series 280 - “card-lok” retainer (cold plate)

CALMARK® CORPORATION
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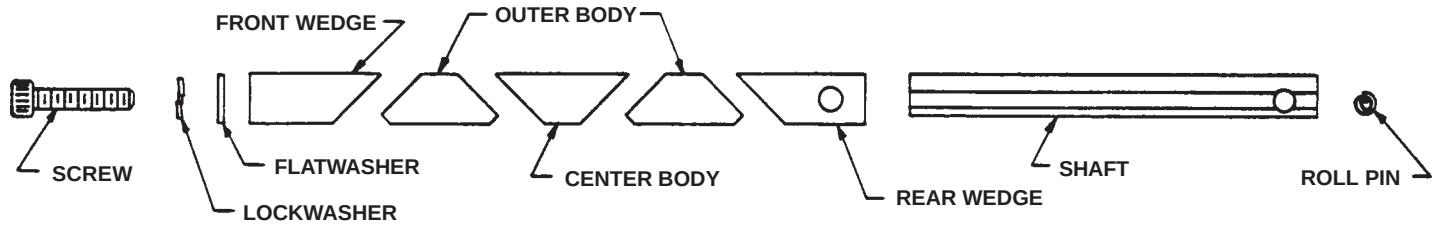
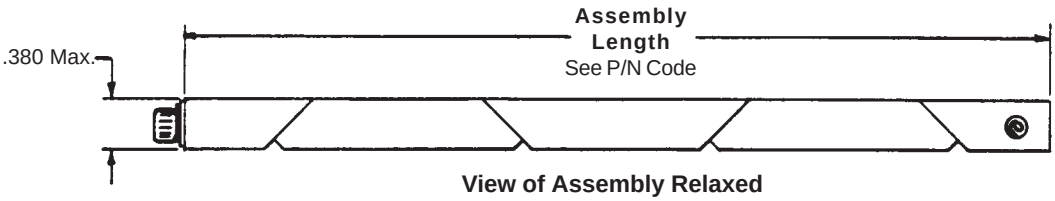
Calmark offers the advance design Series 280 “Card-Lok” Retainer for cold plate - heat exchanger applications. This totally unique design incorporates design advancements that provide increased thermal transfer, easy insertion, lighter weight and lower cost. The Series 280 specifically provides greater clamping force and load capacity for PC cards of higher weight and mass.

FEATURES:

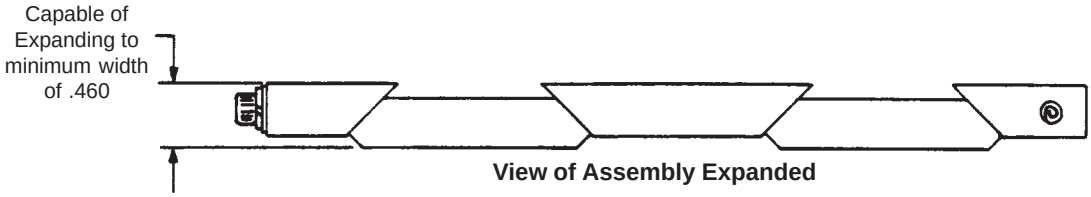
- ***Greater clamping force and load capacity for PC card with higher weight and mass.***
- ***Maximum uniform clamping force.***
- ***Increased thermal transfer.***
- ***Maintains wedge and body alignment for easy insertion.***
- ***Captive rear wedge.***
- ***Choice of screw head style.***
- ***Dimensionally compatible with Series 250.***
- ***Lighter weight.***
- ***Lower cost.***
- ***Special lengths, finishes, or other design options available on request.***

U.S. PATENT NO. 4,819,713
U.K. PATENT NO. 2,211,546
ISRAEL PATENT NO. 86120
GERMAN PATENT NO. 3890343





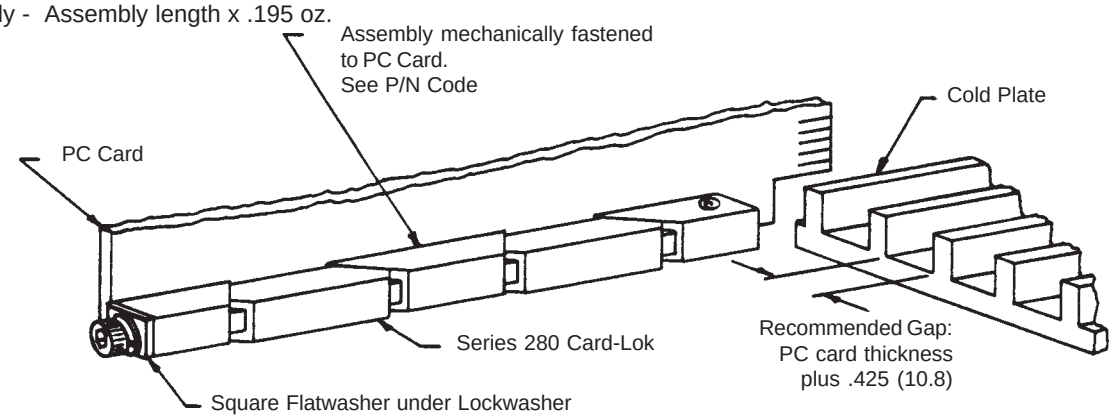
View of Assembly Relaxed



View of Assembly Expanded

Application Data:

Recommended Torque - 20 in-lbs (2.3 N-m)
If Lock Element option add 3 to 4 in-lbs (0.3 to 0.5N-m)
Weight of Assembly - Assembly length x .195 oz.



Unit: INCH (MM)

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HARDWARE

Screw NAS1352CO8 Series
8-32 socket head cap screw
9/64 Hex (3.57)
(Optional metric M4 screw
3mm across flats
300 Series Stainless Steel, Passivated)

Lockwasher MS35338-137

Flatwasher P/N 51368
304 Series CRES per ASTM-A240
(.355"sq., .168"I.D. x .048"thk.)
Passivate per MIL-S-5002

Roll Pin 5/32" dia. x 3/8" long heavy duty AISI 420 chrome CRES
Passivate per QQ-P-35

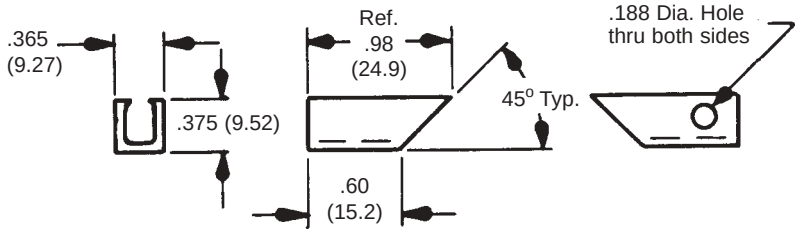
WEDGES

P/N 51298-1 (FRONT)
P/N 51298-2 (REAR)

MATERIAL: Aluminum Alloy
6061-T6 per ASTM-B221

FINISH: See Part No. Code

TOLERANCES: .xxx = +/- .010, .xx = +/- .02
(.xx=+/- 0.25, .x= +/- 0.5)



FRONT WEDGE P/N 51298-1 **REAR WEDGE P/N 51298-2**

BODIES

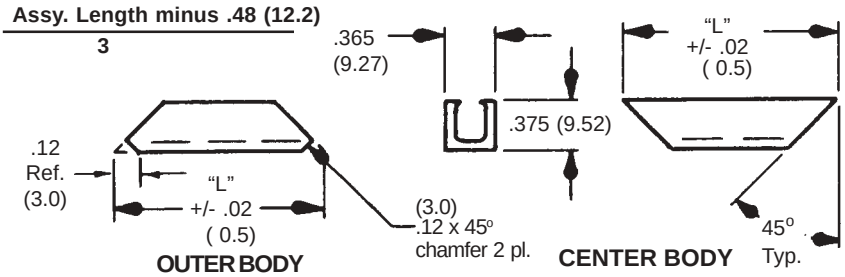
P/N 51297-Length (OUTER)
P/N 51296-Length (CENTER)

"L" Dim. = $\frac{\text{Assy. Length minus .48 (12.2)}}{3}$

MATERIAL: Aluminum Alloy
6061-T6 per ASTM-B221

FINISH: See Part No. Code

TOLERANCES: .xxx = +/- .010, .xx = +/- .02
(.xx=+/- 0.25, .x= +/- 0.5)



OUTER BODY P/N 51297-Length **CENTER BODY P/N 51296-Length**

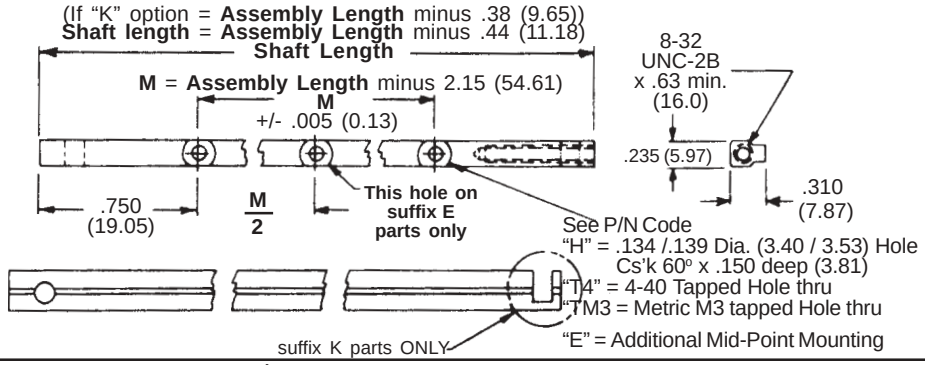
SHAFT

P/N 51299-Length-Mounting Hole Style

MATERIAL: Aluminum Alloy
7075-T6 per ASTM-B221

FINISH: See Part No. Code

TOLERANCES: .xxx = +/- .010, .xx = +/- .02
(.xx=+/- 0.25, .x= +/- 0.5)



PART NO. CODE M V A 280 - 3.80 E H L K

Metric hex socket option

Option "V" Indicates Visual-Lok Indicator (See Detail "V")

Finish Options
No Prefix = Chemical Film Per Mil-C-5541, Cl. 3
"A" = Black Anodize per MIL-A-8625 Type II, Class 2
"HA" = Black Hard Anodize per MIL-A-8625 Type III, Class 2
"EN" = Electroless Nickel per MIL-C-26074, Gr.B., Cl. 4

Basic Series No. for assembly consisting of 3 body segments as shown. Series 281 for assembly using 1 (one) body segment.

Length in Decimal, Standard lengths: 2.80, 3.80 & 4.80 Other lengths on request

Mounting Options (See Shaft Detail)
"H" = Indicates thru holes
"T4" = 4-40 tapped holes
"TM3" = Metric M3 tapped holes

"E" = Indicates additional Mid-Point mounting hole. (See Shaft Detail)

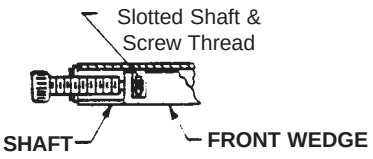
Option "L" Indicates locking element on Screw per MIL-F-18240 (See Detail **"L"**)

Option "K" Indicates Captive Screw (See Detail **"K"**)

Unit: INCH (MM)

OPTIONAL DETAILS

DETAIL **"K"** (suffix) provides captive screw



DETAIL **"L"** (suffix) provides prevailing torque for resistance to loosening from shock and vibration

DETAIL **"V"** (prefix) provides visual lock indicator