No.	TLS	Jam Screw
1.00 to 1.75	10X	.88	1.000	8.00	.25	374-00173-00	303-51025-02	0502 x 0200
1.31 to 1.88	9X	1.12	1.250	9.00	.25	374-00174-00	303-50922-02	0512 x 0302
1.88 to 3.38	9X	1.50	1.500	11.00	.25	374-00175-00	303-50919-02	0512 x 0302
2.12 to 5.00	G8	2.00	2.000	12.00	.38	374-00555-00	303-50817-02	0512 x 0352
4.00 to 7.00	G6	3.00	2.000	12.00	.25	374-01936-00	303-50613-02	0828 x 1440

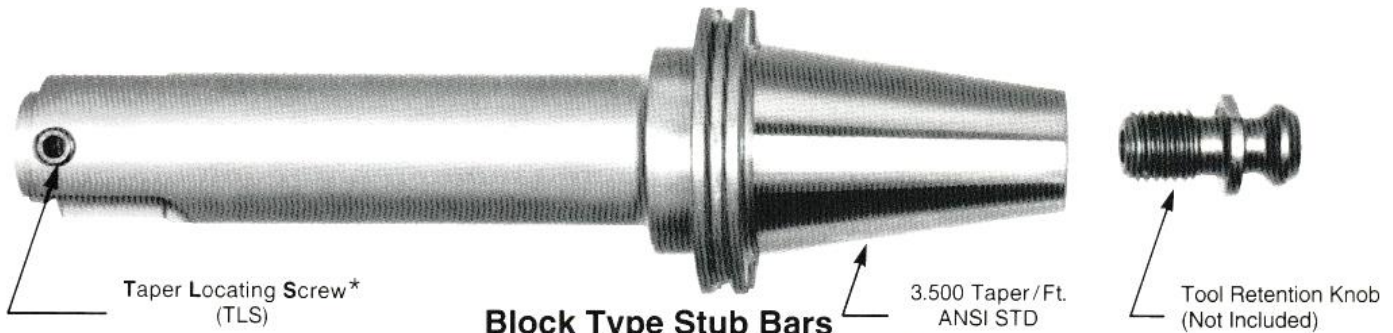
NOTE: All bars for forward boring and have one shank flat. TLS screws are included.

STUB BARS

Specifications for manual and toolchanger machines

- Lowers tooling costs
- Simplifies programming
- B5.40 and B5.50 shanks with #40, #45, #50, and #60 tapers

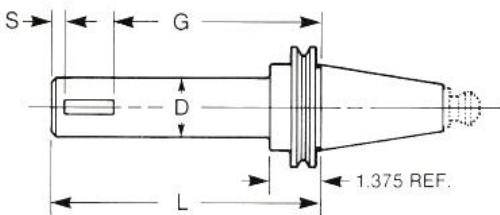
Each Davis stub boring tool accommodates blocks of different sizes and styles to cover a wide range of bore diameters with a minimum boring bar investment. Tool changing becomes simple block changing. Bars also offer fixed axial coordinates to simplify N/C programming. The Davis B5.40 (manual) and B5.50 (toolchanger) taper shanks adapt to standard A.N.S. spindle sockets.



Block Type Stub Bars

W/#40 B5.50 Shanks							
Bar No.	Series	Diameter	L	G	S	TLS No.	L/D Ratio
374-02350-XX	10X	.88	3.12	1.20	.25	303-51025-00	2:1
374-02351-XX	10X	.88	3.88	2.76	.25	303-51025-00	3:1
374-02488-XX	10X	.88	4.62	3.50	.25	303-51025-00	4:1
374-02352-XX	9X	1.12	3.88	2.38	.25	303-50922-00	2:1
374-02353-XX	9X	1.12	5.00	3.50	.25	303-50922-00	3:1
374-02489-XX	9X	1.12	6.12	4.62	.25	303-50922-00	4:1
374-02576-XX	G8	2.00	5.50	3.62	.25	303-50817-00	3:1
374-02490-XX	G8	2.00	7.25	5.38	.25	303-50817-00	4:1
W/#45 B5.50 Shanks							
374-01437-XX	10X	.88	4.88	3.76	.25	303-51025-00	2:1
374-01438-XX	9X	1.25	5.88	4.39	.25	303-50922-00	3.4:1
374-01439-XX	G8	2.00	7.38	5.50	.25	303-50817-00	3.2:1
374-01515-XX	G6	2.62	8.75	6.00	.25	303-50615-00	3.8:1
W/#50 B5.50 Shanks							
374-02342-XX	10X	.88	3.38	2.25	.25	303-51025-00	2:1
374-02343-XX	10X	.88	4.25	3.13	.25	303-51025-00	3:1
374-01352-XX	10X	.88	5.12	4.00	.25	303-51025-00	4:1
374-02344-XX	9X	1.12	3.88	2.38	.25	303-50922-00	2:1
374-02345-XX	9X	1.12	5.00	3.50	.25	303-50922-00	3:1
374-01353-XX	9X	1.12	6.12	4.62	.25	303-50922-00	4:1
374-02346-XX	G8	2.00	5.62	3.75	.25	303-50817-00	2:1
374-02347-XX	G8	2.00	7.62	5.75	.25	303-50817-00	3:1
374-01354-XX	G8	2.00	9.62	7.75	.25	303-50817-00	4:1
374-02348-XX	G6	3.00	5.75	3.00	.25	303-50613-00	2:1
374-02349-XX	G6	3.00	8.50	5.75	.25	303-50613-00	3:1
374-01355-XX	G6	3.00	11.25	8.50	.25	303-50613-00	4:1
374-01356-XX	G4	4.00	5.88	2.00	.38	303-50449-00	2:1
374-02620-XX	G4	4.00	8.62	4.75	.38	303-50449-00	3:1
374-02621-XX	G4	4.00	11.38	7.50	.38	303-50449-00	4:1
374-01669-XX	G4	5.00	6.38	2.50	.38	303-50445-00	2.2:1
W/#60 B5.50 Shanks							
374-02577-XX	10X	.88	3.50	2.38	.25	303-51025-00	2:1
374-02578-XX	10X	.88	4.38	3.25	.25	303-51025-00	3:1
374-02430-XX	10X	.88	5.25	4.12	.25	303-51025-00	4:1
374-02579-XX	9X	1.12	4.00	2.50	.25	303-50922-00	2:1
374-02580-XX	9X	1.12	5.12	4.00	.25	303-50922-00	3:1
374-02431-XX	9X	1.12	6.25	4.75	.25	303-50922-00	4:1
374-02581-XX	G8	2.00	5.75	3.88	.25	303-50817-00	2:1
374-02582-XX	G8	2.00	7.75	5.88	.25	303-50817-00	3:1
374-02432-XX	G8	2.00	9.75	7.88	.25	303-50817-00	4:1
374-02583-XX	G6	3.00	7.75	5.00	.25	303-50613-00	2:1
374-02584-XX	G6	3.00	10.75	8.00	.25	303-50613-00	3:1
374-02433-XX	G6	3.00	13.75	11.00	.25	303-50613-00	4:1
374-02585-XX	G4	4.00	8.88	6.00	.38	303-50449-00	2:1
374-02586-XX	G4	4.00	13.12	9.25	.38	303-50449-00	3:1
374-02434-XX	G4	4.00	17.38	13.50	.38	303-50449-00	4:1
374-02435-XX	G4	5.00	6.38	2.50	.38	303-50445-00	1.4:1

Toolchanger B5.50



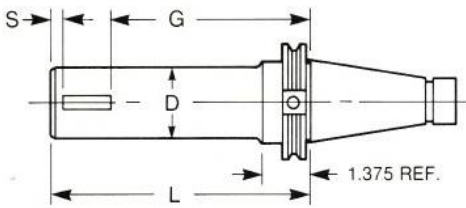
Suffix Identification

- 00 = Double TLS no coolant
- 01 = Single TLS forward bore no coolant
- 50 = Double TLS with coolant
- 51 = Single TLS forward bore with coolant

NOTE: All slots parallel with keyways in flange.

-XX - See Suffix Identification chart on this page. Retention knobs not included.

Manual B5.40



Taper	Part No.	Slot Size	D	L	$G \begin{smallmatrix} - \\ .010 \end{smallmatrix}$	S	TLS
#50	374-01210-01	10X	.88	5.12	4.013	.25	303-51025-00
	374-01211-01	9X	1.12	6.12	4.639	.25	303-50922-00
	374-01212-01	G8	2.00	9.62	7.764	.25	303-50817-00
	374-01213-01	G6	3.00	11.25	8.515	.25	303-50613-00
	374-01214-01	G4	4.00	5.88	2.015	.38	303-50449-00
	374-01215-01	G4	5.00	6.38	2.515	.38	303-50445-00

Taper	Part No.	Slot Size	D	L	$G \begin{smallmatrix} - \\ .010 \end{smallmatrix}$	S	TLS
#50	374-01247-00*	10X	.88	8.62	7.513	.25	303-51025-00
	374-01248-00*	9X	1.12	10.62	9.139	.25	303-50922-00
	374-01249-00*	G8	2.00	17.62	15.764	.25	303-50817-00
	374-01250-00*	G6	3.00	21.25	18.515	.25	303-50613-00

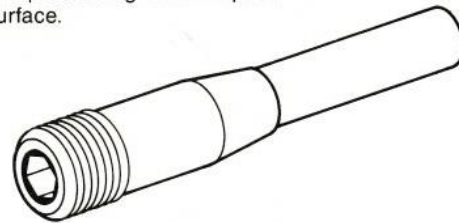
*Recommended for SHSS boring because of excessive L/D ratio.
Double TLS for forward and back boring.

Repair Parts-Taper Locating Screw

Block Series No.	Screw No.	Bar Diameter	Part No.
10X	25	.87	303-51025-00
	24	.93	303-51024-00
	23	1.00	303-51023-00
	22	1.12	303-51022-00
9X	922	1.12	303-50922-00
	921	1.25	303-50921-00
	919	1.50	303-50919-00
	918	1.75	303-50918-00
	917	2.00	303-50917-00
	916	2.25	303-50916-00
	915	2.50	303-50915-00
	914	2.75	303-50914-00
	913	3.00	303-50913-00
	912	3.25	303-50912-00
G8	818	1.75	303-50818-00
	817	2.00	303-50817-00
	816	2.25	303-50816-00
	815	2.50	303-50815-00
	814	2.75	303-50814-00
	813	3.00	303-50813-00
	812	3.25	303-50812-00
	811	3.50	303-50811-00
	810	3.75	303-50810-00
	89	4.00	303-50889-00

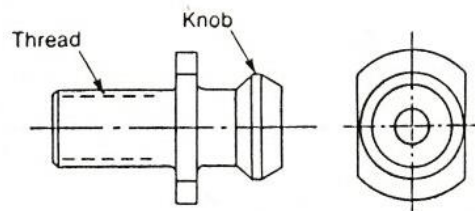
Block Series No.	Screw No.	Bar Diameter	Part No.
G6	615	2.50	303-50615-00
	614	2.75	303-50614-00
	613	3.00	303-50613-00
	612	3.25	303-50612-00
	611	3.50	303-50611-00
	610	3.75	303-50610-00
	69	4.00	303-50669-00
	67	4.50	303-50667-00
	65	5.00	303-50665-00
	63	5.50	303-50663-00
G4	49	4.00	303-50449-00
	47	4.50	303-50447-00
	45	5.00	303-50445-00
	43	5.50	303-50443-00
	41	6.00	303-50441-00
G4	Special	7.00	303-50407-00
	Special	8.00	303-50408-00

NOTE: All taper-locating screws are case-hardened and precision ground on pilot surface.



Retention Knobs

Part No.	Taper		Used With
	Thread	Knob	
314-02229-00	#40	#40	Standard Tooling
314-01491-00	#50	#50	Standard Tooling
307-50283-00	#60	#60	Standard Tooling



LINE-BORING BARS

Heat-treated and case-hardened bars offer precision and long life.

- High strength
- 1.25 thru 12" bar diameter
- Wide shank variety
- Fits 3 thru 8" machine spindles

Standard Davis line-boring bars are made from A-4140 heat-treated alloy steel with a hardness of 28-32 Rc. Finish is 16 to 20 micro-inches. This treatment imparts a high degree of strength, plus toughness to the bar, providing high resistance to load, impact, torsional strain and vibration.

Davis case-hardened bars have a surface hardness of 55-60 Rc. Case hardening is particularly recommended for increasing the wear life of bearing areas on line-boring bars. It also increases resistance to chip erosion in the cutter area.

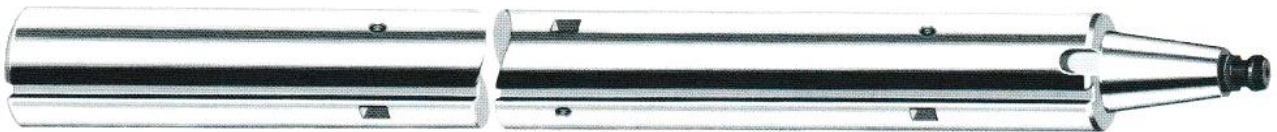
These versatile bars accept standard Davis two-cutter blocks, flycutters, cartridge tools and boring heads.

Consult Giddings & Lewis Tooling Systems for custom bar arrangement.

Bars with block-type cutter slots



Bars with cartridges

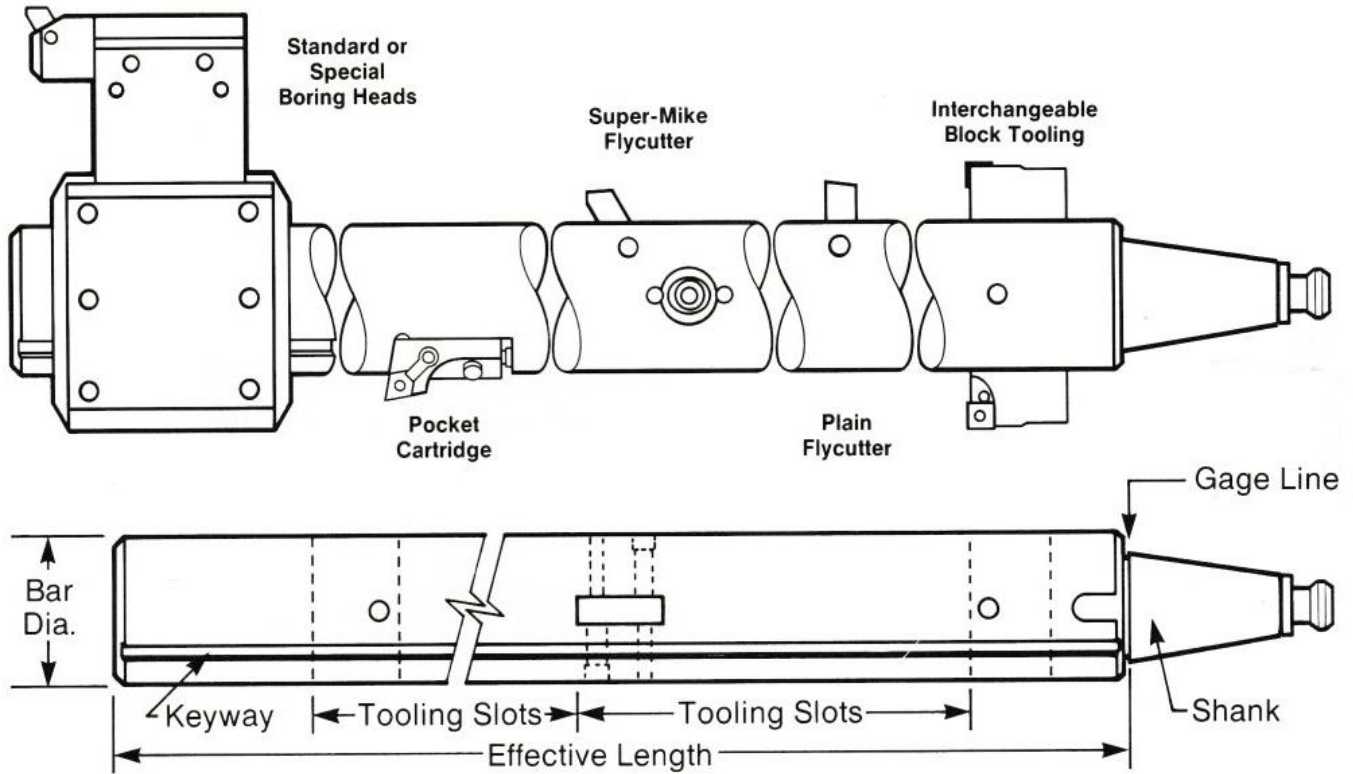


Recommended Specifications To Choose From

Diameter	Maximum Effective Length	Block Slots					Flycutter Slots						Width of Keyway	
		10X	9X	G8	G6	G4	.31"	.37"	.50"	.62"	.75"	1.00"		1.25"
1.25"	50"	•	•				•							.25"
1.50"	60"	•	•				•							.25"
1.75"	80"		•	•				•						.37"
2.00"	100"		•	•				•						.37"
2.25"	100"		•	•					•					.37"
2.50"	120"		•	•	•				•					.37"
2.75"	120"		•	•	•					•				.50"
3.00"	150"		•	•	•				•	•				.50"
3.50"	150"			•	•				•	•				.62"
4.00"	170"			•	•	•				•	•			.62"
4.50"	170"				•	•					•	•		.75"
5.00"	180"				•	•					•	•		.75"
5.50"	180"				•	•					•			.87"
6.00"	180"				•	•					•			.87"
6.50"	180"					•					•	•		.87"
7.00"	200"					•					•	•		.93"
7.50"	200"					•					•	•		.93"
8.00"	200"					•					•	•		.93"

NOTE: Consult factory for larger sizes.

Typical Line Bar Configurations



Line Bar Data Guide

1. Diameter: _____	5. Keyway: length _____
2. Effective length: _____	width _____
3. Shank: _____	6. Special features: _____
4. Tooling: _____	_____
_____	_____
_____	_____

Hinged Supports

Increase the range of block-type tools.

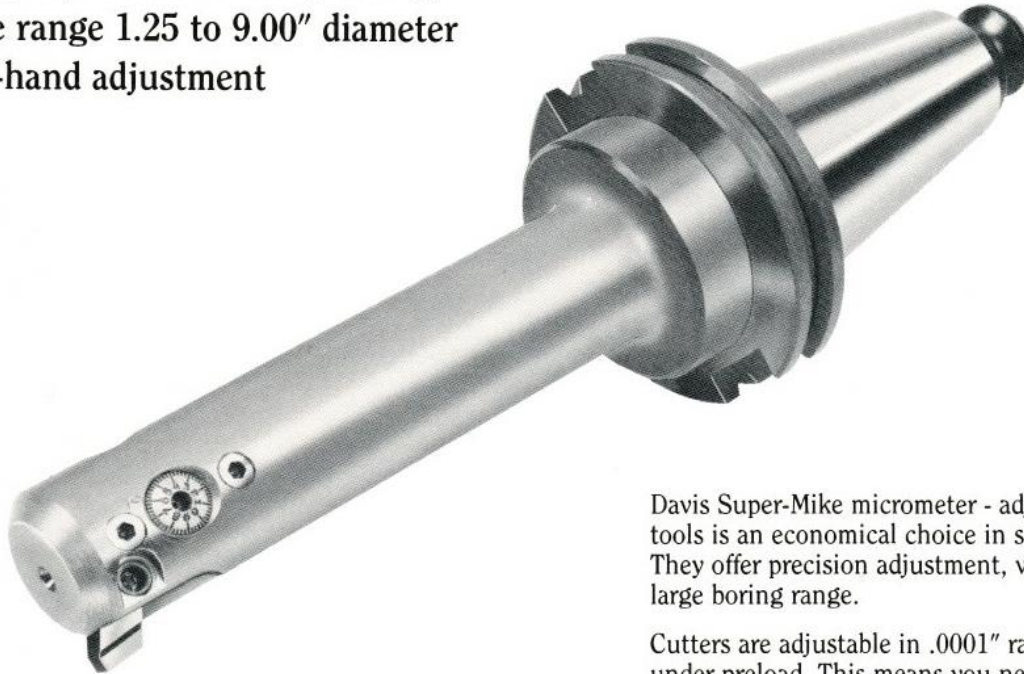
Hinged supports extend the range of Davis block tooling by permitting use of larger blocks than would otherwise be recommended for a given diameter of boring bar. The support heads are hinged and are easily slipped over the boring bar to be locked into position.



ALL PURPOSE CUTTER

Super-Mike® micrometer adjustable single point tooling

- .0001" cutter adjustment
- Ruggedly made for heavy boring
- Bore range 1.25 to 9.00" diameter
- One-hand adjustment



Davis Super-Mike micrometer - adjustable flycutter tools is an economical choice in single point tools. They offer precision adjustment, versatility, and a large boring range.

Cutters are adjustable in .0001" radial increments under preload. This means you need not unlock or lock the cutter while making adjustments.

Super-Mike tooling offers wide application for production, job shop or toolroom operations.

Bars are available to bore holes from 1.25 to 9.00" diameters, and can be fitted with Morse taper or ANSI shanks. Cutter options include solid, super-high-speed steel (SHSS); brazed tungsten-carbide tipped (TCT); or industry standard indexable inserts.

Super-Mike Boring Bars - Morse Taper

Tool No.	Bar Dia.	Bore Range	Shank	Part No.
123	1.00"	1.25 to 1.62"	4	371-60401-50
121	1.25"	1.50 to 2.00"	4	371-60403-50
118	1.75"	2.00 to 3.00"	5	371-60406-50
116	2.25"	2.62 to 3.62"	5	371-60408-50
114	2.75"	3.12 to 4.62"	5	371-60510-50
114	2.75"	3.12 to 4.62"	6	371-60410-50
111	3.50"	4.00 to 6.00"	5	371-60513-50
111	3.50"	4.00 to 6.00"	6	371-60413-50
111	3.50"	4.00 to 6.00"	7	371-60613-50
107	4.50"	5.00 to 8.00"	5	371-60517-50
107	4.50"	5.00 to 8.00"	6	371-60417-50
107	4.50"	5.00 to 8.00"	7	371-60617-50

Super-Mike Boring Bars - B5.40

Tool No.	Bar Dia.	Bore Range	Shank	Part No.
118	1.75"	2.00 to 3.00"	40	374-00165-00
118	1.75"	2.00 to 3.00"	45	374-02119-00
116	2.25"	2.62 to 3.62"	40	374-00188-00
116	2.25"	2.62 to 3.62"	45	374-02120-00
114	2.75"	3.12 to 4.62"	40	374-00189-00
114	2.75"	3.12 to 4.62"	45	374-02121-00
114	2.75"	3.12 to 4.62"	50	374-01234-00
111	3.50"	4.00 to 6.00"	40	371-60713-59
111	3.50"	4.00 to 6.00"	45	374-02122-00
111	3.50"	4.00 to 6.00"	50	374-01235-00
107	4.50"	5.00 to 8.00"	40	371-60717-59
107	4.50"	5.00 to 8.00"	45	374-02123-00
107	4.50"	5.00 to 8.00"	50	374-01236-00

Super-Mike Boring Bars - B5.50

Tool No.	Bar Dia.	Bore Range	Shank	Part No.
118	1.75"	2.00 to 3.00"	40	374-02124-00
118	1.75"	2.00 to 3.00"	45	374-02129-00
116	2.25"	2.62 to 3.62"	40	374-02125-00
116	2.25"	2.62 to 3.62"	45	374-02130-00
114	2.75"	3.12 to 4.62"	40	374-02126-00
114	2.75"	3.12 to 4.62"	45	374-02131-00
114	2.75"	3.12 to 4.62"	50	374-01838-00
111	3.50"	4.00 to 6.00"	40	374-02127-00
111	3.50"	4.00 to 6.00"	45	374-02132-00
111	3.50"	4.00 to 6.00"	50	374-01839-00
107	4.50"	5.00 to 8.00"	45	374-02128-00
107	4.50"	5.00 to 8.00"	45	374-02133-00
107	4.50"	5.00 to 8.00"	50	374-01840-00

Super high speed steel, tungsten carbide tip and throwaway insert cutters for Super-Mike tools

Positive throwaway insert cutters



Cutter No.	Bar Dia.	Sq. Shank Size	Bore Range	Insert IC Size	Part Number
117T	2.00"	.5020"	2.50 to 3.62"	.25"	303-22005-20
116T	2.25"	.5020"	2.75 to 3.75"	.25"	303-22014-20

SHSS cutters and TCT cutter w/brazed tip



Cutter No.	Bar Dia.	Sq. Shank Size	Bore Range	Part Number SHSS	Part Number Carbide DC-2	Part Number Carbide DC-6
123	1.00"	.2505"	1.25 to 1.62"	303-32001-08	373-22001-12	373-22001-16
122	1.12"	.2505"	1.37 to 1.75"	303-32001-08	373-22001-12	373-22001-16
121	1.25"	.3125"	1.50 to 2.00"	303-32002-08	373-22002-12	373-22002-16
119	1.50"	.3125"	1.75 to 2.50"	303-32003-08	373-22003-12	373-22003-16
118	1.75"	.3775"	2.00 to 3.00"	303-32004-08	373-22004-12	373-22004-16
117	2.00"	.5020"	2.37 to 3.50"	303-32005-08	373-22005-12	373-22005-16
116	2.25"	.5020"	2.62 to 3.62"	303-32005-08	373-22005-12	373-22005-16
115	2.50"	.6270"	2.87 to 4.25"	303-32006-08	373-22006-12	373-22006-16
114	2.75"	.6270"	3.12 to 4.62"	303-32006-08	373-22006-12	373-22006-16
113	3.00"	.6270"	3.37 to 5.00"	303-32007-08	373-22007-12	373-22007-16
112	3.25"	.7530"	3.75 to 5.50"	303-32008-08	373-22008-12	373-22008-16
111	3.50"	.7530"	4.00 to 6.00"	303-32008-08	373-22008-12	373-22008-16
110	3.75"	.7530"	4.25 to 6.50"	303-32009-08	373-22009-12	373-22009-16
109	4.00"	.7530"	4.50 to 7.00"	303-32009-08	373-22009-12	373-22009-16
108	4.25"	1.0035"	4.75 to 7.50"	303-32010-08	373-22010-12	373-22010-16
107	4.50"	1.0035"	5.00 to 8.00"	303-32011-08	373-22011-12	373-22011-16
106	4.75"	1.0035"	5.25 to 8.50"	303-32012-08	373-22012-12	373-22012-16
105	5.00"	1.0035"	5.50 to 9.00"	303-32013-08	373-22013-12	373-22013-16

Negative throwaway insert cutters



Cutter No.	Bar Dia.	Sq. Shank Size	Bore Range	Insert IC Size	Part Number
115ST	2.50"	.6270"	2.87 to 4.25"	.50"	373-42006-35
114ST	2.75"	.6270"	3.12 to 4.62"	.50"	373-42015-35
113ST	3.00"	.6270"	3.37 to 5.00"	.50"	373-42007-35
112ST	3.25"	.7530"	3.75 to 5.50"	.50"	373-42008-35
111ST	3.50"	.7530"	4.00 to 6.00"	.50"	373-42016-35
110ST	3.75"	.7530"	4.25 to 6.50"	.50"	373-42009-35
109ST	4.00"	.7530"	4.50 to 7.00"	.50"	373-42017-35
108ST	4.25"	1.0035"	4.75 to 7.50"	.75"	373-42010-35
107ST	4.50"	1.0035"	5.00 to 8.00"	.75"	373-42011-35
106ST	4.75"	1.0035"	5.25 to 8.50"	.75"	373-42012-35
105ST	5.00"	1.0035"	5.50 to 9.00"	.75"	373-42013-35

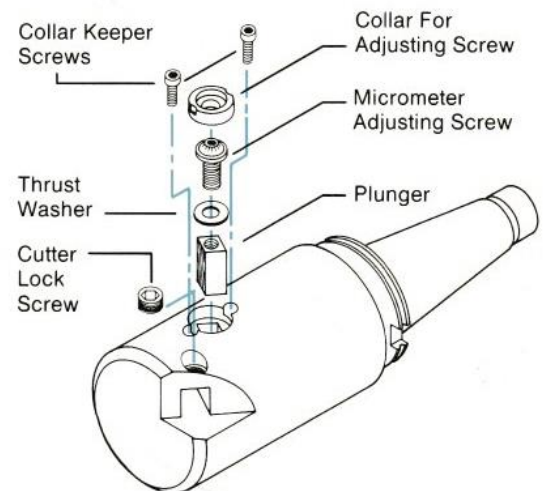
Repair Parts - Cutters

Tool No.	Shim	Shim Screw	Clamp	Clamp Screw
117T & 116T	303-22005-31	303-22005-32	303-22005-33	303-22005-34

Tool No.	Lock Pin	Dowel Pin
115ST - 113ST	314-01289-00	314-01807-00
112ST - 109ST	314-01290-00	314-01297-00
108ST - 105ST	314-01291-00	314-01298-00

Repair Parts - Tool

Tool No.	Plunger	Adjusting Screw	Collar For Adjusting Screw	Cutter Lock Screw	Collar Keeper Screw	Thrust Washer
123	303-02001-00	303-01001-00	300-73001-00	0512 x 0200	0558 x 0100	—
122	303-02002-00	303-01001-00	300-73001-00	0512 x 0200	0558 x 0100	—
121	303-02003-00	303-01002-00	300-73002-00	0502 x 0300	0558 x 0150	303-05001-00
119	303-02004-00	303-01002-00	300-73002-00	0502 x 0300	0558 x 0150	303-05001-00
118	303-02004-00	303-01003-00	300-73002-00	0502 x 0352	0558 x 0150	303-05001-00
117	303-02005-00	303-01004-00	300-73005-00	0502 x 0354	0559 x 0200	303-05002-00
116	303-02005-00	303-01004-00	300-73005-00	0502 x 0354	0559 x 0200	303-05002-00
115	303-02006-00	303-01004-00	300-73005-00	0502 x 0451	0559 x 0200	303-05002-00
114	303-02006-00	303-01005-00	300-73005-00	0502 x 0452	0559 x 0200	303-05002-00
113	303-02006-00	303-01005-00	300-73005-00	0502 x 0452	0559 x 0200	303-05002-00
112	303-02007-00	303-01006-00	300-73009-00	0502 x 0550	0559 x 0251	303-05003-00
111	303-02007-00	303-01006-00	300-73009-00	0502 x 0550	0559 x 0251	303-05003-00
110	303-02007-00	303-01006-00	300-73009-00	0502 x 0550	0559 x 0251	303-05003-00
109	303-02007-00	303-01006-00	300-73009-00	0502 x 0550	0559 x 0251	303-05003-00
108	303-02008-00	303-01007-00	300-73009-00	0502 x 0551	0559 x 0251	303-05003-00
107	303-02008-00	303-01007-00	300-73009-00	0502 x 0551	0559 x 0251	303-05003-00
106	303-02008-00	303-01007-00	300-73009-00	0502 x 0551	0559 x 0251	303-05003-00
105	303-02008-00	303-01007-00	300-73009-00	0502 x 0551	0559 x 0251	303-05003-00



CENTRALIZE DAVIS® TWO-CUTTER BLOCKS

Hold boring tolerances better than $\pm .0005$ " on diameter

- Compensates for runout of machine spindle.
- Compensates for runout in the boring bar.
- Aligns the block-type tool to true centerline rotation of spindle.

Davis block-type tooling provides full presetting of both axial and radial dimensions. Tolerances of $\pm .0005$ " on diameters are easily held with normal care. Closer

tolerances can be achieved by "centralizing" the taper locating screw (TLS) hole in the Davis block to the Davis bar.

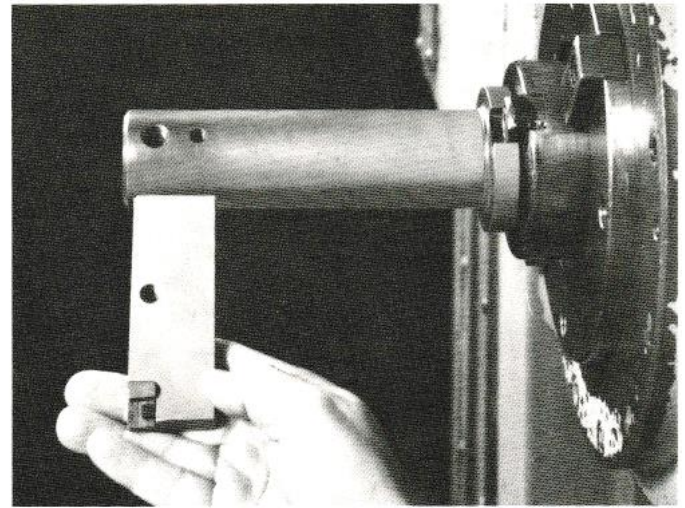
Even when spindle runout is excessive, holes can be bored to close tolerances. Davis blocks compensate for machine spindle inaccuracies caused by misadjustment and wear.

Centralizing instructions

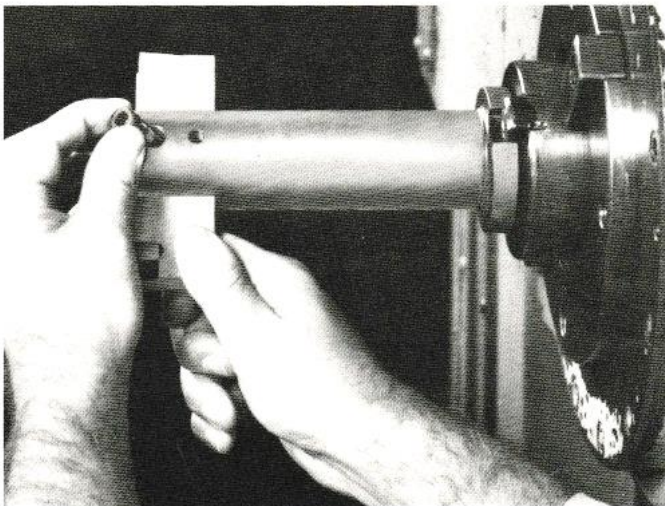
By positioning the boring bar into the machine spindle, and following the eight (8) simple steps, the ultimate in boring accuracy and repeatability can be obtained.



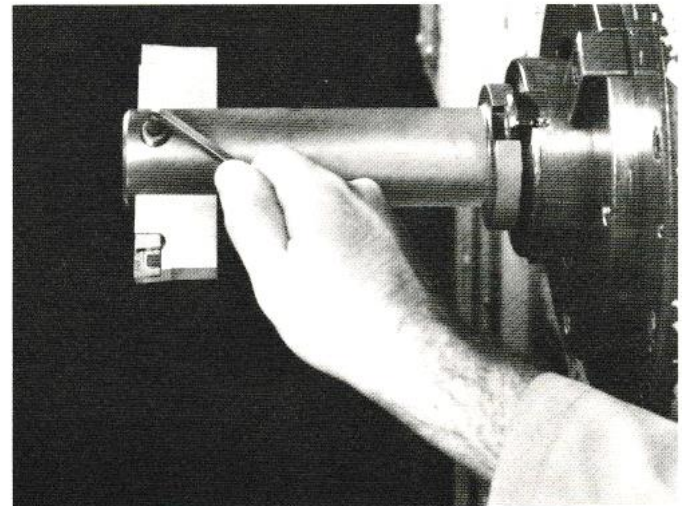
Step 1 Deposit Hi Spot Blue on taper portion of the taper locating screw.



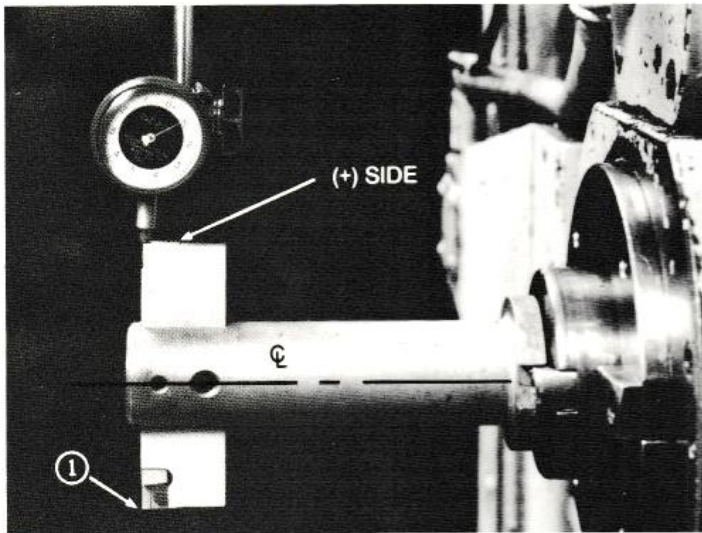
Step 2 Insert block into block slot of boring bar.



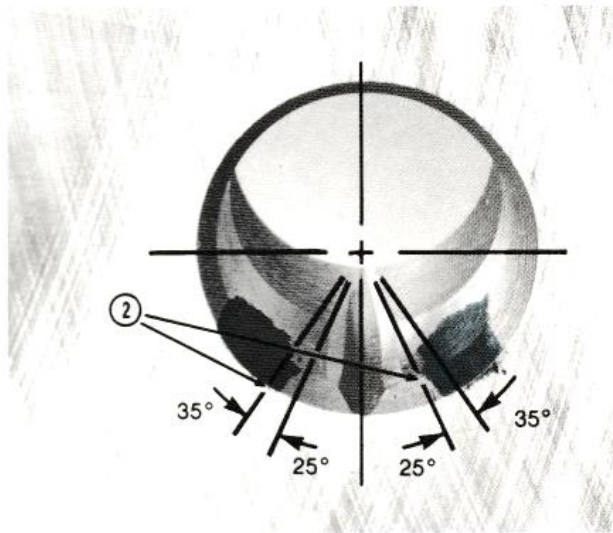
Step 3 Insert taper locating screw into bar.



Step 4 Tighten taper locating screw to secure block in bar.

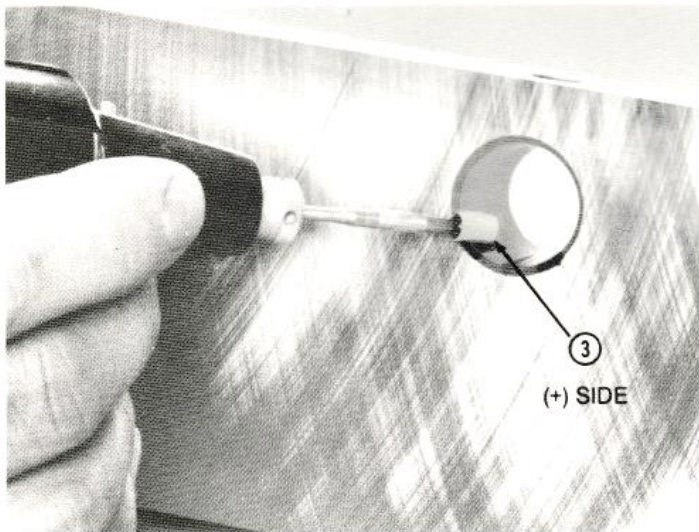


Step 5 Extend spindle to boring position. Using a dial indicator, rotate bar to determine runout by checking the common surfaces ① closest to cutting edge on both ends of block (ground surfaces on Davis AT blocks). After determining runout, note high side (+) and mark block.

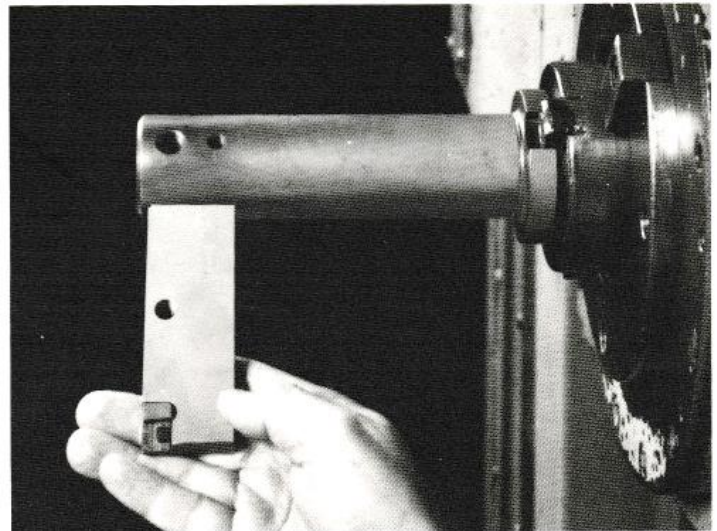


Step 6 Remove block from its slot and check where Hi Spot Blue was deposited inside TLS hole of block. ②

NOTE: The Hi Spot Blue should always show bearing in the lower two quadrants of the TLS hole. The ideal location of these bearing marks is about 25° to 35° on each side of center (Refer to photo).



Step 7 To centralize block, locate the area where Hi Spot Blue was deposited on the high side (+) of the TLS hole in block. ③ Using a pencil grinder, remove Hi Spot Blue from this side, removing a slight amount of metal. Ex. If the block was .0005" off center, remove approximately .00025" stock from the high side (+).



Step 8 Insert block back into bar and again check for runout. Repeat Steps 1 through 7 if necessary.

CAUTION: When the bar used in centralizing is removed and subsequently replaced in the machine spindle, care must be observed so that the radial orientation of the bar to the spindle and the axial position of the spindle are the same as when centralizing took place.