

CARR LOCK® SYSTEM

LINER BUSHINGS

Each top plate should have one Primary Liner, and one Secondary Liner or Slotted Locator Bushing. Primary Liners have a tight ID (+.0002/+.0007 tolerance) for precise reference in two axes. Secondary Liners have an extra .001" ID clearance (+.0012/+.0017 tolerance) to avoid binding. Slotted Locator Bushings provide better accuracy than Secondary Liners, but take a few extra steps to install. Slotted Locators have a tight ID tolerance in one direction and full relief in the perpendicular direction (available only in 16mm, 20mm, and 25mm diameters). Note: alternatively, two Primary Liners can be used for alignment if hole locations are held to ±.0002 inches.



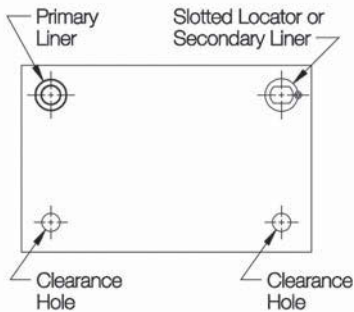
Primary Liner Bushing



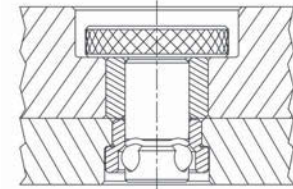
Secondary Liner Bushing



Slotted Locator Bushing



To mount top plates with more than two Carr Lock® Clamps, use clearance holes .015-.030 inches over nominal size for the additional holes, instead of liner bushings, to avoid redundant location. (Still use four Receiver Bushings in the subplate.)



Extra-thick top plates can be counterbored to achieve proper clamping thickness (hold thickness to ±.005). Special-length Carr Lock® Clamps are also available, as specials.

PRIMARY LINER BUSHINGS (INCH)

PART NO.	ID		LENGTH	OD		HOLE IN PLATE
	NOMINAL	ACTUAL		NOMINAL	ACTUAL	
CL-13-CLPL-0.50	13mm	.5120	.50	3/4	.7518	.7504
CL-13-CLPL-0.75		.5125	.75		.7514	.7509
CL-16-CLPL-0.50	16mm	.6301	.50	1	1.0018	1.0004
CL-16-CLPL-0.75		.6306	.75		1.0014	1.0009
CL-20-CLPL-0.75	20mm	.7876	.75	1-3/8	1.3772	1.3757
CL-20-CLPL-1.00		.7881	1.00		1.3768	1.3762
CL-25-CLPL-0.75	25mm	.9845	.75	1-3/8	1.3772	1.3757
CL-25-CLPL-1.00		.9850	1.00		1.3768	1.3762
CL-30-CLPL-0.75	30mm	1.1813	.75	1-3/4	1.7523	1.7507
CL-30-CLPL-1.00		1.1818	1.00		1.7519	1.7512
CL-35-CLPL-0.75	35mm	1.3782	.75	1-3/4	1.7523	1.7507
CL-35-CLPL-1.00		1.3787	1.00			
CL-35-CLPL-1.50		1.3782	1.50			
CL-35-CLPL-2.00		1.3787	2.00			
CL-50-CLPL-1.00	50mm	1.9687	1.00	2-1/2	2.5025	2.5007
CL-50-CLPL-1.50		1.9692	1.50			
CL-50-CLPL-2.00			2.00			

(METRIC)

CLM-13-CLPL-13	13mm	.5120	.512	19mm	.7518	.7487
CLM-13-CLPL-20		.5125	.787		.7514	.7491
CLM-16-CLPL-20	16mm	.6301	.787	25mm	1.0018	.9849
CLM-16-CLPL-25		.6306	.984		1.0014	.9853
CLM-20-CLPL-20	20mm	.7876	.787	35mm	1.3772	1.3787
CLM-20-CLPL-25		.7881	.984		1.3768	1.3791
CLM-25-CLPL-20	25mm	.9845	.787	35mm	1.3772	1.3787
CLM-25-CLPL-25		.9850	.984		1.3768	1.3791

SLOTTED LOCATOR BUSHINGS (METRIC)

PART NO.	ID	LENGTH	OD	HOLE IN PLATE
CLM-16-SLLB	16mm	.472	30mm	1.1806 1.1809
CLM-20-SLLB	20mm	.748	36mm	1.4168 1.4171
CLM-25-SLLB	25mm	.748	40mm	1.5743 1.5746

SECONDARY LINER BUSHINGS (INCH)

PART NO.	ID		LENGTH	OD		HOLE IN PLATE
	NOMINAL	ACTUAL		NOMINAL	ACTUAL	
CL-13-CLSL-0.50	13mm	.5130	.50	3/4	.7518	.7504
CL-13-CLSL-0.75		.5135	.75		.7514	.7509
CL-16-CLSL-0.50	16mm	.6311	.50	1	1.0018	1.0004
CL-16-CLSL-0.75		.6316	.75		1.0014	1.0009
CL-20-CLSL-0.75	20mm	.7886	.75	1-3/8	1.3772	1.3757
CL-20-CLSL-1.00		.7891	1.00		1.3768	1.3762
CL-25-CLSL-0.75	25mm	.9855	.75	1-3/8	1.3772	1.3757
CL-25-CLSL-1.00		.9860	1.00		1.3768	1.3762
CL-30-CLSL-0.75	30mm	1.1823	.75	1-3/4	1.7523	1.7507
CL-30-CLSL-1.00		1.1828	1.00		1.7519	1.7512
CL-35-CLSL-0.75	35mm		.75	1-3/4	1.7523	1.7507
CL-35-CLSL-1.00		1.3792	1.00			
CL-35-CLSL-1.50		1.3797	1.50			
CL-35-CLSL-2.00			2.00			
CL-50-CLSL-1.00	50mm		1.00	2-1/2	2.5025	2.5007
CL-50-CLSL-1.50		1.9697	1.50			
CL-50-CLSL-2.00		1.9702	2.00			

(METRIC)

CLM-13-CLSL-13	13mm	.5130	.512	19mm	.7518	.7487
CLM-13-CLSL-20		.5135	.787		.7514	.7491
CLM-16-CLSL-20	16mm	.6311	.787	25mm	1.0018	.9849
CLM-16-CLSL-25		.6316	.984		1.0014	.9853
CLM-20-CLSL-20	20mm	.7886	.787	35mm	1.3772	1.3787
CLM-20-CLSL-25		.7891	.984		1.3768	1.3791
CLM-25-CLSL-20	25mm	.9855	.787	35mm	1.3772	1.3787
CLM-25-CLSL-25		.9860	.984		1.3768	1.3791