

BULLET-NOSE DOWELS

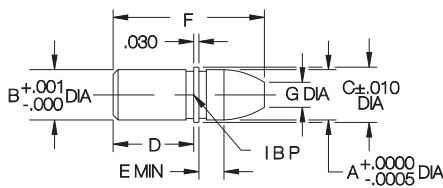
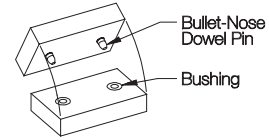
1144 STEEL, HEAT TREATED RC 50-62, BLACK OXIDE FINISH



Dowel Pin

Bushing

Precision locating pin often used with a matching bushing to align two pieces of a fixture. The pin's head and shank diameters are concentric to within .0005 TIR. The bushing's ID and OD are concentric to within .0003 TIR.



DOWEL PINS (INCH)

PART NO.	A HEAD DIA		B SHANK DIA		C DIA	D	E	F	G DIA
	NOMINAL	ACTUAL	NOMINAL	ACTUAL					
CL-1-BND	1/4	.2499	1/4	.2510	.280		.12	.90	1/8
CL-2-BND	5/16	.3124	5/16	.3135	.344	1/2	.15	.94	5/32
CL-3-BND	3/8	.3749	3/8	.3760	.407		.18	1.03	3/16
CL-4-BND	1/2	.4999	1/2	.5010	.532		.18	1.09	1/4

DOWEL PINS (METRIC)

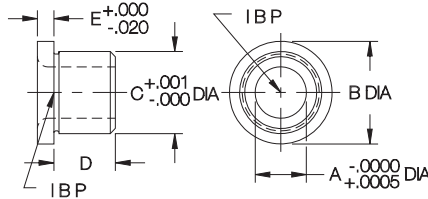
CLM-60-BND	6mm	.2361	6mm	.2372	.276	.47	.12	.86	.12
CLM-80-BND	8mm	.3149	8mm	.3160	.354		.15	.91	.16
CLM-100-BND	10mm	.3936	10mm	.3947	.433		.19	.98	.20
CLM-120-BND	12mm	.4723	12mm	.4734	.512		.19	1.06	.24

BUSHINGS (INCH)

PART NO.	A DIA		B DIA	C DIA		D	E
	NOMINAL	ACTUAL		NOMINAL	ACTUAL		
CLB-1000	1/4	.2501	.625	1/2	.5002	3/8	.100
CLB-2000	5/16	.3126					
CLB-3000	3/8	.3751	.750	5/8	.6253	1/2	
CLB-4000	1/2	.5001	.875	3/4	.7504	5/8	

BUSHINGS (METRIC)

CLM-60-B	6mm	.2363	.512	10mm	.3939	.276	.118	
CLM-80-B	8mm	.3151	.591	12mm	.4726			
CLM-100-B	10mm	.3938	.709	15mm	.5909			.354
CLM-120-B	12mm	.4725	.866	18mm	.7091			.472



CONE LOCATOR PINS

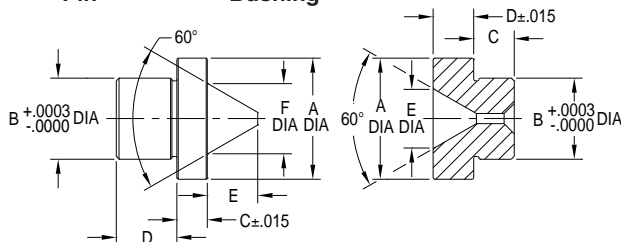
12L14 STEEL, CARBURIZED-HARDENED, BLACK OXIDE FINISH



Pin

Bushing

Medium-accuracy locating pin that compensates for misalignment to allow quick assembly of two fixture pieces.



PINS

PART NO.	A DIA	B DIA	C	D	E	F DIA
CL-5-CLP	3/4	.5014	3/16	3/8	5/16	.438
CL-7-CLP	1	.7515		9/16	1/2	.676

BUSHINGS

PART NO.	A DIA	B DIA	C	D	E DIA	GAP BETWEEN HEADS WITH PIN & BUSHING ASSEMBLED
CL-5-CLB	3/4	.5014	1/4	1/4	.370	.050-.068
CL-7-CLB	1	.7515	3/8	3/8	.616	.043-.061

BULLET-NOSE PINS

1144 STEEL, HEAT TREATED RC 50-62, BLACK OXIDE FINISH



Bullet-Nose Round Pin



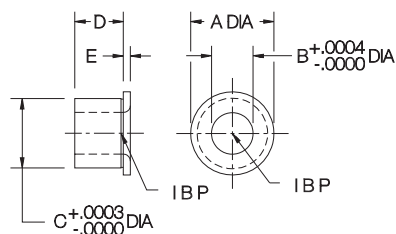
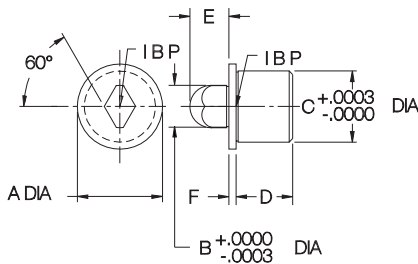
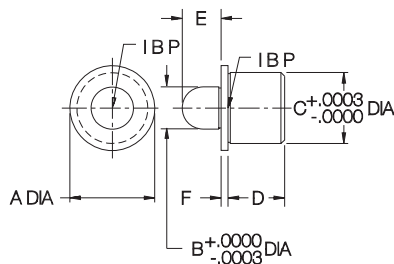
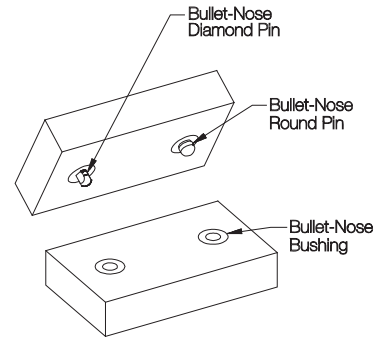
Bullet-Nose Diamond Pin



Bushing

Bullet-Nose Round Pins and Diamond Pins are often used together (with matching bushings) to align two pieces of a fixture. The Diamond Pin is relieved, to locate only *radially* around the round pin, avoiding redundant location. This prevents binding, yet still maintains high accuracy.

The pin's shank diameter and the bushing's OD are the same size to allow boring the installation hole in both fixture pieces at the same time, for greater accuracy. The pin's head and shank diameters are concentric to within .0005 TIR. The bushing's ID and OD are concentric to within .0003 TIR.



ROUND PINS (INCH)

PART NO.	A DIA	B HEAD DIA		C SHANK DIA		D	E	F
		NOMINAL	ACTUAL	NOMINAL	ACTUAL			
CL-8-BND	9/16	1/4	.2499	13/32	.4075	3/8	7/32	1/16
CL-9-BND	5/8	5/16	.3124	1/2	.5014	9/32	9/32	
CL-10-BND	3/4	3/8	.3748	5/8	.6265	1/2	11/32	13/32
CL-11-BND	7/8	1/2	.4998	3/4	.7515		13/32	
CL-12-BND	1-1/8	3/4	.7498	1	1.0015	3/4	9/16	1/8
CL-13-BND	1-1/2	1	.9998	1-3/8	1.3768		3/4	

ROUND PINS (METRIC)

CLM-6-BRP	.512	6mm	.2361	10mm	.3950	.35	.24	.079
CLM-8-BRP	.591	8mm	.3149	12mm	.4738		.28	
CLM-10-BRP	.709	10mm	.3935	15mm	.5921	.43	.35	
CLM-12-BRP	.866	12mm	.4722	18mm	.7102		.39	

DIAMOND PINS (INCH)

CL-8-BDP	9/16	1/4	.2499	13/32	.4075	3/8	7/32	1/16
CL-9-BDP	5/8	5/16	.3124	1/2	.5014	9/32	9/32	
CL-10-BDP	3/4	3/8	.3748	5/8	.6265	1/2	11/32	13/32
CL-11-BDP	7/8	1/2	.4998	3/4	.7515		13/32	
CL-12-BDP	1-1/8	3/4	.7498	1	1.0015	3/4	9/16	1/8
CL-13-BDP	1-1/2	1	.9998	1-3/8	1.3768		3/4	

DIAMOND PINS (METRIC)

CLM-6-BDP	.512	6mm	.2361	10mm	.3950	.35	.24	.079
CLM-8-BDP	.591	8mm	.3149	12mm	.4738		.28	
CLM-10-BDP	.709	10mm	.3935	15mm	.5921	.43	.35	
CLM-12-BDP	.866	12mm	.4722	18mm	.7102		.39	

BUSHINGS (INCH)

PART NO.	A DIA	B DIA		C DIA		D	E
		NOMINAL	ACTUAL	NOMINAL	ACTUAL		
CLB-8000	9/16	1/4	.2501	13/32	.4075	7/16	1/16
CLB-9000	5/8	5/16	.3126	1/2	.5014		
CLB-10000	3/4	3/8	.3751	5/8	.6265	1/2	1/8
CLB-11000	7/8	1/2	.5001	3/4	.7515		
CLB-12000	1-1/8	3/4	.7502	1	1.0015		
CLB-13000	1-1/2	1	1.0002	1-3/8	1.3768		

BUSHINGS (METRIC)

CLM-6-B	.512	6mm	.2363	10mm	.3950	.31	.079
CLM-8-B	.591	8mm	.3151	12mm	.4738		
CLM-10-B	.709	10mm	.3938	15mm	.5921	.39	
CLM-12-B	.866	12mm	.4725	18mm	.7102		