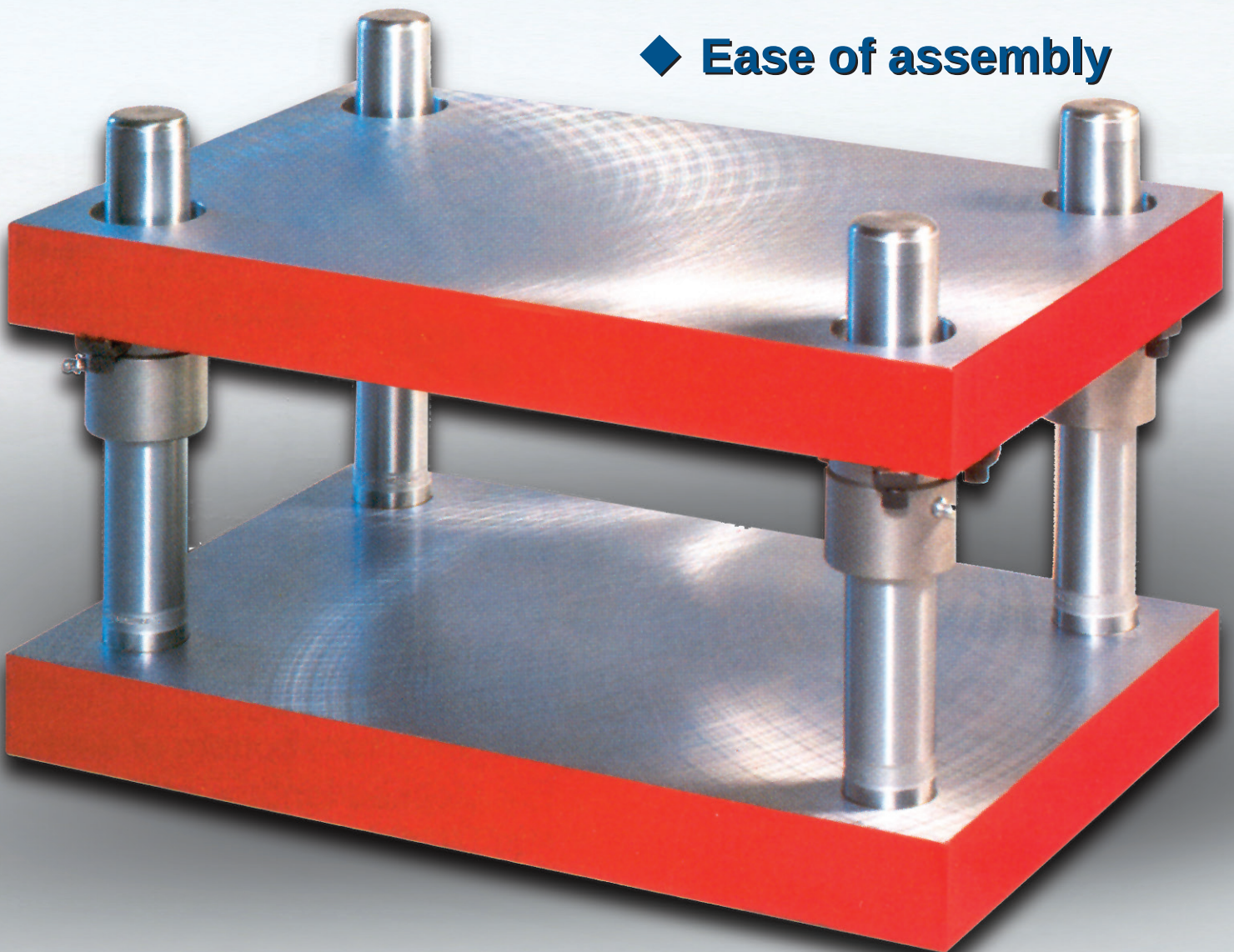




Danly Die Sets

PLAIN BEARING BUSHING DIE SETS

- ◆ **Quality, performance,
economy**
- ◆ **Precise fit**
- ◆ **Ease of assembly**





PLAIN BEARING BUSHING DIE SETS

Service We Deliver and Quality You Can Depend On

Danly Die Sets is a leading manufacturer of die sets and die component products supplied globally to the parts forming industry. Backed by years of tool and die experience, quality and innovation are some of the reasons why our name is respected throughout the world. We have taken the lead role in creating and bringing new products to customers and helping them find solutions that improve their operations. Based on the capabilities **Danly Die Sets** offers, we can help you to meet the demands of quick deliveries, technical support, quality products and competitive prices. **Danly Die Sets** and its' broad distribution channels and direct sales personnel will assist you in any way to make your product a better and more profitable one.

We understand the demanding schedules of die builders and production personnel and have developed efficient manufacturing processes to shorten product lead times as well as put inventory on our shelves so you can have it in your facility when you need it. Put the **Danly Die Sets** network to work for you. We've got the service you've been looking for.

Included in our full line offering are both inch and metric size die sets and die components that are designed to numerous die standards including ISO, NAAMS, JIS and many large automotive and appliance manufacturers' standards. The complete product offering includes:

- Ball bearing and friction style die sets including custom and catalog sets
- Machined plate
- Guide posts & bushings
- ISO and JIS Die springs
- In-die tapping units for both mechanical and hydraulic presses
- Formathane® Urethane springs, strippers, sheets, bars, rods and die cover film
- Diemakers' supplies such as pry bars, dowel pins, hoist rings, clamps and fasteners
- Standard and self-lubricating wear product including wear plate, wear strips, gibs, keeper plates and guide blocks
- Cam units, including Mini™, Aerial and Die Mount styles
- Accu-Bend™ Rotary Benders
- Standard and Ball lock punches and retainers
- Air presses
- Pad retainers

Plain Bearing Die Sets

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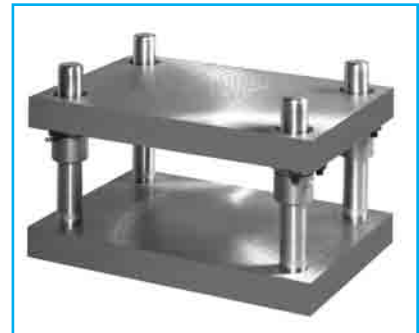
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Unlimited Sizes and Shapes

Included in this catalog are recommended minimum dimensions and popular sizes for several different types of Plain Bearing Die Sets. However, we welcome special orders for these die sets and can manufacture them in any size or shape.

Each Plain Bearing Die Set is furnished with our demountable bushings and matched, pre-fitted guide posts for accurate fit, plus ease of assembly and disassembly during diemaking and repair.



Back Post Plain Bearing Die Sets



AS-33

Special Applications

STOCK SIZES

When dimension A does not exceed 25" and dimension B does not exceed 11", see our Catalog Die Set literature.

ALSO AVAILABLE IN:

- ◆ Aluminum (QC-10)
- ◆ Ball Bearing construction
(See our Ball Bearing Bushing Die Set catalog)

TORCH-CUT HOLES

Holes of any shape can be torch-cut to your needs. Send us your CAD file.

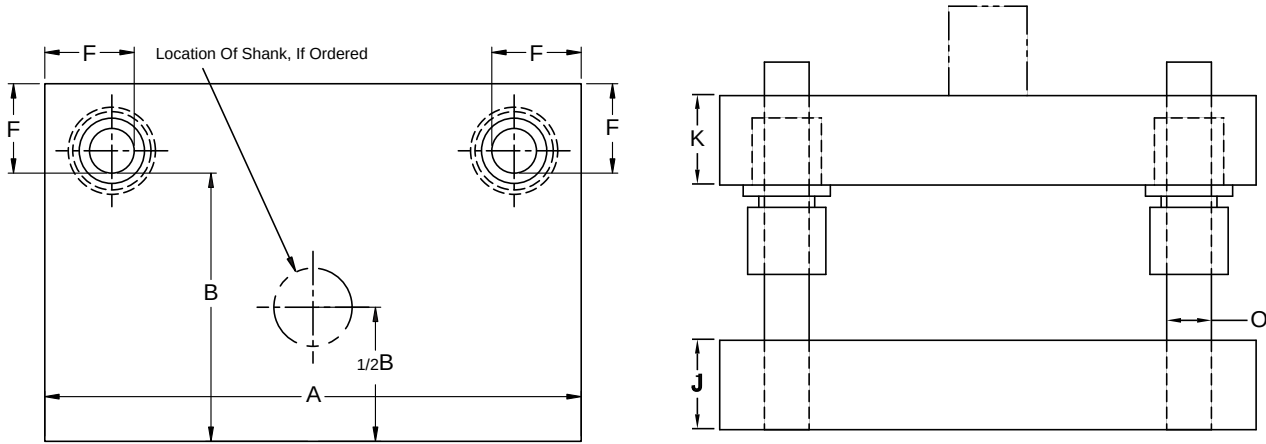
UNLIMITED SIZES

Sizes are not limited to any dimensions. Suggested minimum dimensions are shown below.

TO INSIDE OF POST	F	2	2¼		2½				2¾				3	3¾		4¼											
MINIMUM THICKNESS RECOMMENDED	K	1	1¼		1½				1¾				2	2		2											
	J	1⅜	1½		1¾				2				2¼		3	3											
POST DIAMETER	O	1	1¼		1½				1¾				2		2½		3										
DIE SPACE A →		6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	40	45	50	55	60	65	70	80	90	100
B ↓	6																										
	8																										
	10																										
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	36																										
	40																										

NOTE: Die space sizes are grouped within shaded areas which indicate suggested guide post diameters.

Back Post Plain Bearing Die Sets



Back Post Series AS-33

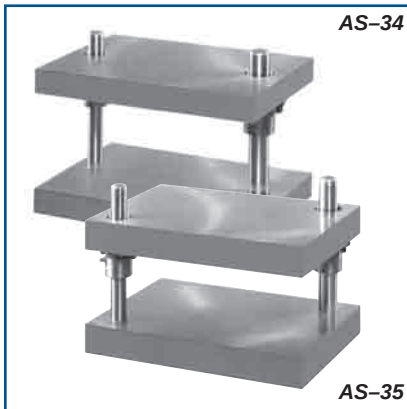
WHEN ORDERING, SPECIFY:

1. Series AS-33.
2. Dimensions A and B.
3. Thickness of die holder J and punch holder K. Die sets are ground to ANSI standards unless specified.
4. Type of bushing. Demountable steel shoulder bushings will be furnished unless otherwise specified. For other types of bushings, see our Pins & Bushings Catalog.
5. Length L from bottom of die holder to top of guide post O. For stocked lengths of guide posts and types available, see our Pins & Bushings Catalog. Lengths not listed can be furnished at additional cost.
6. Diameter of guide post O. When ordering guide posts, dimension F varies as follows:
7. Size of shank, if ordered. Shank will be located in center of A and B dimensions, unless otherwise specified. These sets are regularly furnished without shanks. Inserted or welded steel shanks are available at additional cost in the following sizes:
 - ◆ 1" diameter x 2-1/8" long
 - ◆ 1-9/16" diameter x 2-1/8" long
 - ◆ 2" diameter x 2-7/8" long
 - ◆ 2-1/2" diameter x 2-7/8" long
 - ◆ 3" diameter x 2-7/8" long
8. Clamping arrangement. L – R arrangement is normally furnished, as shown on page 12.
9. How shipment should be made.

These die sets may not be returned for credit.

WHEN	O=1	1-1/4	1-1/2	1-3/4	2	2-1/2	3
	F=2	2-1/4	2-1/2	2-3/4	3	3-3/4	4-1/4

Two Post Plain Bearing Die Sets



Special Applications

STOCK SIZES

On center post sets where dimensions A and B do not exceed 10", see our Catalog Die Set literature.

ALSO AVAILABLE IN:

- ◆ Aluminum (QC-10)
- ◆ Ball Bearing construction
(See our Ball Bearing Bushing Die Set catalog)

TORCH-CUT HOLES

Holes of any shape can be torch-cut to your needs. Send us your CAD file.

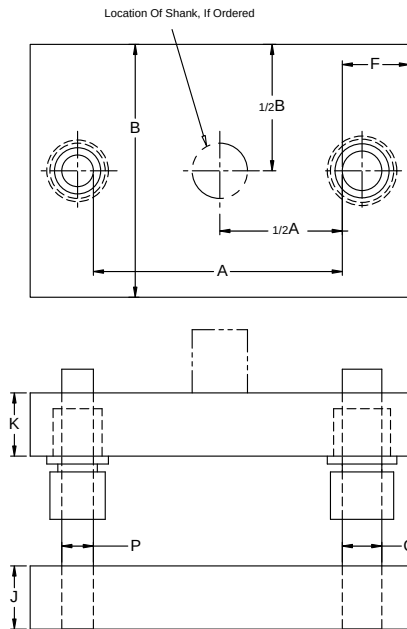
UNLIMITED SIZES

Sizes are not limited to any dimensions. Suggested minimum dimensions are shown below.

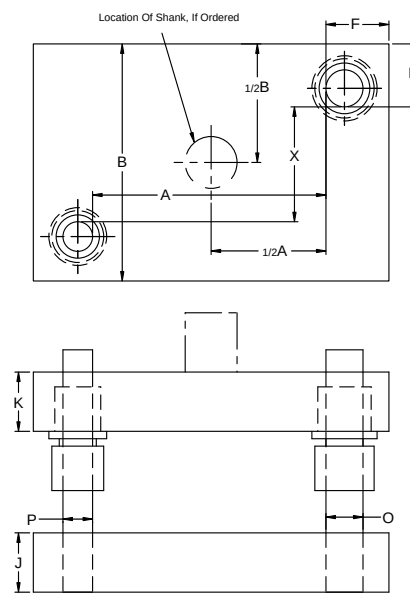
TO INSIDE OF POST	F	2¼				2½				2¾				3				3¾				4¼			
MINIMUM THICKNESS RECOMMENDED	K	1¼				1½				1¾				2				2½				3			
	J	1½				1¾				2				2¼				2¾				3¼			
POST DIAMETER	P	1				1¼				1½				1¾				2				2½			
	O	1¼				1½				1¾				2				2½				3			
DIE SPACE A →		6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	40	45	50	55	60	65	70	80
B ↓	6																								
	8																								
	10																								
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	45																								
	50																								
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	60																								

NOTE: Die space sizes are grouped within shaded areas which indicate suggested guide post diameters.

Two Post Plain Bearing Die Sets



Center Post Series AS-34



Diagonal Post Series AS-35

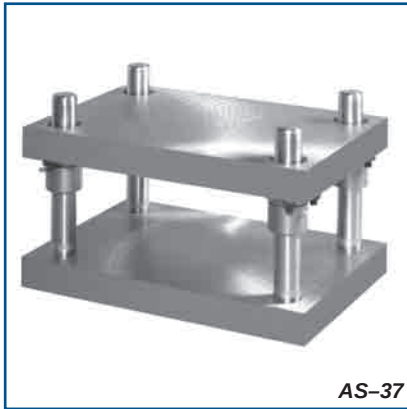
WHEN ORDERING, SPECIFY:

1. Series AS-34 or AS-35.
2. Dimensions A and B.
3. Thickness of die holder J and punch holder K. Die sets are ground to ANSI standards unless specified.
4. Type of bushing. Demountable steel shoulder bushings will be furnished unless otherwise specified. For other types of bushings, see our Pins & Bushings Catalog.
5. Length L from bottom of die holder to top of guide post O. For stocked lengths of guide posts and types available, see our Pins & Bushings Catalog. Lengths not listed can be furnished at additional cost.
6. Diameter of guide post O. When ordering guide posts, dimension F varies as follows:
7. Size of shank, if ordered. Shank will be located in center of A and B dimensions, unless otherwise specified. These sets are regularly furnished without shanks. Inserted or welded steel shanks are available at additional cost in the following sizes:
 - ◆ 1" diameter x 2-1/8" long
 - ◆ 1-9/16" diameter x 2-1/8" long
 - ◆ 2" diameter x 2-7/8" long
 - ◆ 2-1/2" diameter x 2-7/8" long
 - ◆ 3" diameter x 2-7/8" long
8. Clamping arrangement. F – B arrangement is normally furnished, as shown on page 12.
9. How shipment should be made.

These die sets may not be returned for credit.

WHEN	P=1	1-1/4	1-1/2	1-3/4	2	2-1/2
	O=1-1/4	1-1/2	1-3/4	2	2-1/2	3
	F=2-1/4	2-1/2	2-3/4	3	3-3/4	4-1/4

Four Post Plain Bearing Die Sets



AS-37

Special Applications

STOCK SIZES

When dimension A does not exceed 24" and dimension B does not exceed 16", see our Catalog Die Set literature.

ALSO AVAILABLE IN:

- ◆ Aluminum (QC-10)
- ◆ Ball Bearing construction
(See our Ball Bearing Bushing Die Set catalog)

TORCH-CUT HOLES

Holes of any shape can be torch-cut to your needs. Send us your CAD file.

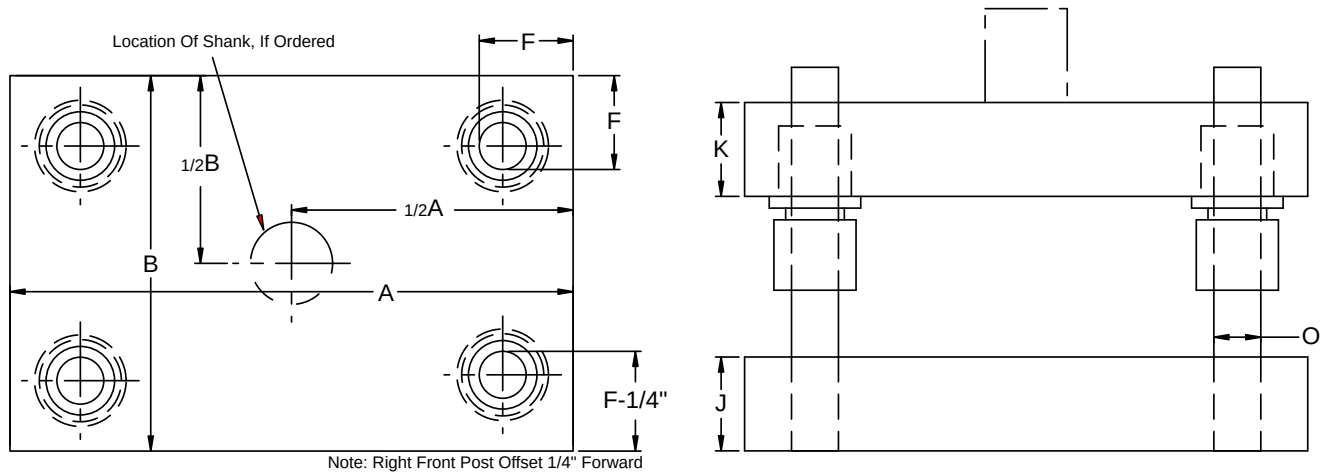
UNLIMITED SIZES

Sizes are not limited to any dimensions. Suggested minimum dimensions are shown below.

TO INSIDE OF POST	F	2¼				2¼				2½				2¾				3				3¾					
MINIMUM THICKNESS RECOMMENDED	K	1¼				1¼				1½				1¾				2				2½					
	J	1¼				1½				1¾				2				2¼				2¾					
POST DIAMETER	O	1¼				1¼				1½				1¾				2				2½					
DIE SPACE A →		6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	40	45	50	55	60	65	70	80	90	100
B ↓	6																										
	8																										
	10																										
	12																										
	14																										
	16																										
	18																										
	20																										
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	32																										
	34																										
	36																										
40																											
45																											
50																											
55																											
60																											

NOTE: Die space sizes are grouped within shaded areas which indicate suggested guide post diameters.

Four Post Plain Bearing Die Sets



Four Post Series AS-37

WHEN ORDERING, SPECIFY:

1. Series AS-37.
2. Dimensions A and B.
3. Thickness of die holder J and punch holder K. Die sets are ground to ANSI standards unless specified.
4. Type of bushing. See our Pins & Bushings Catalog.
5. Length L from bottom of die holder to top of guide post O. For stocked lengths of guide posts and types available, see our Pins & Bushings Catalog. Lengths not listed can be furnished at additional cost.
6. Diameter of guide post O. When ordering guide posts, dimension F varies as follows:
7. Size of shank, if ordered. Shank will be located in center of A and B dimensions, unless otherwise specified. These sets are regularly furnished without shanks. Inserted or welded steel shanks are available at additional cost in the following sizes:
 - ◆ 1" diameter x 2-1/8" long
 - ◆ 1-9/16" diameter x 2-1/8" long
 - ◆ 2" diameter x 2-7/8" long
 - ◆ 2-1/2" diameter x 2-7/8" long
 - ◆ 3" diameter x 2-7/8" long
8. Clamping arrangement. L – R arrangement is normally furnished, as shown on page 12.
9. How shipment should be made.

WHEN	O=1	1-1/4	1-1/2	1-3/4	2	2-1/2	3
	F=2	2-1/4	2-1/2	2-3/4	3	3-3/4	4-1/4

These die sets may not be returned for credit.

Demountable Boss Die Sets

Special Applications

ALSO AVAILABLE IN:

- ♦ Aluminum (QC-10)
- ♦ Ball Bearing construction
(See our Ball Bearing Bushing Die Set catalog)

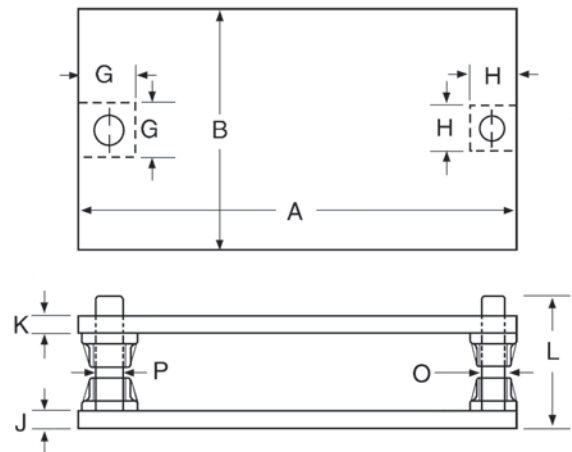
TORCH-CUT HOLES

Holes of any shape can be torch-cut to your needs. Send us your CAD file.

UNLIMITED SIZES

Sizes are not limited to any dimensions. Suggested minimum dimensions are shown below.

TO BE SPECIFIED	K	When combination #2 is used, it is recommended that die holder thickness be equal to or greater than the guide post diameter.											
	J												
BOSS BASE	G	6										7	
	H	5										6	
POST DIAMETER	P	2½										3	
	O	2										2½	
DIE SPACE A →		30	35	40	45	50	55	60	65	70	80	90	100
B ↓	6												
	8												
	10												
	12												
	14												
	16												
	18												
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	60												



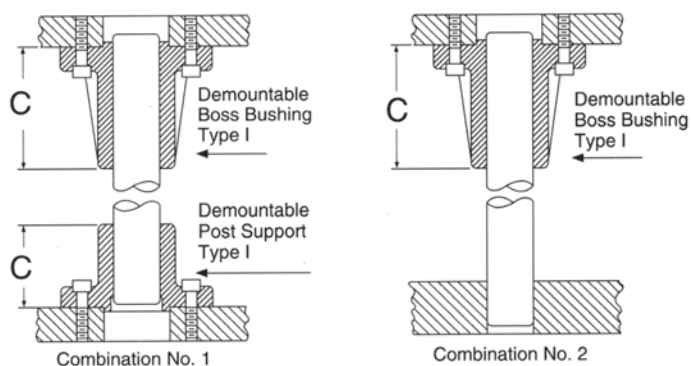
Four Post Series AS-39

WHEN ORDERING, SPECIFY:

1. Series AS-39 or AS-40.
2. Dimensions A and B.
3. Thickness of die holder J and punch holder K. Die sets are ground to ANSI standards unless specified.
4. Diameter of guide post O.
5. Length L from bottom of die holder to top of guide post O.

NOTE: Die space sizes are grouped within shaded areas which indicate suggested guide post diameters.

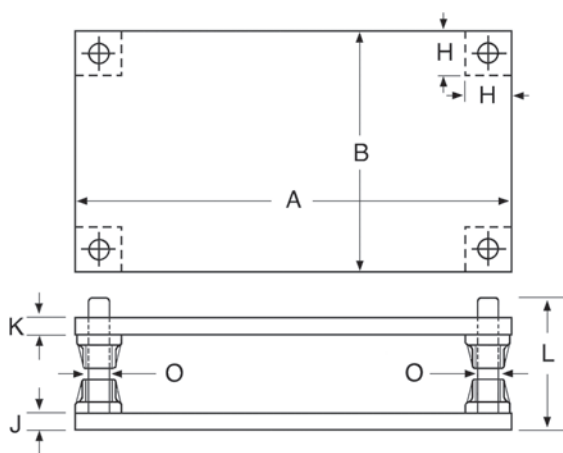
Demountable Boss All-Steel Die Sets



DEMOUNTABLE BOSS DIMENSIONS			
Guide Post Diameter	Length C	Catalog Numbers	
		Post Support	Bushing Boss
2	1-1/2	6-16-11	6-16-111
	3-1/2	6-16-12	6-16-121
	5-1/2	6-16-13	6-16-131
2-1/2	1-1/2	6-20-11	6-20-111
	3-1/2	6-20-12	6-20-121
	5-1/2	6-20-13	6-20-131
3	3-1/2	6-24-12	6-24-121
	5-1/2	6-24-13	6-24-131

UNLIMITED SIZES

Sizes are not limited to any dimensions. Suggested minimum dimensions are shown below.



Four Post Series AS-40

TO BE SPECIFIED	K	When combination #2 is used, it is recommended that die holder thickness be equal to or greater than the guide post diameter.											
BOSS BASE	J												
POST DIAMETER	H												
DIE SPACE A →	O												
B ↓		30	35	40	45	50	55	60	65	70	80	90	100
	12												
	14												
	16												
	18												
	20												
	22												
	24												
	26												
	28												
	30												
	32												
	34												
	36												
	40												
	45												
	50												
	55												
	60												

WHEN ORDERING, SPECIFY:

- Boss combination No. 1 or No. 2. Combination No. 1 is well suited for heavy duty work where rigid support and ready access to the die are needed. Combination No. 2 is recommended for use when the shut-height of the press is limited.
- Length of demountable bosses and catalog numbers. See chart above.

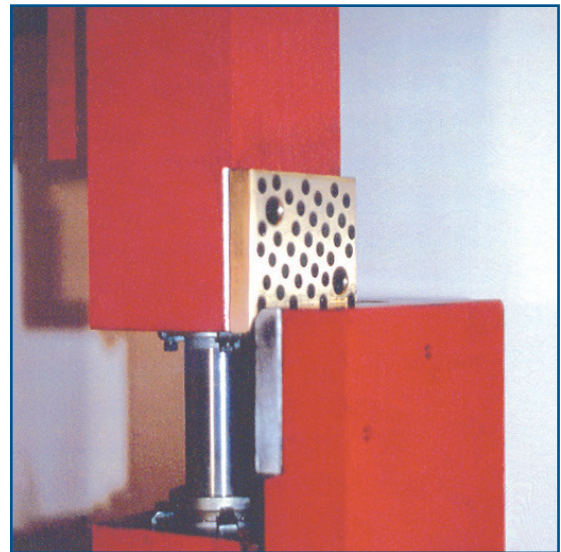
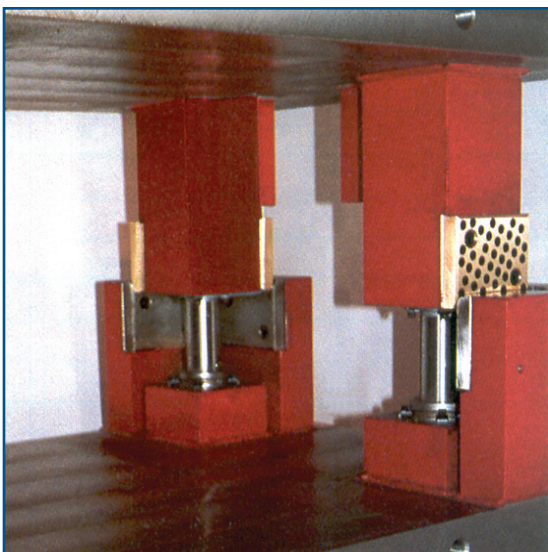
NOTE: Die space sizes are grouped within shaded areas which indicate suggested guide post diameters.

Heel Block Die Sets

Product Features

Heel Block or Wear Plate die sets provide greater rigidity and accuracy when producing large or heavy gauge parts. This type of die set is often preferred for applications which generate high internal die forces, such as blanking and forming of heavy gauge materials.

Our large scale equipment can manufacture these die sets to extremely close tolerances in virtually any configuration you require. Special torch cutting and grinding services are also available.



Platen and Blow Mold Die Sets

Product Features

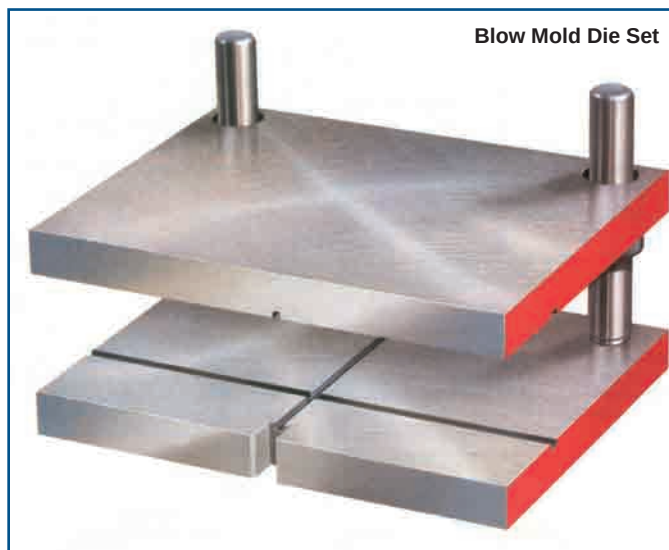
Our nationwide network of manufacturing locations offers convenient, local service to meet your special die set and custom machining needs. These facilities have the in-house equipment, trained personnel and quality assurance procedures required to produce die sets in virtually any size, thickness or configuration.

These capabilities include the experienced manufacturing of Platen die sets for trimming, blanking or other specialized applications. Also included are Blow Mold die sets that meet the critical tolerances of injection molding.

Email your CAD files to us for a quick response on a price and delivery quotation.



Platen Die Set



Blow Mold Die Set

Clamping Data

CLAMP DIMENSIONS FOR EXTRA LONG SHOULDER, STANDARD SHOULDER & SHORT SHOULDER DEMOUNTABLE BUSHINGS - PLAIN BEARING (Includes Bronze, Bronze-plated, Steel & Self-Lubricated Bushings)

Nom. Dia.	Clamp Part Number	Screw Part Number	Socket Head Cap Screw Description	Clamps & screws req'd per Bushing	T (in)	SIZE				LOCATION			
Bush ID Post OD						A (in)	B (in)	C (in)	D (in)	L	M (in)	N (in)	K
3/4	6-95-1	9-0805-41	1/4-20x5/8 long	2	15/32	15/32	1/2	0.125	7/32	90°	25/32	1 1/64	45°
7/8	6-95-1	9-0805-41	1/4-20x5/8 long	2	15/32	15/32	1/2	0.125	7/32	90°	29/32	1 9/64	45°
1	6-90-1	9-0806-41	1/4-20x3/4 long	2	39/64	5/8	5/8	0.193	11/32	90°	1 1/16	1 3/8	45°
1 1/4	6-91-1	9-1006-41	5/16-18x3/4 long	3	11/16	25/32	5/8	0.193	3/8	120°	1 7/32	1 17/32	45°
1 1/2	6-91-1	9-1006-41	5/16-18x3/4 long	3	11/16	25/32	5/8	0.193	3/8	120°	1 3/8	1 11/16	45°
1 3/4	6-91-1	9-1006-41	5/16-18x3/4 long	4	11/16	25/32	5/8	0.193	3/8	35°	1 1/2	1 13/16	10°
2	6-91-1	9-1006-41	5/16-18x3/4 long	4	11/16	25/32	5/8	0.193	3/8	35°	1 45/64	2 1/64	10°
2 1/2	6-91-1	9-1006-41	5/16-18x3/4 long	4	11/16	25/32	5/8	0.193	3/8	40°	2 5/64	2 25/64	5°
3	6-91-1	9-1006-41	5/16-18x3/4 long	4	11/16	25/32	5/8	0.193	3/8	45°	2 5/16	2 5/8	0°
3 3/4	6-91-1	9-1006-41	5/16-18x3/4 long	4	11/16	25/32	5/8	0.193	3/8	45°	2 47/64	2 31/32	0°
4	6-91-1	9-1006-41	5/16-18x3/4 long	4	11/16	25/32	5/8	0.193	3/8	45°	3 11/64	3 13/32	0°

CLAMP DIMENSIONS FOR LOW PROFILE DEMOUNTABLE BUSHINGS - PLAIN BEARING

Nom. Dia.	Clamp Part Number	Screw Part Number	Socket Head Cap Screw Description	Clamps & screws req'd per Bushing	T (in)	SIZE				LOCATION			
Bush ID Post OD						A (in)	B (in)	C (in)	D (in)	L	M (in)	N (in)	K
1	6-95-1	9-0805-41	1/4-20x5/8 long	3	39/64	15/32	1/2	0.125	7/32	120°	1 1/16	1 19/64	45°
1 1/4	6-95-1	9-0805-41	1/4-20x5/8 long	3	11/16	15/32	1/2	0.125	7/32	120°	1 3/16	1 27/64	45°
1 1/2	6-98-1	9-1004-41	5/16-18x1/2 long	3	11/16	23/32	23/32	0.193	29/64	120°	1 29/64	1 3/4	45°
1 3/4	6-98-1	9-1004-41	5/16-18x1/2 long	4	11/16	23/32	23/32	0.193	29/64	35°	1 39/64	1 29/32	10°
2	6-98-1	9-1004-41	5/16-18x1/2 long	4	11/16	23/32	23/32	0.193	29/64	35°	1 25/32	2 3/32	10°
2 1/2	6-98-1	9-1004-41	5/16-18x1/2 long	4	11/16	23/32	23/32	0.193	29/64	40°	2 9/64	2 29/64	5°

CLAMP DIMENSIONS FOR DEMOUNTABLE BUSHINGS - BALL BEARING

Nom. Dia.	Clamp Part Number	Screw Part Number	Socket Head Cap Screw Description	Clamps & screws req'd per Bushing	T (in)	SIZE				LOCATION			
Bush ID Post OD						A (in)	B (in)	C (in)	D (in)	L	M (in)	N (in)	K
1	6-91-1	9-1006-41	5/16-18x3/4 long	3	11/16	25/32	5/8	0.193	3/8	120°	1 5/16	1 11/16	45°
1 1/4	6-91-1	9-1006-41	5/16-18x3/4 long	3	11/16	25/32	5/8	0.193	3/8	120°	1 7/16	1 13/16	45°
1 1/2	6-91-1	9-1006-41	5/16-18x3/4 long	4	11/16	25/32	5/8	0.193	3/8	120°	1 11/16	2 1/16	45°
1 3/4	6-91-1	9-1006-41	5/16-18x3/4 long	4	11/16	25/32	5/8	0.193	3/8	35°	1 13/16	2 3/16	10°
2	6-91-1	9-1006-41	5/16-18x3/4 long	4	11/16	25/32	5/8	0.193	3/8	35°	2 1/16	2 7/16	10°
2 1/2	6-91-1	9-1006-41	5/16-18x3/4 long	4	11/16	25/32	5/8	0.193	3/8	40°	2 5/16	2 11/16	5°
3	6-91-1	9-1006-41	5/16-18x3/4 long	4	11/16	25/32	5/8	0.193	3/8	45°	2 5/8	3	0°

Clamping Data

CLAMP ARRANGEMENT SELECTION DATA*		
L- R FEED	F- B FEED	ROUND DIES

NOTES:

* If not specified, clamp arrangement **L-R** will be furnished. Clamp arrangement **F-B** is furnished on Center Post Sets.

① Use 4 clamps @ 30° on offset pin and bushing only – 1-1/4" and 1-1/2" diameters.

CLAMP NUMBERS 6-90-1, 6-91-1, 6-93-1, 6-95-1	CLAMP NUMBER 6-98-1

THICKNESS OF PLATE CARRIED IN STOCK FOR IMMEDIATE FABRICATION												
1	1-1/8	1-1/4	1-3/8	1-1/2	1-5/8	1-3/4	1-7/8	2	2-1/4	2-1/2	2-3/4	3
3-1/4	3-1/2	4	4-1/2	5	5-1/2	6	6-1/2	7	7-1/2	8	8-1/2	—

PLAIN BEARING BUSHING DIE SETS



The DANLY DIE SETS Value Proposition

- I. **Danly Die Sets** is recognized as the leader in manufacturing quality die sets and related products to the global parts forming industry. Our reputation has been built by satisfying customer needs, and we are very strong in the automotive and appliance industries.
- II. **Danly Die Sets** offers outstanding delivery on a consistent basis. Choosing us as a supplier means that our customers have a competitive advantage in delivering their products to the market.
- III. **Danly Die Sets** has complex machining capabilities on die sets at several strategically located facilities. Locations throughout the USA means lower shipping costs and allowing **Danly Die Sets** to machine complex die sets means the customer's machining centers have additional capacity.
- IV. **Danly Die Sets** vast breadth of products assures innovative solutions. We strive to address customer problems by utilizing our research and development department as well as other technical professionals.
- V. **Danly Die Sets** has a technically trained sales force and distributor channels with engineering support. Sales, marketing and engineering professionals are available to support our product lines.



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