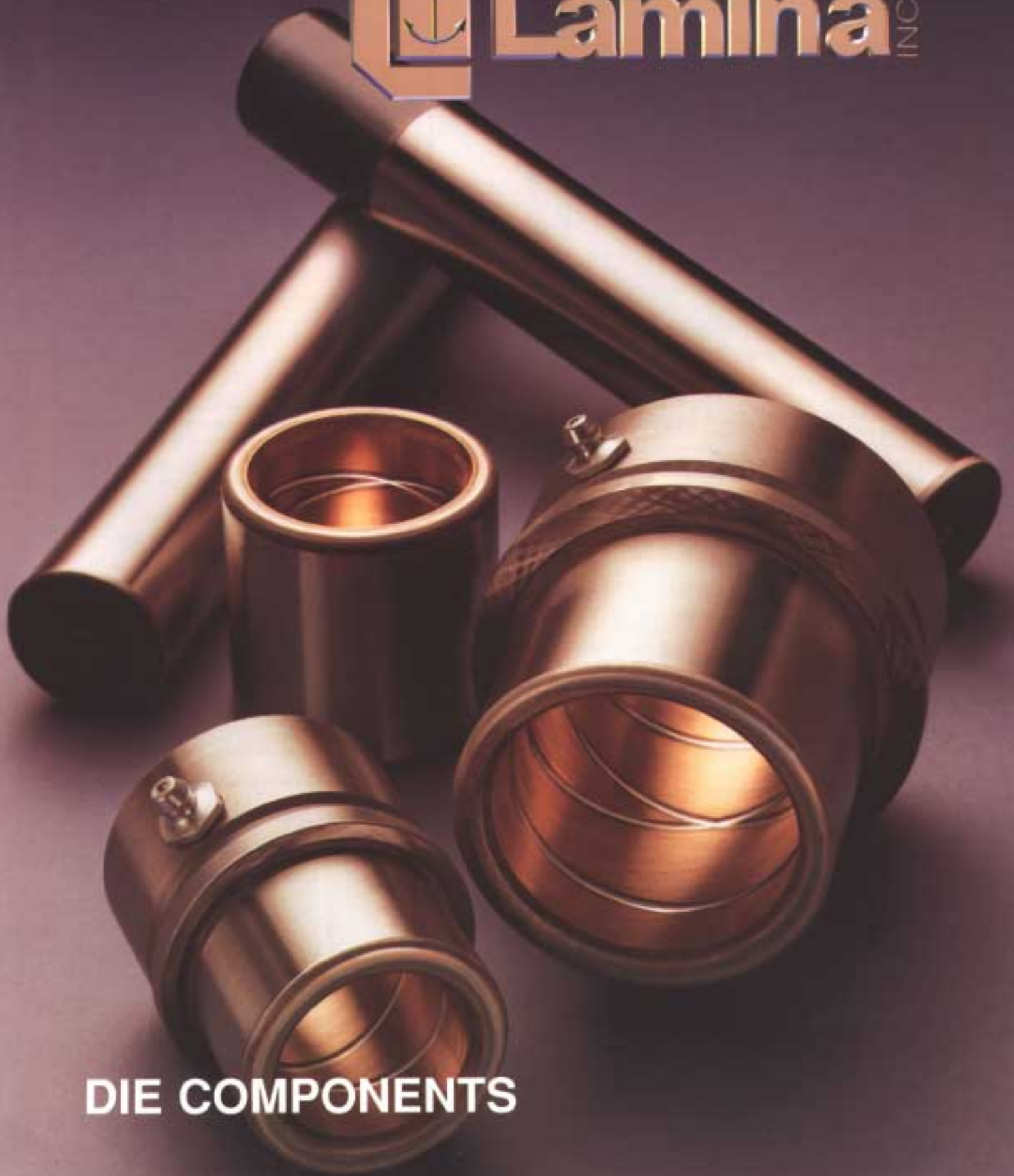




Lamina INC.



DIE COMPONENTS



"B" diameter (wring fit) available finished ground to nominal + .000
- .0005

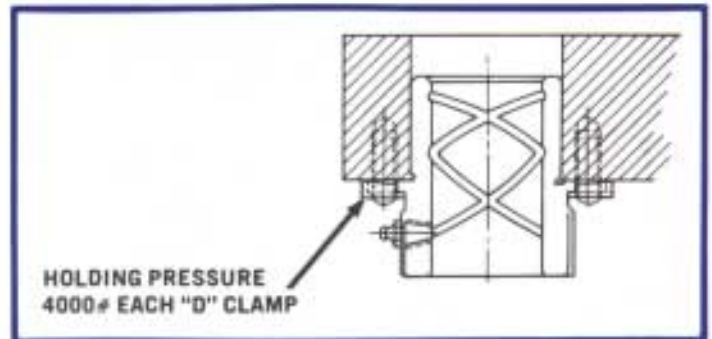
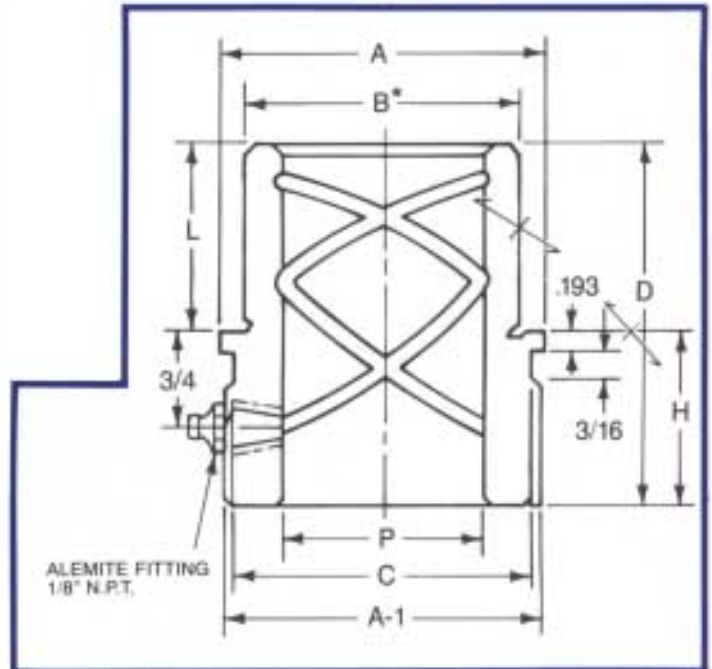
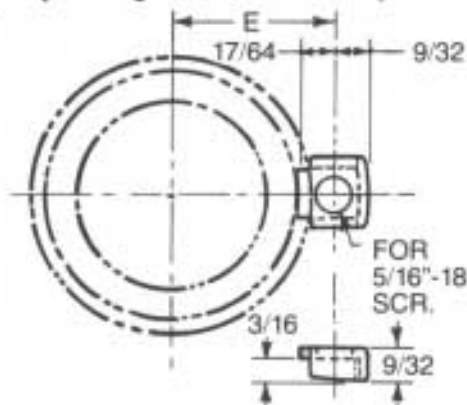
Add "G" to prefix

"B" diameter also available with + .015 grindstock.

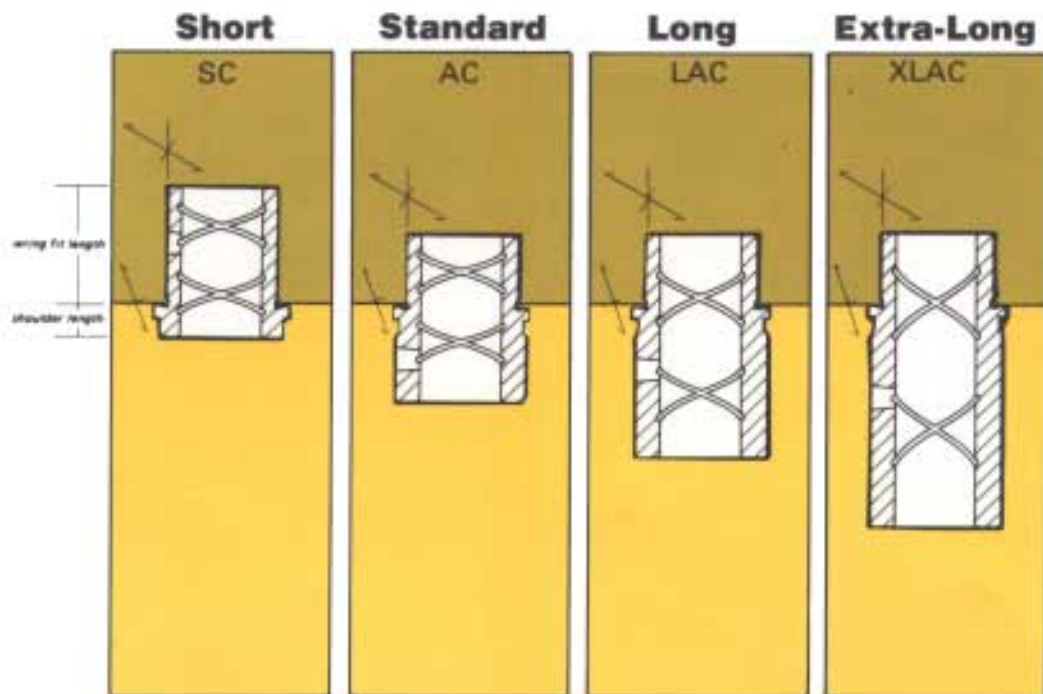
Specify with Grindstock.

Bushings with assemblies include bushings, clamps and screws.

Specify Bushing Number and Assembly.



NOTE
All bronze plated shoulder bushings must be wring-fit in the die shoe. It is also recommended that Solid bronze shoulder bushings be mounted similarly.





BUSHINGS

**B" diameter (wring fit) available finished ground to nominal + .000 / - .0005

Add "G" to prefix. Example: GAC-750-S

**B" diameter also available with + .015 grindstock.

Specify with Grindstock. Example: AC-750-S

Bushings with assemblies include bushings, clamps and screws.

Specify Bushing Number and Assembly.

Plating Thickness .004 - .005 per side

**Bronze Plated,
Solid Bronze
and Steel**

WILL NOT SEIZE OR SCORE

Standard Shoulder

P NOM. PIN DIA.	A	A-1	B*	C	D OVER- ALL LENGTH	H HEAD LENGTH	L WRING- FIT LENGTH	BRONZE PLATED PART NO.	ALUMN ^{††} BRONZE PART NO.	HARDENED ^{**} STEEL	NO. OF CLAMPS & SCREWS	E CLAMP
3/4	1-5/16	1-7/32	1.125	1-1/8	2-1/16	1-1/4	13/16	AC-750-S	AC-750-SB	AC-750-SS	2	55/64
7/8	1-9/16	1-15/32	1.375	1-3/8	2-1/8	1-1/4	7/8	AC-875-S	AC-875-SB		2	63/64
1	1-3/4	1-21/32	1.500	1-9/16	2-1/8	1-1/4	7/8	AC-100-S	AC-100-SB	AC-100-SS	3	1-5/64
					3-1/8		1-7/8	AC-100-L		AC-100-SS-2		
1-1/4	2-1/8	2-1/32	1.750	1-15/16	2-5/8	1-1/2	1-1/8	AC-125-S	AC-125-SB	AC-125-SS	3	1-17/64
					3-5/8		2-1/8	AC-125-L		AC-125-SS-2		
1-1/2	2-3/8	2-9/32	2.000	2-3/16	2-7/8	1-1/2	1-3/8	AC-150-S	AC-150-SB	AC-150-SS	3	1-25/64
					3-7/8		2-3/8	AC-150-L		AC-150-SS-2		
1-3/4	2-5/8	2-17/32	2.250	2-7/16	3-3/8	2	1-3/8	AC-175-S	AC-175-SB	AC-175-SS	3	1-33/64
					4-1/8		2-5/8	AC-175-L		AC-175-SS-2		
2	3-1/8	3-1/32	2.500	2-15/16	3-5/8	2	1-5/8	AC-200-S	AC-200-SB	AC-200-SS	4	1-49/64
					4-3/8		2-7/8	AC-200-L		AC-200-SS-2		
2-1/2	3-5/8	3-17/32	3.000	3-7/16	3-7/8	2	1-7/8	AC-250-S	AC-250-SB	AC-250-SS	4	2-1/64
					4-3/8		2-7/8	AC-250-L		AC-250-SS-2		
3	4-3/8	4-9/32	3.625	4-3/16	3-7/8	2	1-7/8	AC-300-S	AC-300-SB		6	2-25/64

** Hardened Steel bushings not available in Class 1.

Long & Extra Long Shoulder – Bronze Plated

P NOM. PIN DIA.	A	A-1	B*	C	D OVER- ALL LENGTH	H HEAD LENGTH	L WRING- FIT LENGTH	PART NO.	NO. OF CLAMPS & SCREWS	E CLAMP
3/4	1-5/16	1-7/32	1.125	1-1/8	2-13/16	2	13/16	LAC-750-S	2	55/64
					3-9/16			2-3/4		
7/8	1-9/16	1-15/32	1.375	1-3/8	3	2-1/8	7/8	LAC-875-S	2	63/64
					4-3/8			3-1/2		
1	1-3/4	1-21/32	1.500	1-9/16	3-1/8	2-1/4	7/8	LAC-100-S	3	1-5/64
					4-3/8			3-1/2		
1-1/4	2-1/8	2-1/32	1.750	1-15/16	3-1/2	2-3/8	1-1/8	LAC-125-S	3	1-17/64
					4-5/8			3-1/2		
1-1/2	2-3/8	2-9/32	2.000	2-3/16	4-1/8	2-3/4	1-3/8	LAC-150-S	3	1-25/64
					4-7/8			3-1/2		
1-3/4	2-5/8	2-17/32	2.250	2-7/16	4-5/8	3	1-5/8	LAC-175-S	3	1-33/64
2	3-1/8	3-1/32	2.500	2-15/16	4-5/8	3	1-5/8	LAC-200-S	4	1-49/64
2-1/2	3-5/8	3-17/32	3.000	3-7/16	5-3/8	3-1/2	1-7/8	LAC-250-S	4	2-1/64
3	4-3/8	4-9/32	3.625	4-3/16	5-7/8	4	1-7/8	LAC-300-S	6	2-25/64

^{††}Aluminum Bronze, Centrifugally Cast (ASTM B-148-9C)

Lamina INC. BUSHINGS



BRONZE PLATED

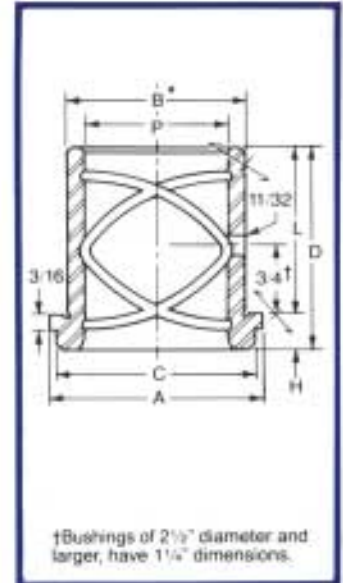


ALUMINUM BRONZE



BRONZE SELF LUBE

P NOM. PIN DIA.	A	C	B*	D OVER ALL LENGTH	H HEAD LENGTH	L WIRING FIT LENGTH	BRONZE PLATED PART NO.	ALUMN.†† BRONZE PART NO.	**BRONZE SELF LUBE PART NO.	NO. OF CLAMPS & SCREWS	E
3/4	1-5/16	1-1/8	1.125	1-9/16	1/2	1-1/16	SC-750-S	SC-750-SB	SCB750S	2	55/64
				2-5/16	1/2	1-13/16	SC-750-L	SC-750-LB	SCB750L		
7/8	1-9/16	1-3/8	1.375	1-9/16	1/2	1-1/16	SC-875-S	SC-875-SB	SCB875S	2	63/64
				2-5/16	1/2	1-13/16	SC-875-L	SC-875-LB	SCB875L		
1	1-3/4	1-9/16	1.500	1-7/8	1/2	1-3/8	SC-100-S	SC-100-SB	SCB100S	3	1-5/64
				2-7/8	1/2	2-3/8	SC-100-L	SC-100-LB	SCB100L		
1-1/4	2-1/8	1-15/16	1.750	2-3/8	1/2	1-7/8	SC-125-S	SC-125-SB	SCB125S	3	1-17/64
				3-3/8	1/2	2-7/8	SC-125-L	SC-125-LB	SCB125L		
1-1/2	2-3/8	2-3/16	2.000	2-3/8	1/2	1-7/8	SC-150-S	SC-150-SB	SCB150S	3	1-25/64
				3-3/8	1/2	2-7/8	SC-150-L	SC-150-LB	SCB150L		
1-3/4	2-5/8	2-7/16	2.250	2-7/8	1/2	2-3/8	SC-175-S	SC-175-SB	SCB175S	3	1-33/64
				3-7/8	1/2	3-3/8	SC-175-L	SC-175-LB	SCB175L		
2	2-15/16	2-3/4	2.500	2-7/8	1/2	2-3/8	SC-200-S	SC-200-SB	SCB200S	4	1-43/64
				3-7/8	1/2	3-3/8	SC-200-L	SC-200-LB	SCB200L		
2-1/2	3-3/8	3-3/16	3.000	3	3/8	2-5/8	SC-250-S	SC-250-SB	SCB250S	4	1-57/64
				4	3/8	3-5/8	SC-250-M	SC-250-MB	SCB250M		
				5	3/8	4-5/8	SC-250-L	SC-250-LB	SCB250L		
3	3-7/8	3-11/16	3.500	3	3/8	2-5/8			SCB300X	6	2-9/64
				4	3/8	3-5/8	SC-300-S	SC-300-SB	SCB300S		
				5	3/8	4-5/8	SC-300-M	SC-300-MB	SCB300M		
				8	3/8	5-5/8	SC-300-L	SC-300-LB	SCB300L		
3-3/4	4-7/8	4-11/16	4.500	7	3/8	6-5/8		SC-375-S	SCB375S	6	2-41/64
4-1/2	5-7/8	5-11/16	5.500	8	3/8	7-5/8		SC-450-S	SCB450S	6	3-9/64



†† Aluminum Bronze, Centrifugally Cast (ASTM-B-148-9C)

**B" diameter (wring fit) available finished ground to nominal + .000 / - .0005
Add "G" to beginning of part number. Example: GSC-750-S

**B" diameter also available with + .015 grindstock.

Specify with Grindstock. Example: SC-750-S

Bushings with assemblies include bushings, clamps and screws.

Specify Bushing Number and Assembly.

Plating Thickness .004 - .005 per side

** Self Lube (SCB) bushings available in
CLASS 3 ONLY

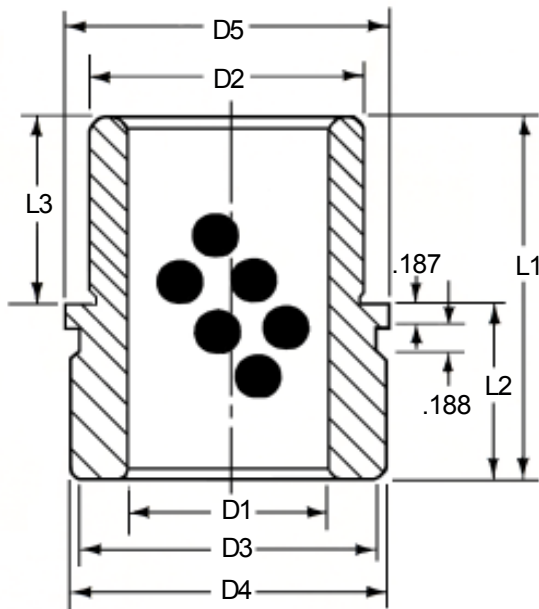
I.D.	Tolerance	I.D.	Tolerance
3/4 thru 1 1/2	nominal + .0006 / - .0010	3	nominal + .0014 / - .0023
1 3/4 & 2	nominal + .0007 / - .0012	3 3/4	nominal + .0018 / - .0028
2 1/2	nominal + .0012 / - .0018	4 1/2	nominal + .0025 / - .0035



Lamina^{INC}

SELF-LUBRICATING STANDARD SHOULDER BUSHINGS

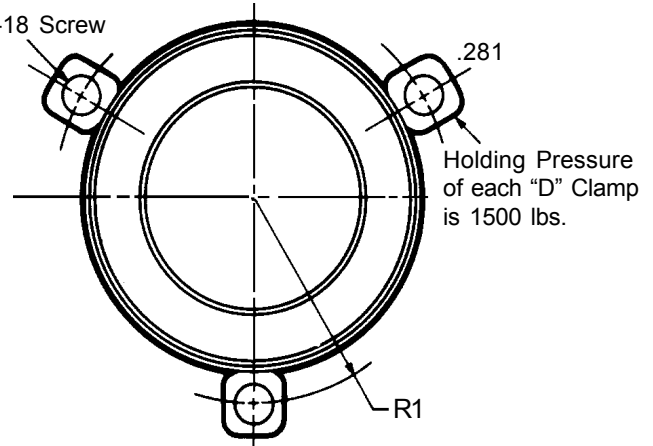
In Stock!
Ready to Ship!



Solid Bronze with Self-Lubricating Graphite Plugs

Light oil should be used at initial installation.
Never use grease.

For
5/16-18 Screw



Part Number Unground	Part Number Ground	D1 Nom. I.D.	D2 Wring Fit O.D. Unground	D2 Wring Fit O.D. Ground	D3 Head O.D. Groove	D4 Head O.D.	D5 Shoulder O.D.	L1 Overall Length	L2 Head Length	L3 Wring Fit Length	No. Clamps & Screws	R1 Screw Circle Radius
ACB750S	GACB750S	.7500	1.1410	1.1250	1.125	1.219	1.313	2.063	1.250	.813	2	.859
ACB100S	GACB100S	1.0000	1.5160	1.5000	1.563	1.656	1.750	2.125	1.250	.875	3	1.078
ACB125S	GACB125S	1.2500	1.7660	1.7500	1.938	2.031	2.125	2.625	1.500	1.125	3	1.266
ACB150S	GACB150S	1.5000	2.0160	2.0000	2.188	2.281	2.375	2.875	1.500	1.375	3	1.391
ACB175S	GACB175S	1.7500	2.2660	2.2500	2.438	2.531	2.625	3.125	1.500	1.625	3	1.516
ACB200S	GACB200S	2.0000	2.5160	2.5000	2.938	3.031	3.125	3.375	1.500	1.875	4	1.766
ACB250S	GACB250S	2.5000	3.0160	3.0000	3.438	3.531	3.625	3.875	2.000	1.875	4	2.016
ACB300S	GACB300S	3.0000	3.6410	3.6250	4.188	4.281	4.375	3.875	2.000	1.875	6	2.391



Lamina INC.

GUIDE COMPONENT TOLERANCES



Lamina

REMOVABLE PINS AND BUSHINGS

Designed specifically for all dies where it is desirable to remove pins for ease and simplicity of sharpening die.

Lamina removable pins and bushings are generally used with carbide dies, progressive dies, lamination dies, and dies for very thin materials where clearances between punch and die sections will be no more than .0007" per side.

(AVAILABLE IN CLASS 1)



Lamina

TPB & TPC STRAIGHT PINS AND BUSHINGS

Lamina TPB & TPC pins with bushing tolerances shown opposite for use in precision die sets.

(AVAILABLE IN CLASS 1 OR CLASS 2)



Lamina

SHOULDER PINS AND BUSHINGS

For use with automotive, hardware, forming, or draw dies where stamping stock is thicker than 1/16", and clearances between punch and die sections will be more than .003" per side.

Bushings are manufactured to standard tolerances (shown opposite), and pins are ground to greater clearances for a running fit.

(PINS AVAILABLE IN CLASS 2)
(BUSHINGS AVAILABLE IN CLASS 1 OR CLASS 2)

LAMINA BUSHINGS

I.D. Tolerances

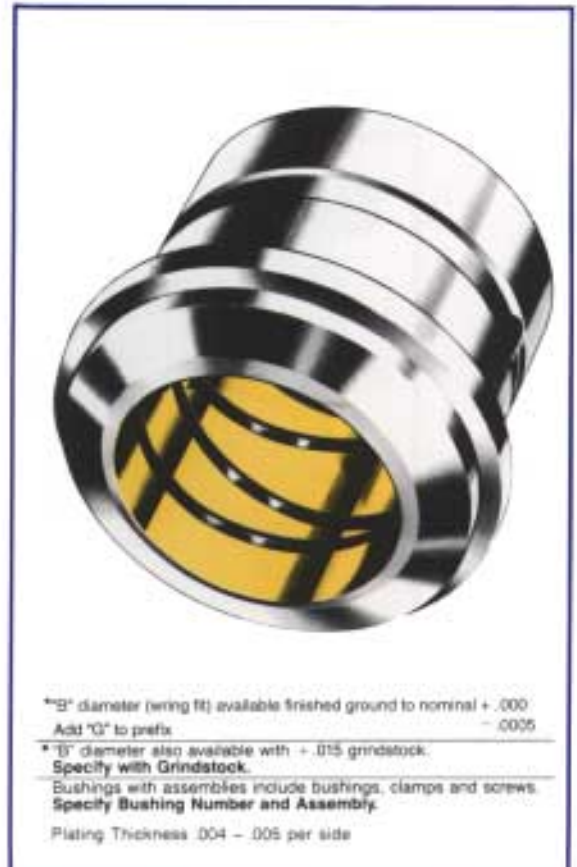
"P" NOM. PIN DIA.	CLASS 1	CLASS 2
3/4	.7502 .7503	.7503 .7506
7/8	.8752 .8753	.8753 .8756
1	1.0002 1.0003	1.0003 1.0006
1-1/4	1.2502 1.2503	1.2503 1.2501
1-1/2	1.5002 1.5003	1.5003 1.5006
1-3/4	1.7502 1.7503	1.7503 1.7506
2	2.0002 2.0003	2.0003 2.0007
2-1/2	2.5004 2.5006	2.5006 2.5012
3	3.0006 3.0008	3.0008 3.0014
3-3/4	—	3.7510 3.7518
4-1/2	—	4.5015 4.5025

GUIDE BAR BUSHINGS

Wiper Clamp-Head Type

BUSHING (ASSEMBLY)
(Includes bushing, clamps, screws)

PART NO.	P	A	B*	C	D	E	F	L	NO. OF CLAMPS & SCREWS
LMB-062	$\frac{5252}{5254}$	1.12	1.000	.93	1.21	.76	.37	.76	2
LMB-075	$\frac{7502}{7504}$	1.31	1.125	1.12	1.23	.86	.37	.76	
LMB-100	$\frac{10002}{10004}$	1.75	1.375	1.56	1.55	1.08	.49	1.00	3
LMB-125	$\frac{12502}{12504}$	2.12	1.750	1.93	1.94	1.26	.69	1.38	
LMB-150	$\frac{15002}{15004}$	2.37	2.000	2.18	2.06	1.39	.75	1.50	
LMB-175	$\frac{17502}{17504}$	2.62	2.250	2.43	2.31	1.52	.88	1.75	4
LMB-200	$\frac{20002}{20004}$	2.93	2.500	2.75	2.57	1.67	1.00	2.00	
LMB-250	$\frac{25004}{25006}$	3.62	3.250	3.43	3.12	2.01	1.25	2.50	6
LMB-300	$\frac{30004}{30006}$	4.12	3.750	3.93	3.62	2.26	1.50	3.00	
LMB-375	$\frac{37504}{37506}$	4.87	4.500	4.68	4.37	2.63	1.87	3.75	



B diameter (bring fit) available finished ground to nominal + .000
Add "G" to prefix - .0005

B diameter also available with + .015 grindstock.

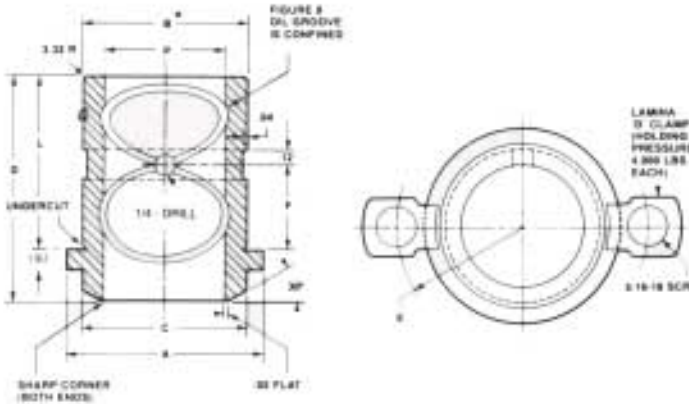
Specify with Grindstock.

Bushings with assemblies include bushings, clamps and screws.

Specify Bushing Number and Assembly.

Plating Thickness .004 - .005 per side

Bronze Plated on Hardened Steel

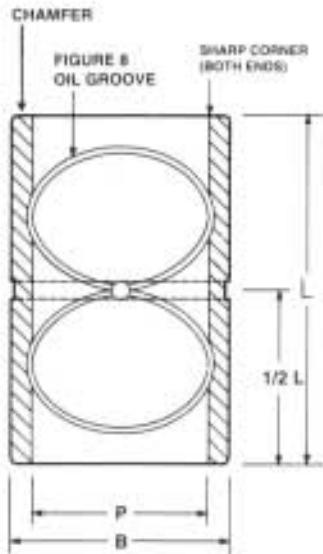


BRONZE PLATED PRECISION BEARINGS

P NOM. PIN DIA.	B	D	PART NO.
3/4	1.1268	1-3/4	B-6-175
	1.1278		B-7-175
7/8	1.3768	2	B-8-175
	1.3772		B-10-200
1	1.5018	3	B-12-200
	1.5022		B-7-300
1-1/4	1.7518	3	B-8-300
	1.7522		B-10-300
1-1/2	2.0018	3	B-12-300
	2.0022		B-14-300
1-3/4	2.2518	3	B-16-300
	2.2522		B-20-300
2	2.5018	3	B-18-300
	2.5022		B-20-300
2-1/2	3.0018	3	B-18-300
	3.0022		B-20-300

RFB Hard Back (40 to 45 Rockwell C)

PART NUMBER	"L" LENGTH						+ .0005 "P" INSIDE DIA.	+ .0004 "B" OUTSIDE DIA.	+ .0005 RECOMMENDED BORE SIZE
RFB - 625	.75	1.00	1.25				.6270	1.0014	.9995
RFB - 750	.75	1.00	1.25	1.50			.7525	1.1264	1.1245
RFB - 100	1.00	1.25	1.50	1.75	2.00		1.0025	1.3764	1.3745
RFB - 125	1.25	1.50	1.75	2.00	2.50		1.2530	1.7516	1.7495
RFB - 150	1.50	1.75	2.00	2.50	3.00		1.5030	2.0016	1.9995
RFB - 175	1.75	2.00	2.50	3.00	3.50		1.7530	2.2518	2.2495
RFB - 200	2.00	2.50	3.00	3.50	4.00		2.0035	2.5018	2.4995
RFB - 250	2.50	3.00	3.50	4.00	4.50	5.00	2.5035	3.2518	3.2490
RFB - 300	3.00	3.50	4.00	4.50	5.00	6.00	3.0040	3.7520	3.7490



Lamina
Bronze Plated
**RUNNING FIT
BUSHINGS**
For Machine Tools, Fixtures, etc.
Straight Design, Wiper Type



Lamina-Bronze on steel provides longer wearing running fits
Plating Thickness .004 - .005 per side
Order by part number and length
Complete Inventory



BEARINGS FOR RADIAL OR LINEAR APPLICATIONS

NO REAMING OR HONING should be necessary after press fitting Bearing
FLASH-PLATED O.D. PREVENTS SCORING when pressing Bearing in and out

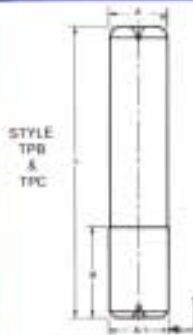
SRFB Non Heat Treated

PART NUMBER	"L" LENGTH								+ .0005 "P" INSIDE DIA.	+ .0005 "B" OUTSIDE DIA.	+ .0005 RECOMMENDED BORE SIZE
.750 SRFB	.75	1.00	1.25	1.50					.7525	1.1265	1.1245
1.00 SRFB	.75	1.00	1.25	1.50	1.75	2.00			1.0025	1.3765	1.3745
1.25 SRFB	.75	1.00	1.25	1.50	1.75	2.00	2.25	2.50	1.2530	1.6265	1.6245
1.50 SRFB	.75	1.00	1.25	1.50	1.75	2.00	2.25	2.50	1.5030	1.8765	1.8745
1.75 SRFB	1.00	1.25	1.50	1.75	2.00	2.25	2.50	3.00	1.7530	2.1265	2.1245
2.00 SRFB	1.00	1.25	1.50	2.00	2.50	3.00	3.50	4.00	2.0035	2.3765	2.3745
2.50 SRFB	1.25	1.50	2.00	2.50	3.00	3.50	4.00	5.00	2.5035	2.8765	2.8745
3.00 SRFB	1.50	2.00	2.50	3.00	3.50	4.00	5.00	6.00	3.0040	3.5020	3.4995



GUIDE PINS Straight Type

PLEASE ORDER BY PART NUMBER AND LENGTH



TPC-100 and smaller Guide Pins are ground on the A-1 dimension to nominal diameter plus .002 \pm $\begin{matrix} .0000 \\ -.0005 \end{matrix}$

TPC-125 and larger Guide Pins are ground on the A-1 dimension to nominal diameter plus .002 \pm $\begin{matrix} .0005 \\ -.0000 \end{matrix}$

TPC-150 and smaller Guide Pins have no centers.

TPC-175 and larger Guide Pins have centers.

All TPB Guide Pins have centers & .015 stock left on this diameter for grinding.



TN — of hardened steel, with a precision-ground running diameter(A), these Guide Pins are perfect mates for Lamina bronze-plated guide bushings.

A NOM. DIA.	B	PART NO.	"L" LENGTHS																								
			4	5	6	7	8	9	10	11	12	13	14	15	17	19	21	24	27	30							
3/4	1-3/8	TPB-750																									
		TPC-750																									
		TN-750																									
7/8	1-1/2	TPC-875																									
		TPB-100																									
		TPC-100																									
1	1-1/2	TN-100																									
		TPB-125																									
		TPC-125																									
1-1/4	1-3/4	TN-125																									
		TPB-150																									
		TPC-150																									
1-1/2	2	TN-150																									
		TPB-175																									
		TPC-175																									
2	2-1/2	TPB-200																									
		TPC-200																									

Note: TN Pins do not have "B" dimensions.

A NOM. DIA.	B	PART NO.	"L" LENGTHS																								
			8	9	10	11	12	13	14	15	17	19	21	24	27	30											
2-1/2	3-1/2	TPB-250 TPC-250																									
3	4	TPB-300 TPC-300																									

← NOT AVAILABLE OUT OF INVENTORY →

A NOM. DIA.	B	PART NO.	"L" LENGTHS																							
			15	17	19	21	24	27	30																	
3-3/4	AS SPECI- FIED	TPB-375 TPC-375																								
4-1/2		TPB-450 TPC-450																								

← NOT AVAILABLE OUT OF FINISHED INVENTORY: SPECIFY DIMENSION "B" WHEN ORDERING →

Shoulder Type

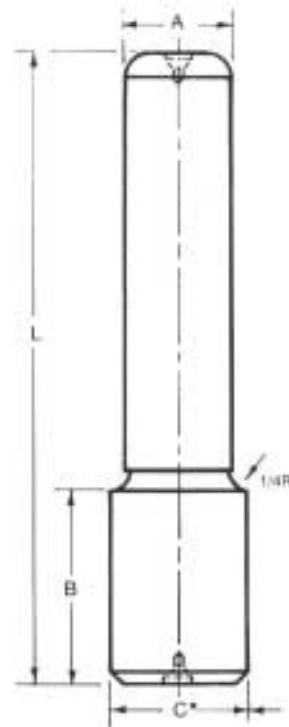
A NOM. DIA.	B	C*	PART NO.	"L" LENGTHS											
1	1-1/2	1-1/2	HP-100	5-1/2	6	6-1/2	7		8		9				
1-1/4	2	1-3/4	HP-125	6		7	7-1/2	8		9					
1-1/2	2-1/2	2	HP-150	6	6-1/2	7	7-1/2	8	8-1/2	9	10	11	12	13	14
1-3/4	3	2-1/4	HP-175		7-1/2	8		9	10	11	12	13	14		
2	3-1/2	2-1/2	HP-200			8	8-1/2	9	10	11	12	13	14	15	17

A NOM. DIA.	B	C*	PART NO.	"L" LENGTHS														
2-1/2	4	3	HP-250			9	10	11	12	13	14	15	17	19	21	24	27	30
3	5	3-5/8	HP-300				11	12	13	14	15	17	19	21	24	27	30	
3	5	3-1/2	HP-300RA				11	12	13	14	15	17	19	21	24	27	30	

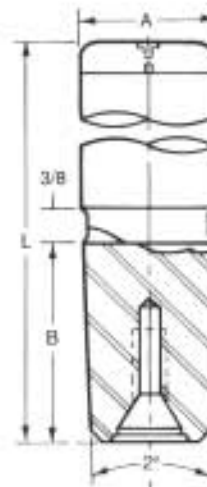
← NOT AVAILABLE OUT OF INVENTORY →

A NOM. DIA.	B	C*	PART NO.	"L" LENGTHS											
3-3/4	AS SPECI- FIED	4-1/2	HP-375			15	17	19	21		24	27		30	
4-1/2		5-1/2	HP-450			15	17	19	21		24	27		30	

← NOT AVAILABLE OUT OF FINISHED INVENTORY: SPECIFY DIMENSION "B" WHEN ORDERING →



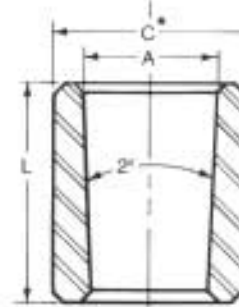
GUIDE PINS Removable Type



BUSHING LINER			
A NOM. DIA.	C*	L	PART NO.
1	1-1/2	1-5/8	NRB-100
1-1/4	1-3/4	1-7/8	NRB-125
1-1/2	2	2-1/8	NRB-150
1-3/4	2-1/4	2-3/8	NRB-175
2	2-1/2	2-5/8	NRB-200
2-1/2	3	3-5/8	NRB-250

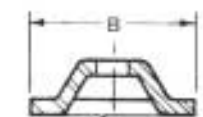
(PIN ASSEMBLY INCLUDES: BUSHING LINER, END CAP & SCREW).

A NOM. DIA.	B	PART NO.	"L" LENGTHS											
1	1-1/2	RP-100	5	5-1/2	6	6-1/2	7	7-1/2	8	8-1/2	9			
1-1/4	1-3/4	RP-125	5-1/2	6	6-1/2	7	7-1/2	8	8-1/2	9	10	11	12	
1-1/2	2	RP-150	5-1/2	6	6-1/2	7	7-1/2	8	8-1/2	9	10			
1-3/4	2-1/4	RP-175			7	7-1/2	8	8-1/2	9	10				
2	2-1/2	RP-200	6		7	7-1/2	8	8-1/2	9	10	11	12	13	14
2-1/2	3-1/2	RP-250				9	10	11	12	13	14			



END CAP			
PIN SIZE	A	B	PART NO.
1	5/16	1-1/4	RC-100
1-1/4	3/8	1-1/2	RC-125
1-1/2	3/8	1-3/4	RC-150
1-3/4	3/8	2	RC-175
2	3/8	2-1/4	RC-200
2-1/2	1/2	2-3/4	RC-250

* .015 stock left on this diameter for grinding to fit bored hole in die shoe.



FOR "A" SOC. HD. SCR.



Flange Type:

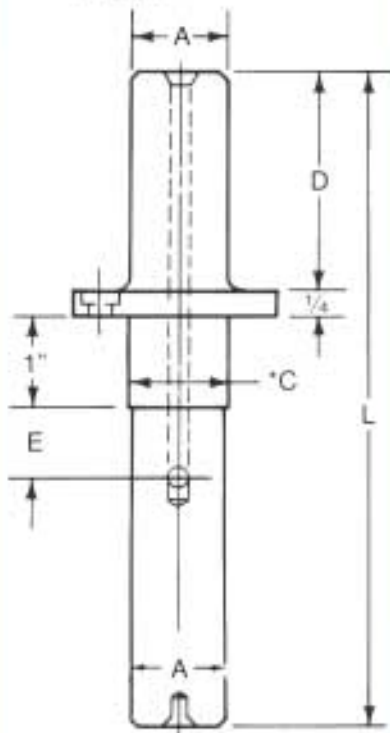
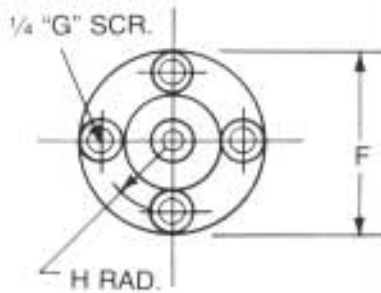
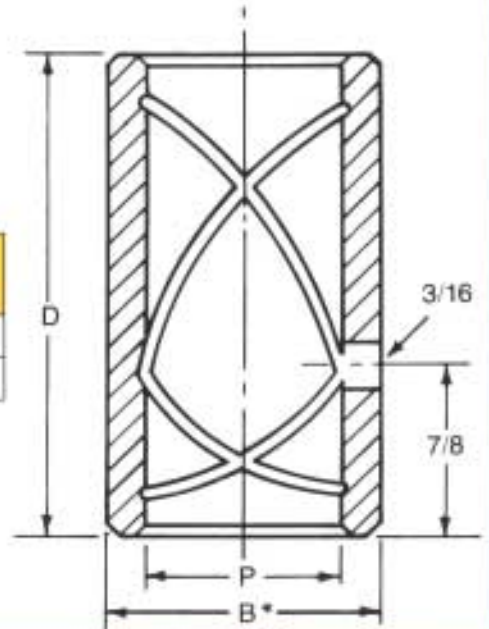
STRIPPER GUIDE PINS & BUSHINGS



BRONZE PLATED STRIPPER GUIDE PIN BUSHING

P NOM. PIN DIA.	B *	D	PART NO.
1	1 1/4	2 1/4	SG100L

*.015 stock left on this diameter for grinding to fit bored hole in die shoe.



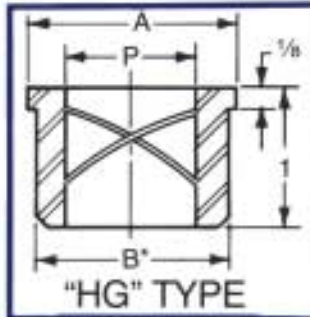
PLEASE ORDER BY PART NUMBER AND LENGTH.

STRIPPER GUIDE PIN								
A NOM. DIA.	D	E	F	G	H	PART NO.	L	C*
3/4	3 1/4	3	1 1/4	Flat Head	.719	F-8890	9	3/4
1	3 1/2	1 1/2	2	Soc. Head	.750	F-1080	8	1
1	3 1/2	1 1/2	2	Soc. Head	.750	F-1085	8 1/2	1
1	3 1/2	1 1/2	2	Soc. Head	.750	F-1090	9	1
1 1/4	3 1/2	1 1/2	2 1/2	Soc. Head	.875	F-1290	9	1 1/4

*Approximately .015 stock left on this diameter for grinding. Suggested finish bore size (for "C" dim.) to be .005 over nominal pin diameter.



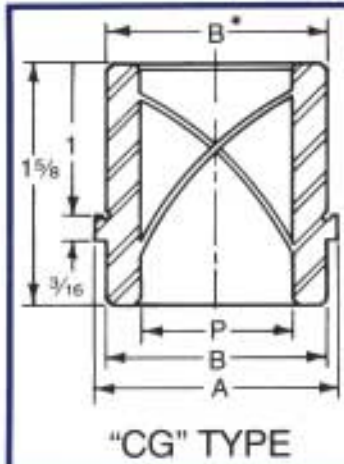
STRIPPER GUIDE PINS & BUSHINGS



BRONZE PLATED STRIPPER GUIDE PIN BUSHING

P NOM. PIN DIA.	A	B*	PART NO.
3/4	1 1/4	1	HG-62
3/4	1 1/4	1 1/4	HG-75
1	1 1/2	1 3/8	HG-100

* .015 stock left on this diameter for grinding to fit bored hole in die shoe.



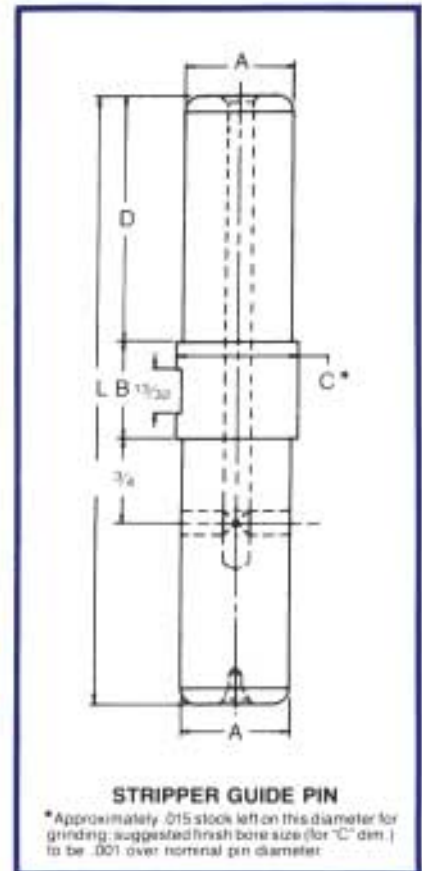
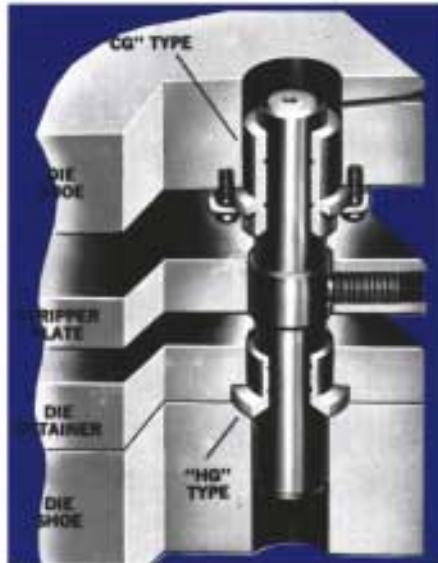
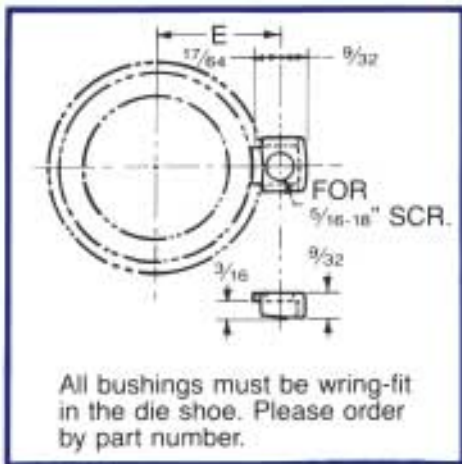
BRONZE PLATED STRIPPER GUIDE PIN BUSHING (ASSEMBLY) INCLUDES BUSHING, CLAMPS AND SCREWS

P NOM. PIN DIA.	A	B*	PART NO.	NO. OF "D" CLAMP
3/4	1 3/16	1 1/4	CG-75	2
1	1 3/16	1 3/8	CG-100	3

CLAMP

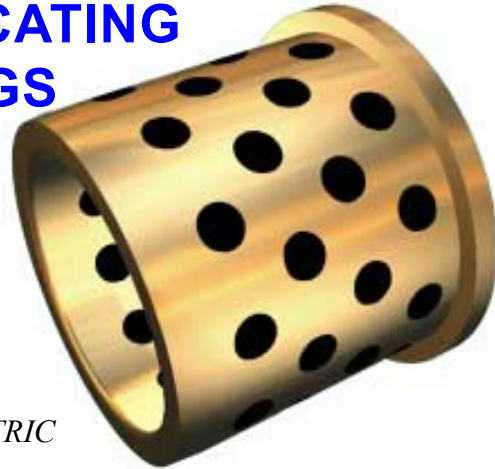
* .015 stock left on this diameter for grinding to fit bored hole in die shoe.

E	NO. OF "D" CLAMPS
3/4	2
1	3



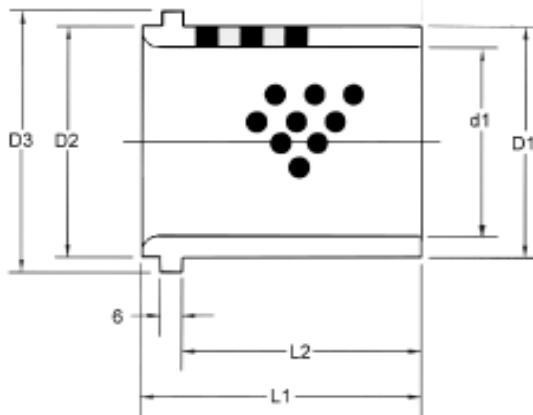
A NOM. DIA.	B	C*	D	PART NO.	"L" LENGTH
3/4	3/4	3/4	2 1/4	SGP-62	4 5
3/4	3/4	3/4	2 1/4	SGP-75	5 —
3/4	3/4	3/4	2 1/4	SGP-75	6 1/2 —
1	1	1	2 1/4	SGP-100	6 1/2 7 1/4

BRONZE SELF-LUBRICATING BUSHINGS

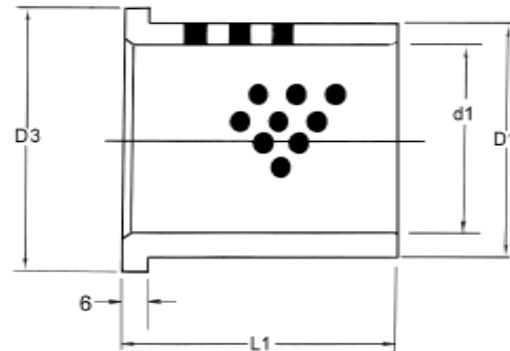


*AUTOMOTIVE METRIC
NAAMS STANDARD*

GUIDE BUSHING



PAD BUSHING



PART NO.	d1	d1 Tol	D1	D1 Tol	D2	D3	L1	L2
G613250	32	+0.016 +0.000	40	-0.009 -0.025	40	50	50	40
G614063	40	+0.016 +0.000	50	-0.009 -0.025	50	63	63	50
G615071	50	+0.016 +0.000	63	-0.010 -0.029	63	71	71	56
G616380	63	+0.019 +0.000	80	-0.010 -0.029	80	90	80	63
G618010	80	+0.019 +0.000	100	-0.012 -0.034	100	112	100	80
G611012	100	+0.022 +0.000	125	-0.014 -0.039	125	140	125	106
G611114	115	+0.022 +0.000	140	-0.014 -0.039	140	155	140	120
G611216	125	+0.025 +0.000	160	-0.014 -0.039	160	180	160	132

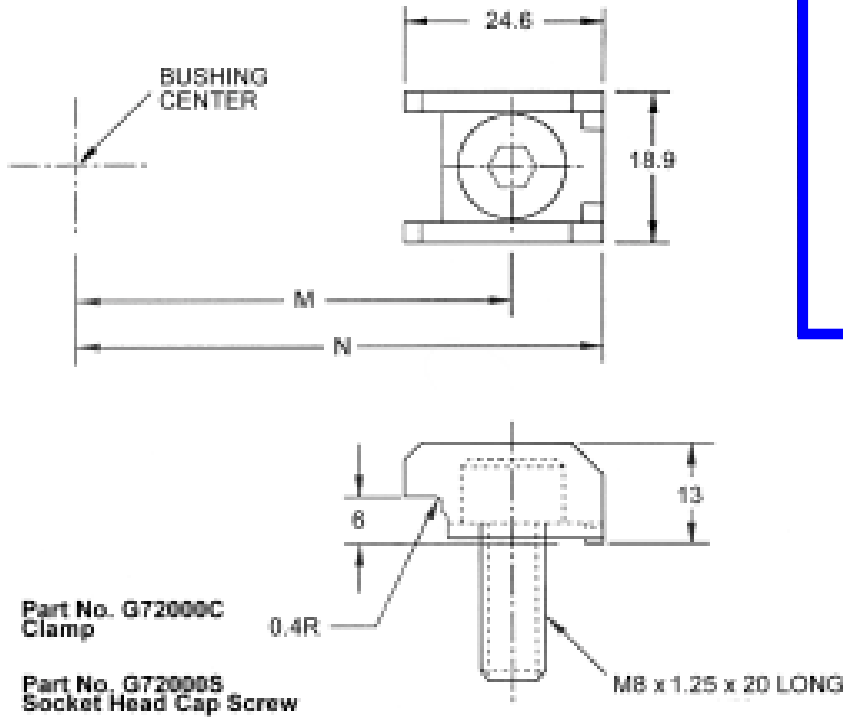
NOTE:
Bushings to be supplied with (3) toe clamps.

PART NO.	d1	d1 Tol	D1	D1 Tol	D3	L1
G713250	32	+0.182 +0.120	40	-0.009 -0.025	50	50
G714055	40	+0.182 +0.120	50	-0.009 -0.025	63	55
G715063	50	+0.192 +0.130	63	-0.010 -0.029	71	63
G716375	63	+0.214 +0.140	80	-0.010 -0.029	90	75
G718090	80	+0.224 +0.150	100	-0.012 -0.034	112	90
G711011	100	+0.257 +0.170	125	-0.014 -0.039	140	115
G711213	125	+0.300 +0.200	160	-0.014 -0.039	180	138

NOTE:
Evenly distributed graphite covers 20-30% of the sliding surface.

Graphite is positioned to ensure overlapping in the slide direction.

BUSHING TOE CLAMP

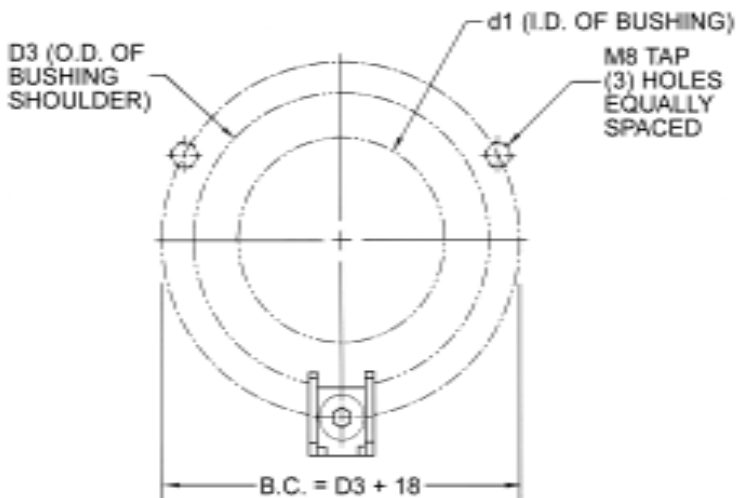


Nom Post Diameter	M	N
32	34	45.1
40	40.5	51.6
50	44.5	55.6
63	54	65.1
80	65	76.1
100	79	90.1
115	86.5	97.6

NOTES & SPECIFICATIONS:

Each clamp must withstand 10,000 newtons pull.

BUSHING CLAMPING PROCEDURES

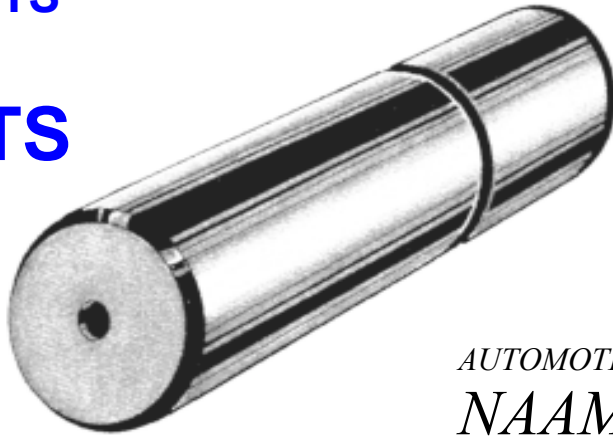


d1	D3	B.C. (D3 + 18)
32	50	68
40	63	81
50	71	89
63	90	108
80	112	130
100	140	158
115	155	173

NOTES & SPECIFICATION:

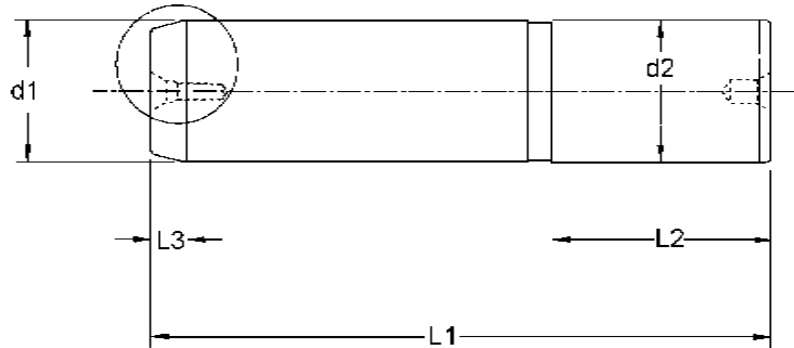
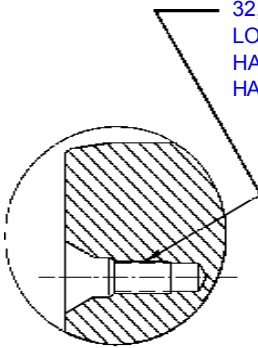
Bushings will be supplied with (3) toe clamps and (3) screws - M8. Screws must engage 16mm minimum deep into die shoe.

GUIDE POSTS



*AUTOMOTIVE METRIC
NAAMS STANDARD*

32, 40, 50 & 63 DIA. GUIDE POSTS TO HAVE M8 x 1.25 - 12
LONG THREAD: 80, 100, 115 & 125 DIA. GUIDE POSTS TO
HAVE M12 x 1.75 - 18 LONG THREAD TO FACILITATE
HANDLING FROM DEEP FREEZE.



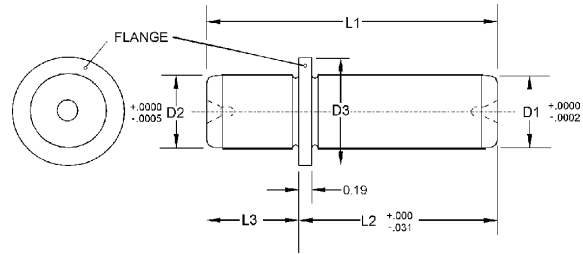
PART NO.	d1	d1 Tol	d2	d2 Tol	L1	L2	L3
G513214	32	-0.09 -0.25	32	+0.050 +0.034	140	45	8
G513216					160		
G513218					180		
G513220					200		
G514016	40	-0.09 -0.25	40	+0.050 +0.034	160	56	8
G514018					180		
G514020					200		
G514022					225		
G514025	250						
G515016	50	-0.09 -0.25	50	+0.050 +0.034	160	70	10
G515018					180		
G515020					200		
G515022					225		
G515025					250		
G515028					280		
G515031					315		
G516320	63	-0.10 -0.29	63	+0.060 +0.041	200	80	10
G516322					225		
G416325					250		
G516328					280		
G516331					315		
G516335					355		
G516340					400		
G516350					500		

PART NO.	d1	d1 Tol	d2	d2 Tol	L1	L2	L3
G518025	80	-0.10 -0.29	80	+0.062 +0.043	250	100	10
G518028					280		
G518031					315		
G518035					355		
G518040					400		
G518050	500						
G511031	100	-0.12 -0.34	100	+0.073 +0.051	315	125	10
G511035					355		
G511040					400		
G511045					450		
G511050					500		
G511055					550		
G511060	600						
G511065	650						
G511140	115	-0.12 -0.34	115	+0.076 +0.054	400	140	10
G511150					500		
G511240	125	-0.14 -0.39	125	+0.088 +0.063	400	140	10
G511245					450		
G511250					500		
G511255					550		
G511260					600		
G511265					650		
G511270					700		

*Press fit end available with .381 grind stock.

*Add "UG" at the end of the part number to denote "UNGROUND".

DEMOUNTABLE GUIDE PIN



Lamina demountable guide pins require toe clamps and screws to hold them in place.

The clamping flange is ground so that the flange fits squarely against the mounting surface.

L 2 ±.015 L +.0155 -.015	D1 = 1		D1 = 1.25		D1 = 1.50		D1 = 1.75		D1 = 2	
	L1	PART NUMBER	L1	PART NUMBER	L1	PART NUMBER	L1	PART NUMBER	L1	PART NUMBER
4.00	5.19	DGPA0816								
4.50	5.69	DGPA0818	5.69	DGPA1018						
5.00	6.19	DGPA0820	6.19	DGPA1020	6.44	DGPA1220	6.69	DGPA1420	6.94	DGPA1620
5.50	6.69	DGPA0822	6.69	DGPA1022	6.94	DGPA1222	7.19	DGPA1422	7.44	DGPA1622
6.00	7.19	DGPA0824	7.19	DGPA1024	7.44	DGPA1224	7.69	DGPA1424	7.94	DGPA1624
6.50					7.94	DGPA1226	8.19	DGPA1426	8.44	DGPA1626
7.00					8.44	DGPA1228	8.69	DGPA1428	8.94	DGPA1628
7.50					8.94	DGPA1230	9.19	DGPA1430	9.44	DGPA1630
8.00					9.44	DGPA1232	9.69	DGPA1432	9.94	DGPA1632

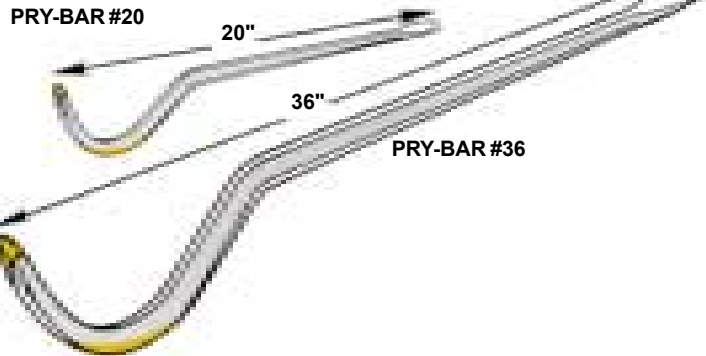
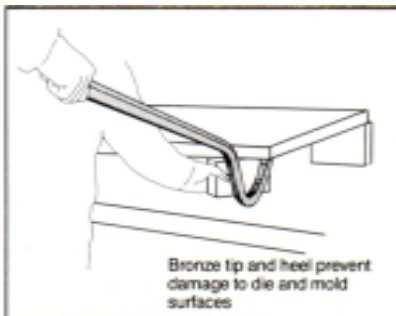
GENERAL DIMENSIONS					
NOMINAL DIAMETER	D1	D2	D3	L3	# CLAMPS & SCREWS
1	1.00	1.00	1.31	1.19	3
1-1/4	1.25	1.25	1.56	1.19	3
1-1/2	1.50	1.50	1.88	1.44	3
1-3/4	1.75	1.75	2.25	1.69	3
2	2.00	2.00	2.50	1.94	4

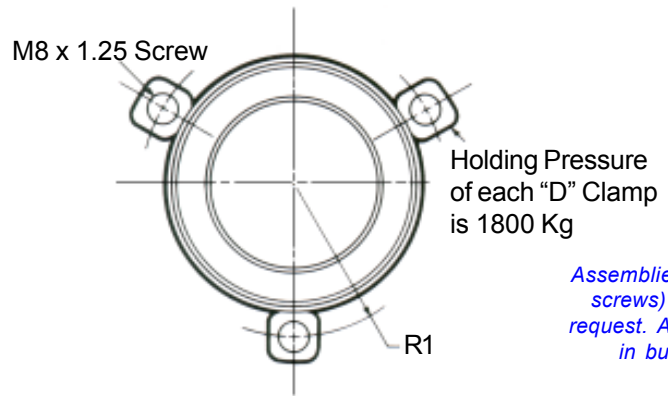
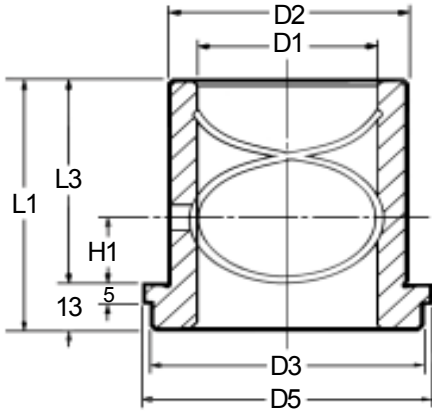
Clamps & Screws included with each pin.

PRY BARS

HIGH CARBON FORGED STEEL TOOLS

Rugged in construction and specially designed for easy handling, long life, and demanding professional use.





Assemblies (clamps & screws) available on request. Also available in bulk quantities.

SHORT SHOULDER BUSHINGS

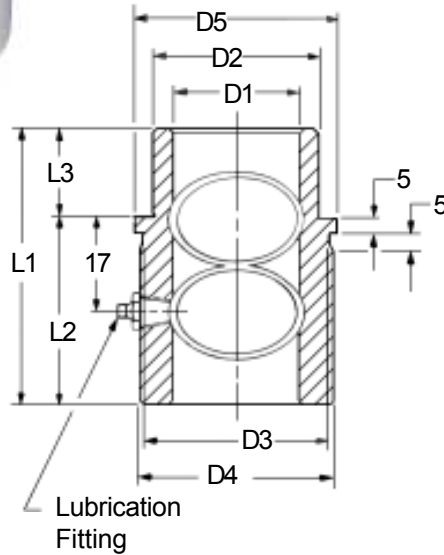
Bushings must be wring-fitted and clamped into die shoe.

PART NUMBER (Unground)	PART NUMBER (Ground)	D1 NOMINAL I.D.	L1 OVERALL LENGTH	L3 WRING FIT LENGTH
SC-18S	GSC-18S	18	31	18
SCL-18F	GSCL-18F		49	36
SC-19S	GSC-19S	19	31	18
SCL-19F	GSCL-19F		49	36
SC-24S	GSC-24S	24	36	23
SCL-24F	GSCL-24F		55	42
SC-25S	GSC-25S	25	36	23
SCL-25F	GSCL-25F		55	42
SC-30S	GSC-30S	30	43	30
SCL-30F	GSCL-30F		59	46
SC-32S	GSC-32S	32	43	30
SCL-32F	GSCL-32F		59	46
SC-40S	GSC-40S	40	49	36
SCL-40F	GSCL-40F		67	54
SC-42S	GSC-42S	42	49	36
SCL-42F	GSCL-42F		67	54
SC-50S	GSC-50S	50	59	46
SCL-50F	GSCL-50F		75	62
SC-52S	GSC-52S	52	59	46
SCL-52F	GSCL-52F		75	62
SC-63S	GSC-63S	63	74	61
SCL-63F	GSCL-63F		89	76
SC-80S	GSC-80S	80	89	76

GENERAL DIMENSIONS							
D1 NOMINAL I.D.	D2 WRING FIT O.D. (Unground)	D2 WRING FIT O.D. (Ground)	D3 HEAD O.D.	D5 SHOULDER O.D.	R1 CIRCLE SCREW RADIUS	H1 LUBE HOLE CENTER	No. of Clamps & Screws
18	28.406	28	29	34	22.5	8	2
19	28.406	28	29	34	22.5	8	2
24	38.406	38	39	44	27.5	12	3
25	38.406	38	39	44	27.5	12	3
30	45.406	45	48	53	32.0	15	3
32	45.406	45	48	53	32.0	15	3
40	54.406	54	58	63	37.0	19	3
42	54.406	54	58	63	37.0	19	3
50	65.406	65	74	79	45.0	19	4
52	65.406	65	74	79	45.0	19	4
63	81.406	81	87	92	51.5	19	4
80	100.406	100	106	111	61.0	19	4

*.406mm Stock can be left on this diameter for grinding.

Finished ground bushings are standard at no additional charge.



Assemblies (clamps & screws) available on request. Also available in bulk quantities.

STANDARD, LONG & EXTRA-LONG SHOULDERS

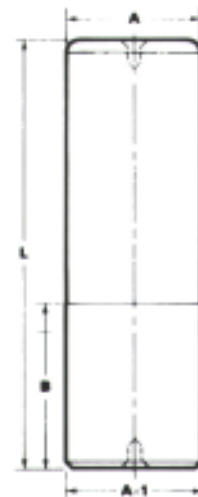
PART NUMBER (Unground)	PART NUMBER (Ground)	D1 NOMINAL I.D.	L1 OVERALL LENGTH	L2 HEAD LENGTH	L3 WRING-FIT LENGTH
AC-18S	GAC-18S	18	50	32	18
LAC-18S	GLAC-18S		70	52	18
LAM-18F	GLAM-18F		70	43	27
AC-19S	GAC-19S	19	50	32	18
LAC-19S	GLAC-19S		70	52	18
LAM-19F	GLAM-19F		70	43	27
AC-24S	GAC-24S	24	55	32	23
LAC-24S	GLAC-24S		80	57	23
LAM-24F	GLAM-24F		80	48	32
AC-25S	GAC-25S	25	55	32	23
LAC-25S	GLAC-25S		80	57	23
LAM-25F	GLAM-25F		80	48	32
AC-30S	GAC-30S	30	60	34	26
LAC-30S	GLAC-30S		90	64	26
LAM-30F	GLAM-30F		90	53	37
AC-32S	GAC-32S	32	60	34	26
LAC-32S	GLAC-32S		90	64	26
LAM-32F	GLAM-32F		90	53	37
AC-40S	GAC-40S	40	67	37	30
LAC-40S	GLAC-40S		100	70	30
LAM-40F	GLAM-40F		100	53	47
AC-42S	GAC-42S	42	67	37	30
LAC-42S	GLAC-42S		100	70	30
LAM-42F	GLAM-42F		100	53	47
AC-50S	GAC-50S	50	75	40	35
LAC-50S	GLAC-50S		110	75	35
LAM-50F	GLAM-50F		110	53	57
AC-52S	GAC-52S	52	75	40	35
LAC-52S	GLAC-52S		110	75	35
LAM-52F	GLAM-52F		110	53	57
AC-63S	GAC-63S	63	90	42	48
LAC-63S	GLAC-63S		130	82	48
LAM-63F	GLAM-63F		130	63	67
AC-80S	GAC-80S	80	100	52	48
LAC-80S	GLAC-80S		150	102	48
LAM-80F	GLAM-80F		150	73	77

GENERAL DIMENSIONS							
D1 NOMINAL I.D.	D2 WRING FIT O.D. (Unground)	D2 WRING FIT O.D. (Ground)	D3 HEAD O.D. GROOVE	D4 HEAD O.D.	D5 SHOULDER O.D.	R1 SCREW CIRCLE RADIUS	No of Clamps & Screws
18	28.406	28	29	31	34	22.5	2
19	28.406	28	29	31	34	22.5	2
24	38.406	38	39	41	44	27.5	3
25	38.406	38	39	41	44	27.5	3
30	45.406	45	48	50	53	32.0	3
32	45.406	45	48	50	53	32.0	3
40	54.406	54	58	60	63	37.0	3
42	54.406	54	58	60	63	37.0	3
50	65.406	65	74	76	79	45.0	4
52	65.406	65	74	76	79	45.0	4
63	81.406	81	87	89	92	51.5	4
80	100.406	100	106	108	111	61.0	4

*.406mm Stock can be left on this diameter for grinding.
 Finished ground bushings are standard at no additional charge.



METRIC GUIDE PINS



STYLE TPB

Straight Type

Of hardened steel, with a precision-ground running diameter (A), these metric guide pins are perfect mates for Lamina bronze-plated metric guide bushings

PLEASE ORDER BY PART NUMBER AND LENGTH



STYLE TN

STYLE TN PINS

19 (.748) to 32 (1.2598) mm IN DIAMETER. NO CENTERS. NO GRIND STOCK.

* () Indicates "Inch" dimensions.

A NOM. PIN DIA.	PART NO.	LENGTH (L)													
		(4.724)	(5.118)	(5.572)	(5.906)	(6.299)	(6.693)	(7.087)	(7.480)	(7.874)	(8.661)	(9.449)	(10.236)	(11.024)	(11.811)
19 (.748)	TN-19	120	130	140	150	160	170	180	190	200					
25 (.984)	TN-25	120	130	140	150	160	170	180	190	200	220	240	260	280	
32 (1.26)	TN-32		130	140	150	160	170	180	190	200	220	240	260	280	300

STYLE TPB PINS

40 (1.5748) to 80 (3.1496) mm IN DIAMETER. WITH CENTERS. WITH .397 (.015) GRIND STOCK ON A-1 DIAMETER.

A NOM. PIN DIA.	B	PART NO.	LENGTH (L)																	
			(5.118)	(5.512)	(5.906)	(6.299)	(6.693)	(7.087)	(7.480)	(7.874)	(8.661)	(9.449)	(10.236)	(11.024)	(11.811)	(12.598)	(14.173)	(15.748)	(17.323)	(19.685)
40 (1.575)	50 (1.969)	TPB-40	130	140	150	160	170	180	190	200	220	240	260	280	300	320	360			
50 (1.969)	60 (2.362)	TPB-50			150	160	170	180	190	200	220	240	260	280	300	320	360			
63 (2.480)	80 (3.150)	TPB-63								200	220	240	260	280	300	320	360	400	440	
80 (3.150)	100 (3.937)	TPB-80											280	300	320	360	400	440	500	




Division of Anchor Lamina America, Inc.

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