

Calmark offers the Series 250 "Card-Lok" Retainer for cold plate-heat exchanger applications. A maximum efficiency heat sinking Board Module Assembly retainer offered to provide greater clamping force and load capacity for Board Module Assembly of greater weight and mass.

### FEATURES

- Maximum Reliability – Screw-actuated wedge action locks Board Module Assembly in place
- Maximum Thermal Transfer – Wedge action design provides maximum contact between thermal paths on Board Module Assembly and the heat sinking surface
- Maximum Resistance to Shock & Vibration – Wedge action design locks Board Module Assembly in place to provide maximum resistance to shock and vibration
- Zero Insertion & Extraction Forces – Screw actuation provides zero insertion and extraction force on Board Module Assembly
- Design Flexibility – Special lengths, finishes or other design variations available on request

### WEDGES

#### Material:

Aluminum Alloy 6061-T6,  
ASTM-B221

#### Finish:

See Part No. Code

### SCREW

#### Material:

Stainless Steel  
QQ-S-763 or ASTM-A582

#### Finish:

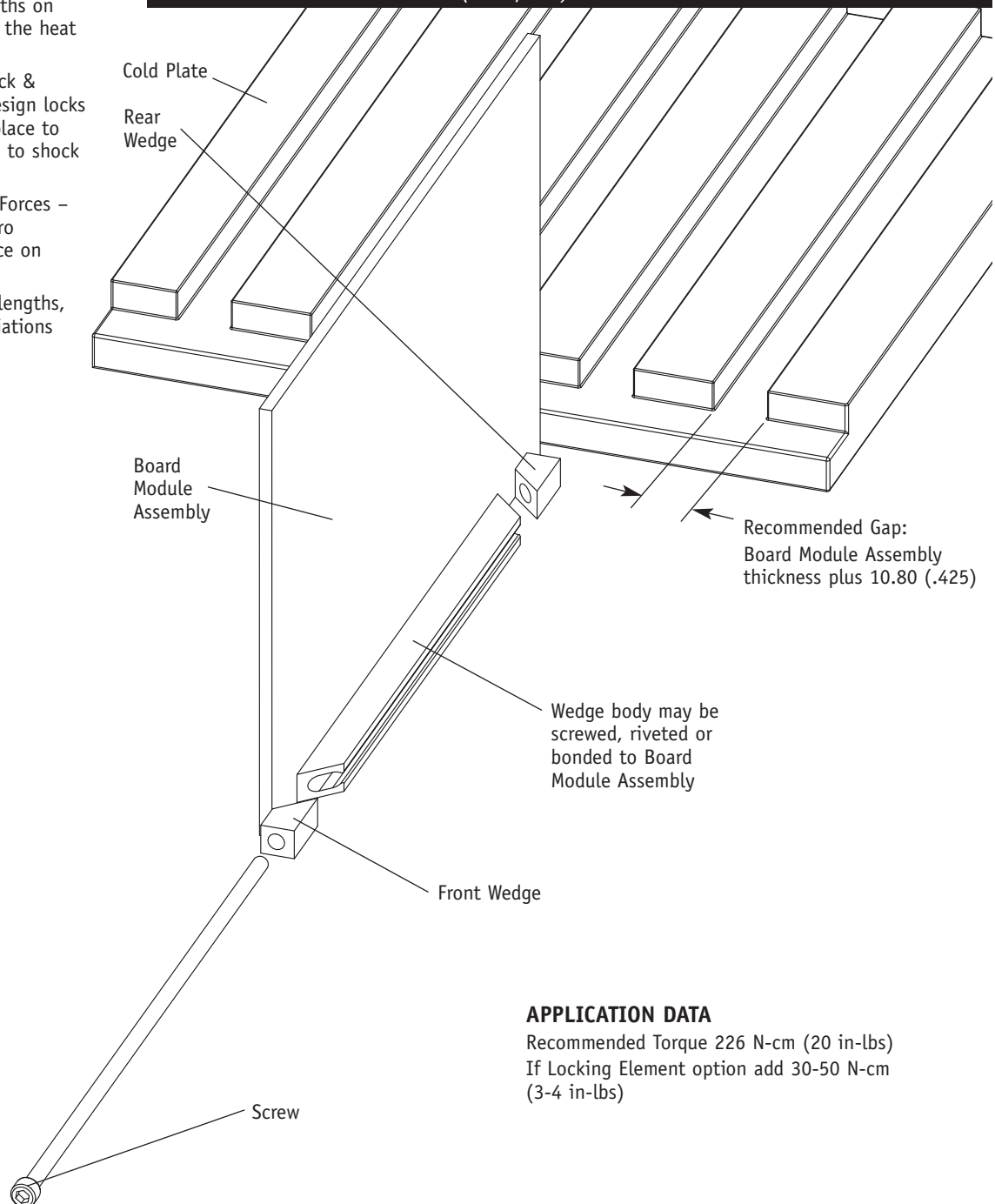
Passivate per MIL-S-5002

### WEIGHT

3.63 g/cm (.325 oz/in)



Series 250 - "Card-Lok" Retainer (cold plate)



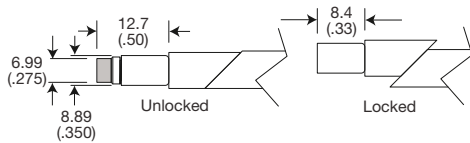
### APPLICATION DATA

Recommended Torque 226 N-cm (20 in-lbs)  
If Locking Element option add 30-50 N-cm  
(3-4 in-lbs)

## OPTION PREFIX

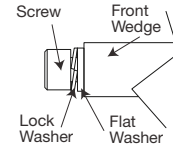
### Detail "V"

Provides visual lock indication.



### Detail "W"

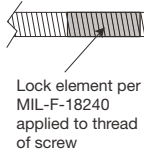
Provides added resistance to loosening from shock and vibration. This option adds 10.2 (.40) to the screw length when combined with the "R" suffix option.



## OPTION SUFFIX

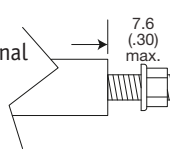
### Detail "L"

Provides prevailing torque for resistance to loosening from shock and vibration.



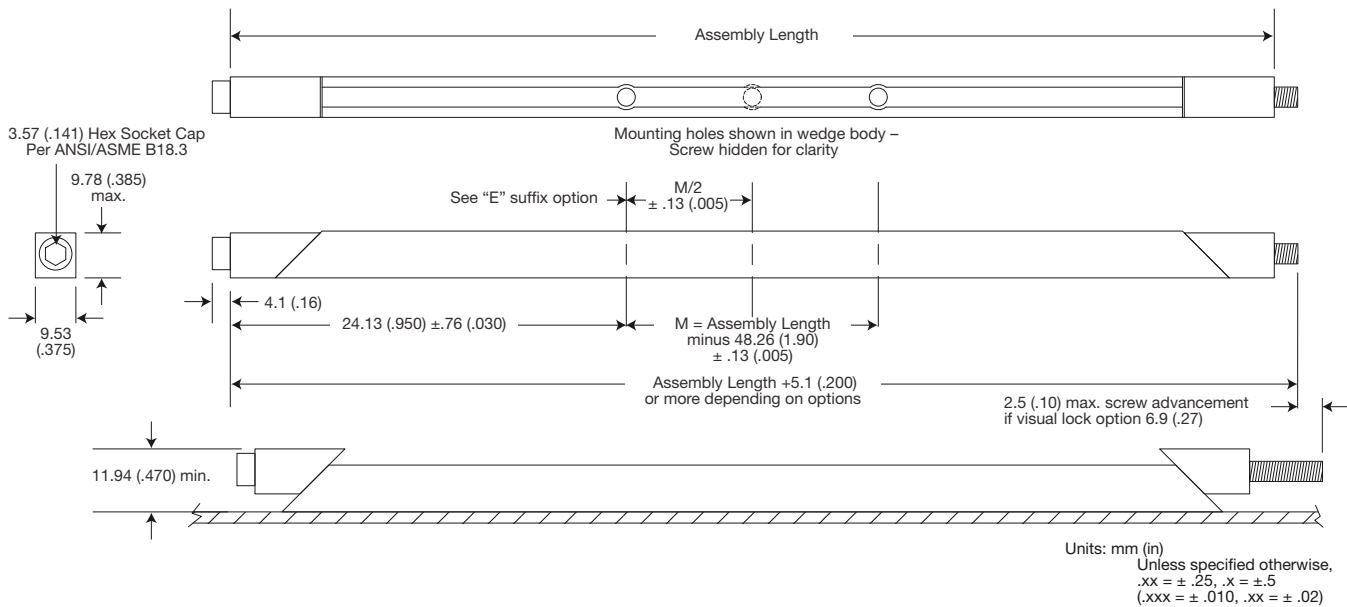
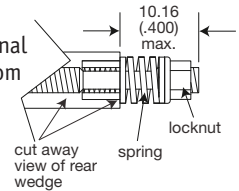
### Detail "R"

Reduces the possibility of unintentional disassembly of the screw from rear wedge. This option adds 7.6 (.30) to the screw length unless when combined with the "W" suffix option, then it adds 10.2 (.40).



### Detail "K"

Prevents the unintentional disassembly of screw from rear wedge. This option adds 5.08 (.200) to the screw length.



## Part Number Code Series 250 Card-Lok Three Piece

### Prefix options

Metric Screw Head M3 Hex Drive          M  
 Standard Screw Head 9/64 Hex Drive [blank]  
 Lock and Flat Washer          W  
 None          [blank]  
 Visual Indicator          V  
 No Visual Indicator          [blank]  
 Black Anodize          A  
 or choose from Finish Table          see table

### Suffix options

Stainless Steel Lock Nut if "R" option is selected          CR  
 Standard Plated Steel Lock Nut          "-"  
 Assembly length in inches. Standard lengths range from 54.6 (2.15) to 329.9 (12.99)          length.xx  
 Preferred lengths are 71.1 (2.80), 96.5 (3.80) and 121.9 (4.80)  
 Other lengths available upon request  
 Additional Center Mounting Hole          E  
 None          [blank]  
 Mounting Options - holes for rivet mounting          H  
 or choose from Mounting Option Table          see table  
 Lock Element          L  
 None          [blank]  
 Lock Nut          R  
 Captive Screw          K  
 None          [blank]

## Part Number Code Example:

V250CR4.80HR

Series 250 Card-Lok three piece 121.9 (4.80) long with Visual Indicator, gold chemical film finish, standard rivet mounting hole and stainless steel lock nut option.

## FINISH TABLE

Code Letter	Finish
[blank]	Chemical Film per Mil-C-5541 Class 1A, Gold
"R"	Chemical Film per Mil-DTL-5541 Class 3, Type II, Clear
"A"	Black Anodize per Mil-A-8625 Type II, Class 2
"HA"	Hard Black Anodize per Mil-A-8625 Type III, Class 2
"EN"	Electroless Nickel per Mil-C-26074 Class 4, Grade B, Bright

## MOUNTING METHOD TABLE

Code Letter	Method
[blank]	No mounting holes
"H"	Rivet Mounting Ø3.45 (.136) hole with 4.95 (.195) counterbore x 7.62 (.300) deep and 100° x 4.95 (.195) countersink.
"T0"	0-80 tapped hole
"T2"	2-56 tapped hole
"TM2"	M2 x 0.40 tapped hole
"TM2.5"	M2.5 x 0.45 tapped hole