

# LIFTER BLADES & CORES

## UNDERCUT RELEASE SYSTEM



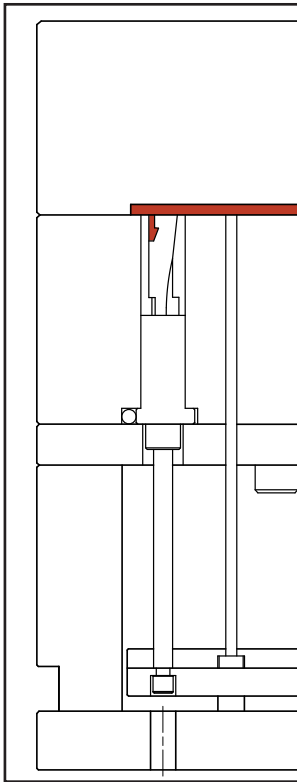
**Lifter Blades™**  
for details 1.8mm-4.2mm wide.



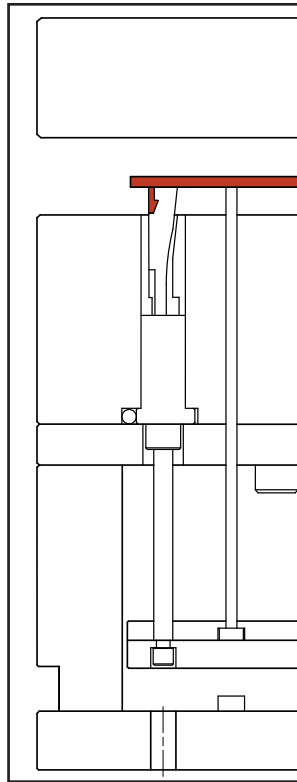
**Lifter Cores™**  
for details 6mm-12mm wide.

Lifter Blades and Cores offer unique advantages for undercut release:

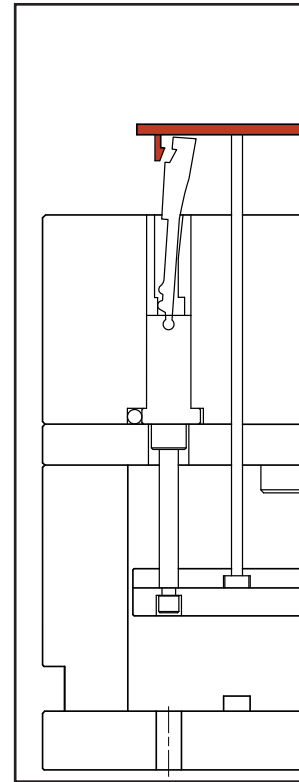
- The “up, then over” motion assists part ejection, for addressing small parts prone to sticking to lifters.
- With the lifter traveling radially away from the undercut, the top of the blade can be flush with the core, requiring no standing pad on molded part that may interfere with snap function.
- Compact, no angled machining, with blades beginning as thin as .070” / 1.8mm.



**Ejection Retracted**  
Lifter seated within bushing to prevent molding pressure movement.



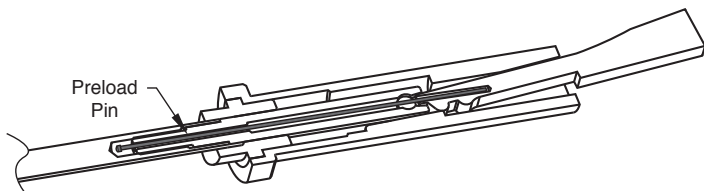
**Initial Ejection**  
Ejector plates move forward 7mm with part remaining on lifter.



**Release Point**  
The Lifter is mechanically forced away from the undercut

**Preload Pin Use:**

Use the provided preload pin to prevent the lifter from falling back on the part.

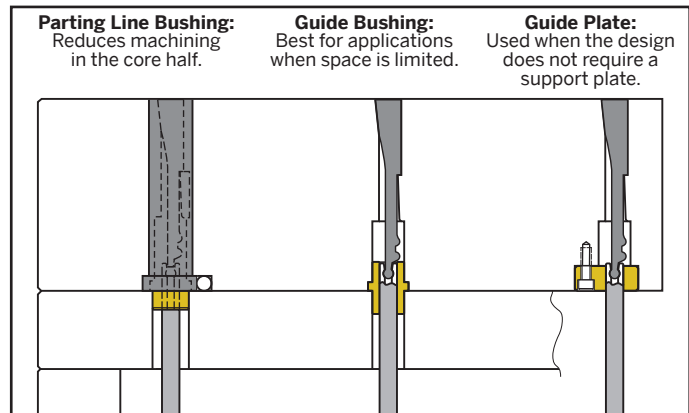


**Installation Options:**

**Parting Line Bushing:**  
Reduces machining in the core half.

**Guide Bushing:**  
Best for applications when space is limited.

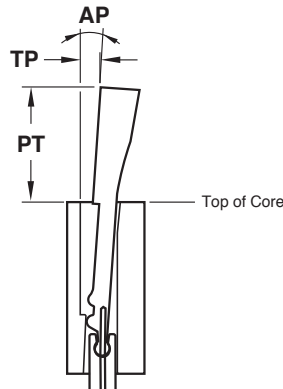
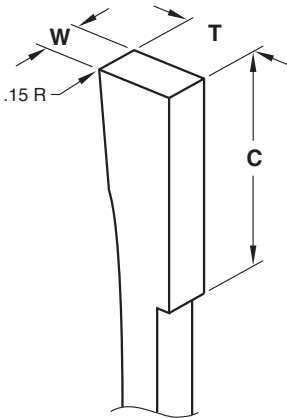
**Guide Plate:**  
Used when the design does not require a support plate.



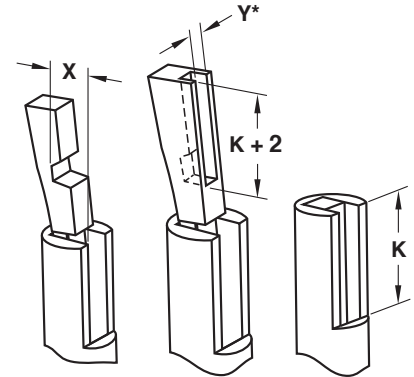
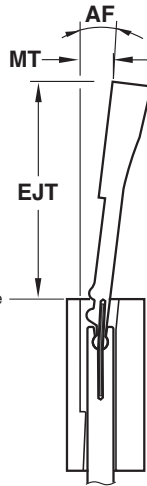


# LIFTER BLADES & CORES

**Preliminary Travel**  
For mechanical activation, removal of the pin will achieve the travel shown below, using any Bushing or Guide Plate installation.



**Maximum Travel**  
With the preload pin installed, the lifter arcs away from the undercut.



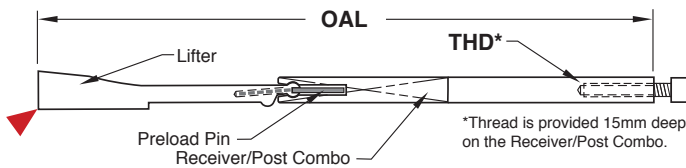
Machining guidelines shown above for all Lifter Assemblies when using the Parting Line Bushing or machining the detail in the core insert. Refer to the Undercut Limits in the chart below.

\*Note: On all Lifter Blades (LBA), the undercut must go through the Lifter; "Y" is not applicable.

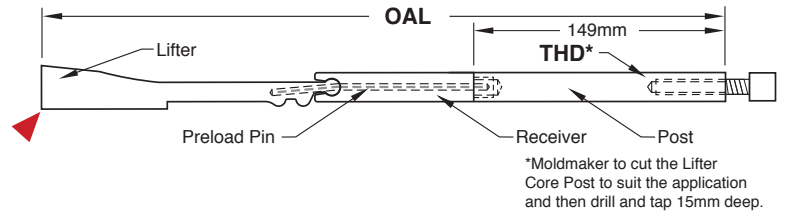
	CATALOG NUMBER	T -.004 -.009	W -.004 -.009	C ±.005	OAL Ref	TP Horiz. Prelim Travel	PT Prelim Ejection Length	AP Prelim Travel Angle	MT Max. Travel	EJT Full Ejection Length	AF Full Ejection Angle	S Maximum Stroke for Removal	THD Thread Size	Undercut Limits		
														X	Y	K
BLADES	LBA08X018	8	1.8	20	162	3	17	4.0°	6	38	8°	50	M4	3.0	N/A	15
	LBA08X024	8	2.4	20	162	3	17	4.0°	6	38	8°	50	M4	3.0	N/A	15
	LBA08X032	8	3.2	20	162	3	17	4.0°	6	38	8°	50	M4	3.0	N/A	15
	LBA08X042	8	4.2	20	162	3	17	4.0°	6	38	8°	50	M4	3.0	N/A	15
CORES	LCA09X06	9	6	26	246	6	26	6.0°	9	56	9°	65	M4	3.5	4	21
	LCA10X08	10	8	26	246	6	26	6.0°	9	56	9°	65	M4	4.0	6	21
	LCA12X10	12	10	30	256	8	32	6.5°	10	66	8°	75	M5	5.0	8	25
	LCA12X12	12	12	30	256	8	32	6.5°	10	66	8°	75	M5	5.0	10	25

▶ CAD insertion point

**Lifter Blade Assemblies:**  
Widths 1.8mm to 4.2mm



**Lifter Core Assemblies:**  
Widths 6mm to 12mm



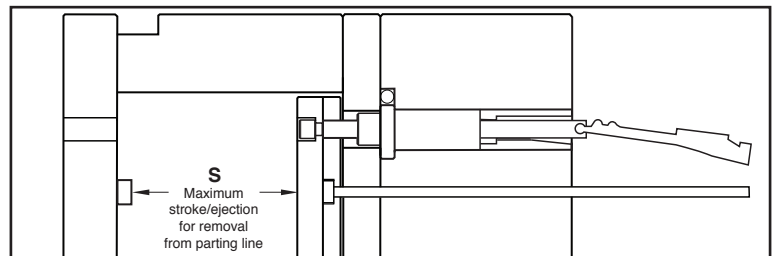
### Assembly Part Information:

PART NAME	MATERIAL/TREATMENT
Lifter	H-13, 50-52 HRC Nitride .25 Deep
Receiver	H-13, 50-52 HRC, Titanium Nitride
Post	P-20 Pre-Hard, Black Oxided
Preload Pin	M-2, 62-64 HRC

Note: On the Lifter Blade Assemblies (LBA), the Post and Receiver are a single piece, made from pre-hardened P-20 and TiN coated.

Replacement items are available. Contact Customer Service for pricing and delivery.

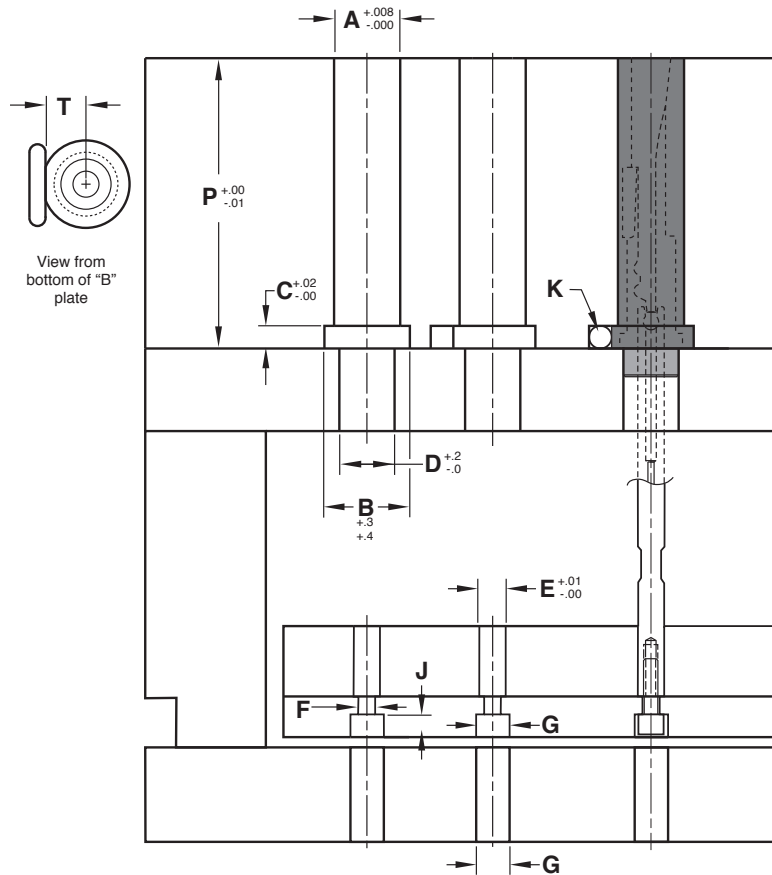
### Removability from Parting Line:



With ejector stops removed, the ejector plates can be moved forward to expose the Lifter Blade Assembly, and then the Lifter and the Preload Pin can slide sideways out of the Receiver/Post Combo. On the Lifter Cores, the Receiver can be unscrewed from the Post and then removed from parting line.

# LIFTER BLADES & CORES

## PARTING LINE BUSHING INSTALLATION

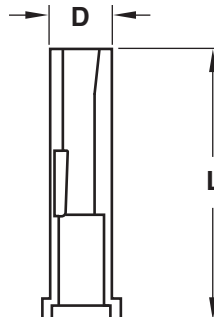


ASSEMBLY REF	A Diam.	B Diam.	C	D Diam.	E Diam.	F Diam.	G Diam.	J	K Dowel Size	T	P
LBA08X018	12	16	5	9.6	6	4.5	8	4.5	5	7	56
LBA08X024	12	16	5	9.6	6	4.5	8	4.5	5	7	56
LBA08X032	12	16	5	9.6	6	4.5	8	4.5	5	7	56
LBA08X042	12	16	5	9.6	6	4.5	8	4.5	5	7	56
LCA09X06	14	20	5	11	6	4.5	8	4.5	5	8.5	66
LCA10X08	16	22	5	13	6	4.5	8	4.5	5	9.5	66
LCA12X10	20	26	6	15	8	5.5	10	5.5	6	11	76
LCA12X12	20	26	6	15	8	5.5	10	5.5	6	11	76

## PARTING LINE BUSHINGS

### Features:

- Use of the Parting Line Bushing simplifies machining in the mold base.
- Each bushing assembly incorporates a wedge that creates a stop for the Lifter to avoid push back due to molding pressure.
- The Guide Bushing should be utilized with the Parting Line Bushings to locate and guide the Lifter Blade/Core Assembly in the support plate. The bushings, along with Guide Plates, are sold separately on page H-15.



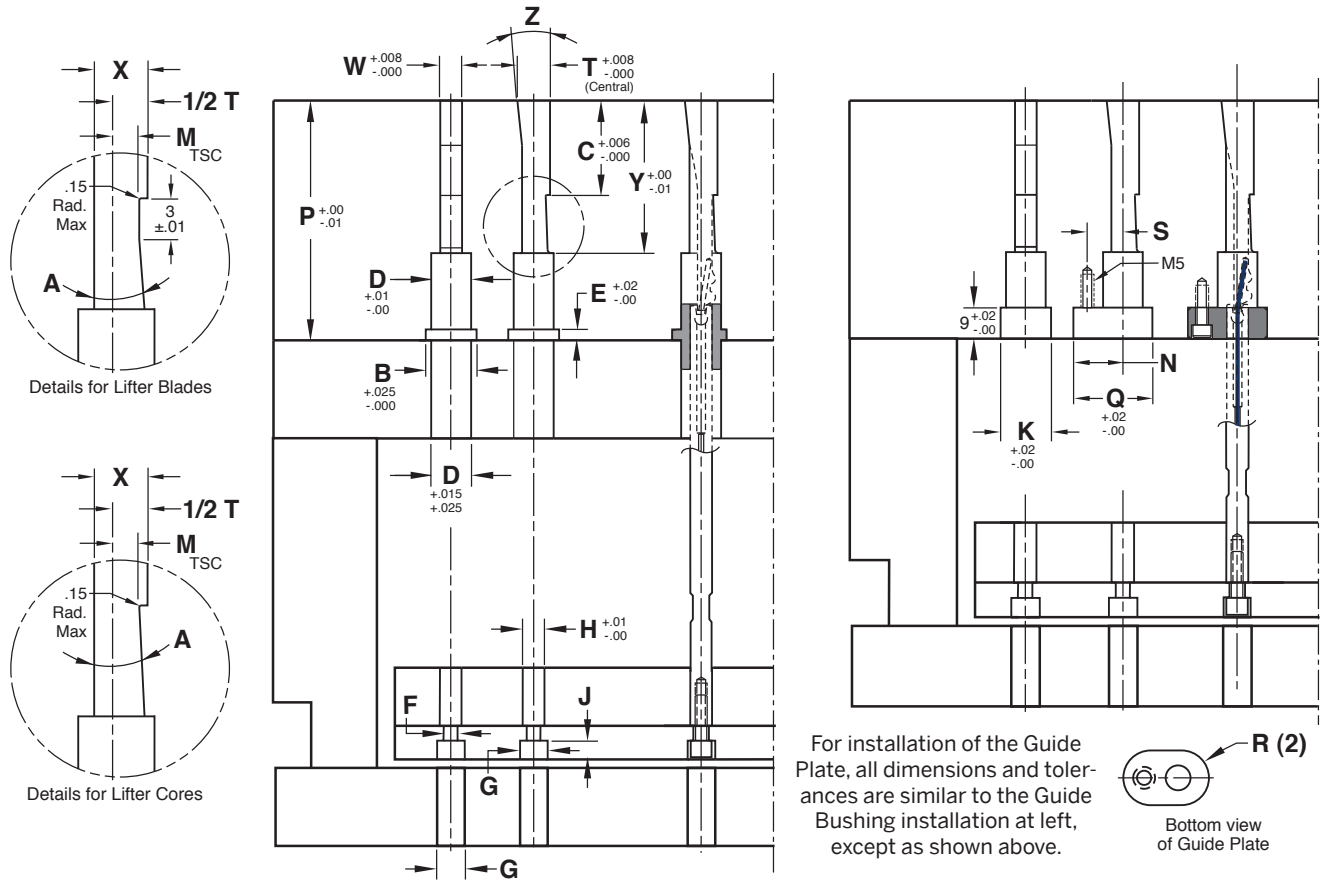
**M** A-2 **S** 58-60 HRC

CATALOG NUMBER	For Lifter Widths	D -003 -008	L ± .010
<b>LBB018</b>	1.8	12	56
<b>LBB024</b>	2.4	12	56
<b>LBB032</b>	3.2	12	56
<b>LBB042</b>	4.2	12	56
<b>LCB06</b>	6	14	66
<b>LCB08</b>	8	16	66
<b>LCB10</b>	10	20	76
<b>LCB12</b>	12	20	76



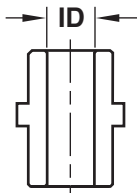
# LIFTER BLADES & CORES

## GUIDE BUSHING & GUIDE PLATE INSTALLATION



ASSEMBLY REF	T	W	X	C	Y	M	Z	A	D	B	E	F	G	H	J	K	N	Q	S	R	P
LBA08X018	8	1.8	7.3	20	28	3.1	5°	13.5°	9.6	12.8	3	4.5	8	6	4.5	12	18	24	12	6	56
LBA08X024	8	2.4	7.3	20	28	3.1	5°	13.5°	9.6	12.8	3	4.5	8	6	4.5	12	18	24	12	6	56
LBA08X032	8	3.2	7.3	20	28	3.1	5°	13.5°	9.6	12.8	3	4.5	8	6	4.5	12	18	24	12	6	56
LBA08X042	8	4.2	7.3	20	28	3.1	5°	13.5°	9.6	12.8	3	4.5	8	6	4.5	12	18	24	12	6	56
LCA09X06	9	6	7.7	26	46	3.3	6°	2°	11	14	3	4.5	8	6	4.5	14	18.5	26	12	7	66
LCA10X08	10	8	8.5	26	46	3.6	8°	2°	13	16	4	4.5	8	6	4.5	16	19.5	28	12	8	66
LCA12X10	12	10	10.1	30	55	4.2	8°	2°	15	20	4	5.5	10	8	5.5	18	20.5	30	13	9	76
LCA12X12	12	12	10.1	30	55	4.2	8°	2°	15	20	4	5.5	10	8	5.5	18	20.5	30	13	9	76

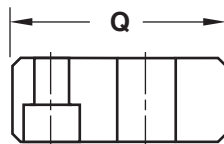
### GUIDE BUSHINGS



**M** CA954 Bronze **H** 170 Brinell

CATALOG NUMBER	For Lifter Widths	ID
<b>LBGB0696</b>	1.8-4.2	6
<b>LCGB0611</b>	6	6
<b>LCGB0613</b>	8	6
<b>LCGB0817</b>	10 & 12	8

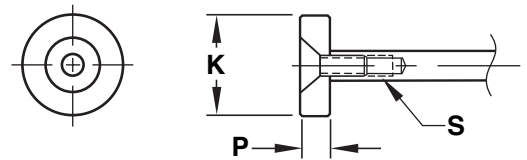
### GUIDE PLATES



**M** CA954 Bronze **H** 170 Brinell

CATALOG NUMBER	For Lifter Widths	Q
<b>LBGP1212</b>	1.8-4.2	24
<b>LCGP1426</b>	6	26
<b>LCGP1628</b>	8	28
<b>LCGP1830</b>	10 & 12	30

### ALTERNATIVE HEEL PLATES



**M** 4140 Pre-Hard **S** Black Oxided

CATALOG NUMBER	K	P	S
<b>FCHP-4</b>	16	4	M4 -.7
<b>FCHP-5</b>	16	4	M5 -.8