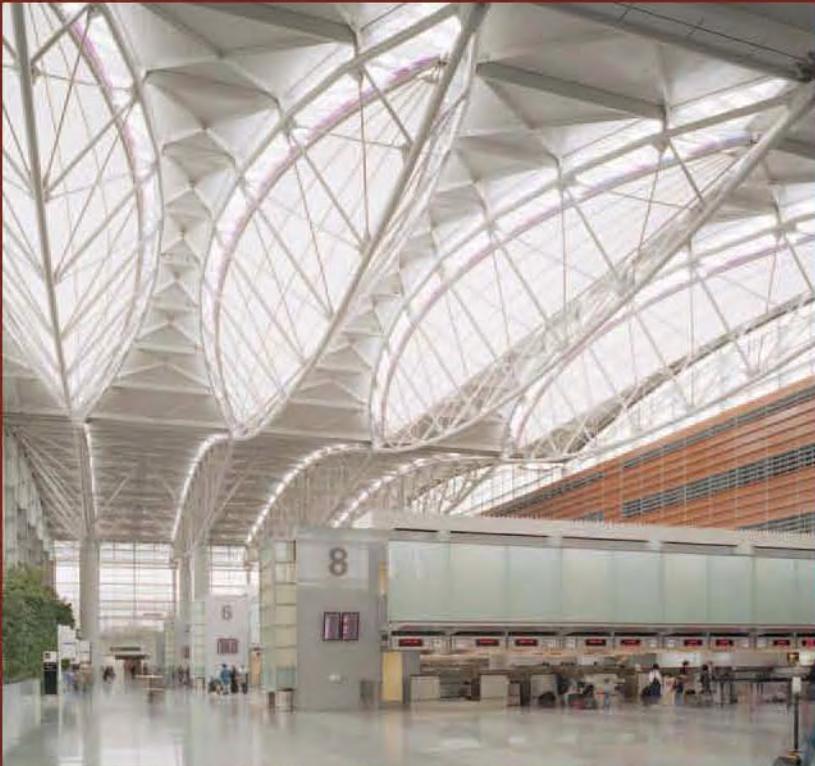


CONTINUOUS HINGE APPLICATIONS



HINGES FOR COMMERCIAL, INDUSTRIAL
AND INSTITUTIONAL USE



MARKAR

ARCHITECTURAL PRODUCTS, INC.
A SUBSIDIARY OF ADAME BITE MANUFACTURING CO.

The Perfect Fit. Every Time.



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68 Ward Road, Lancaster, NY 14086 * 800-866-1688 * 716-685-4104 * 716-685-3919 fax * www.markar.com

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Visit Markar's website @ www.markar.com for our other product offerings that include lite kits, louvers and door components. For your electric strikes, exit devices, swinging door and sliding door hardware, and The RITE Door® visit the website for Adams Rite @ www.adamsrite.com.





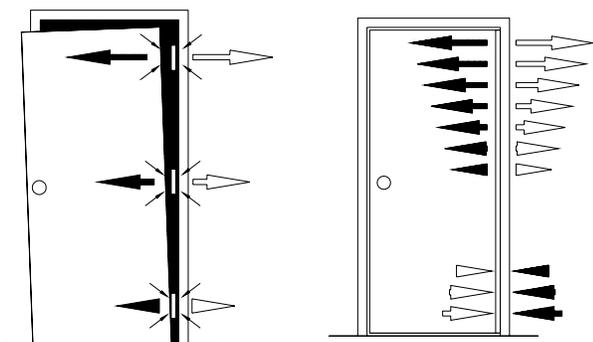
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Why Continuous?

Most commonly, hinge failure begins when doors are opened past stop device limits. The resulting kickback shock to the hinges can surpass 1000 lbs. of force. Subsequent racking eventually loosens screws, distorts hinge leaves, pulls open knuckles, damages bearings or creates other serious damage to your standard butt hinge as well as the door frame your assembly hangs within.

While Markar's Continuous Hinges provide the answer by distributing shock forces evenly so wear and tear to the frame and door is reduced significantly, you would have to agree that the continuous hinge contributes benefits far beyond durability. Security is enhanced, preventing insertion of devices between the door and frame making it the perfect product in reducing vandalism. The continuous design also allows for easy alignment of electrical transfers and monitoring switches giving the installer a no-hassle guarantee when installing these products. While the continuous hinge plays the main roll in distributing shock, creating a secure opening, and giving the installer the ease of prepping hardware, it also aids in stopping air infiltration by creating a complete seal from top to bottom of the door at the hinge stile.

Markar manufactures pin and barrel as well as spring loaded toilet partition pin and barrel models. There are over 75 different models to choose from offering a variety of configurations, options and materials. The following pages will give you a brief description of each hinge and an example of their application.



Most door and frame stress is put on the top of conventional hinge systems.

A Continuous Hinge spreads the stress along the full length of the door and frame.

Special Features...

The Unique Adjusta-Screw Fastener

A proprietary Markar fastener available on the Hinge Guard Models permits up to 3/8" width adjustment. Full door length adjustment means doors can be squared accurately and easily in new installations and existing frames can be used in retrofits. Maintenance staff can make future adjustments of the door, by re-positioning the Adjusta-Screw Fasteners.



Fire Rated Continuous Hinges

Markar stainless steel (3500 Series), Stainless steel (300 Series) and cold rolled steel hinges (200 Series) are available with two labeling options: Underwriters Laboratories Inc. and Warnock Hersey Int'l.

- 20 Minute labeled wood doors
- One and a half hour labeled hollow metal and composite-core wood fire doors
- Three hour labeled hollow metal doors only mounted singly.

Maximum Door Opening:

Single Doors: 4'0" x 10'0"
Pair of Doors: 8'0" x 10'0"



In accordance with Uniform Building Code Standard 7-2 "Fire Test Door Assemblies" & Standard UL 10C for positive pressure

Modifications and Options:

- Adjustable Monitoring Switch
- Hospital Tip Hinges
- Medical Bearings
- Dutch Door Hinge Preparation
- Custom Hole Patterns
- Special Sheared Leaf
- Wide Throw Hinges
- Raised Barrel (Swage)
- Edge Guard Hardware Cut-Outs
- Special Length Hinges
- Electrical Modification Access Prep
- CTP- Current Transfer Preparation
- CE- Current Transfer –Concealed
- CT- Current Transfer-Contact Switch
- ES- Exposed Monitoring Switch
- Blank Hinges (Minus Hole Pattern)
- Lead Lined Cover (1/16" LEAD)
- Security Fasteners



Hinge Numbering System & Finishes

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Hinge Prefixes

EG	Edge Guard
FM	Edge Mount
FS	Full Surface
HG	Hinge/Guard
HM	Half Mortise
HS	Half Surface
SC	Swing Clear

Hinge Series

This series number indicates the type of hinge and base material used:

100	Aluminum barrel hinges with stainless pin
200	Carbon steel barrel hinges with stainless pin
300	Stainless steel barrel hinges with stainless pin
400	Spring loaded aluminum toilet partition hinges
900	Spring loaded stainless steel toilet partition hinges
1100	Aluminum barrel hinges with 3/16" SS pin
1900	Reinforcing pivots
3500	12 Gauge stainless steel pin and barrel security hinges
4000	Aluminum capped hinges with stainless pin

Option Suffixes

AMS	Adjustable Monitoring Switch
CE	Concealed Current Transfer
CT	Current Transfer Switch
CTP	Current Transfer Preparation
DD	Dutch Door
EMAP	Electrical Modification Access Prep
EPT	Electric Power Transfer
ES	Exposed Monitoring Switch
HT	Hospital Tip
LL	Lead Lined
MB	Medical Bearing
PC	Powder Coated
RB	Raised Barrel
WT	Wide Throw
PW	Plug Weld

Hinge Models

00	edge mount (formerly full mortise)
01	full surface, 1/8" offset
02	full surface, flush
03	half surface, 1/8" offset
04	half mortise, 1/8" offset
05	edge mount hinge/guard
06	half mortise hinge/guard
07	double hinge/guard
08	edge guard
09	full surface, swing clear
10	swing clear hinge/guard
11	edge mount, self aligning

Standard Powder Coat Finishes

Closest US Standard & BHMA Finishes

MP-PC-1	Dark Bronze	690	US20A
MP-PC-2	Eggshell White	714	
MP-PC-3	Semi-Gloss Black	693	US19
MP-PC-4	Aluminum	689	US28
MP-PC-5	Sun Gold	706	US4
MP-PC-6	Light Copper	691	US10
MP-PC-7	Polished Brass	605	US3

MP-PC-7 available only on 100 & 300 series hinges

Custom Powder Coat Finishes

Over 84 colors available. Sample color chip must accompany order.

Special Finishes

Polished Aluminum	US26	673
Polished Stainless	US32	629

Kynar Paint With Color Approval

U.S. Standard & B.H.M.A. Finish Codes

US3	310	gold anodized
US9	311	light bronze anodized
	312	medium bronze anodized
US20A	313	dark bronze anodized
US19	315	black anodized
USP	600	printed for paint
US2G	603	zinc plated
US28	628	clear anodized
US32	629	bright stainless steel
US32D	630	satin stainless steel
US26	673	bright aluminum, clear coated
US28	689	aluminum paint
US20A	690	dark bronze paint
US10	691	light bronze paint
US19	693	black paint
US4	706	gold paint
	714	white paint

Special Anodized Finishes

Gold Anodized	US3	310
Light Bronze Anodized	US9	311
Medium Bronze Anodized		312
Black Anodized	US19	315



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Special Length

Please specify handing on all custom hinge lengths

For hinges 40" to 83 1/8" in length

For hinges 83 3/16" to 95" in length

For hinges 95 1/16" to 118 3/4" in length

For hinges 118 13/16" to 192" in length

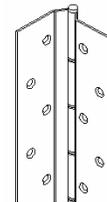
Raised Barrel (Swaged)

Available on all edge mount and half surface models except on **Aluminum hinges**

Required on models FS-201, FS-202, FS-301 & FS-302 in order to open 180°

Suffix hinge **"-RB"**

For cased open or center pivot doors

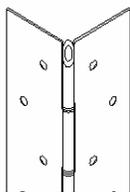


Hospital Tip

Available on all models except spring-loaded toilet partition hinges

Suffix hinge **"-HT"**

Helps provide a safe, clean environment



Medical Bearing

Suffix hinge- **"MB"**

Specially designed for hospitals and other high frequency openings

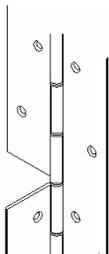
Dutch Door Prep

Available on all hinge models

Suffix hinge **"-DD"**

Continuous frame leaf with two-piece door leaf

Indicate handing, clearances, door and frame heights, and materials when ordering



Lead Lined Cover

Only available on surface mounted Hinges. Suffix hinge **"-LL"**

Used for x-ray room doors and **Other locations where radiation leakage could be a problem**

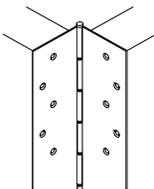
Lead lined astragal for EGT

Wide Throw

Only available on 300 series hinges

Suffix hinge **"-WT"**

Specify distance from pin centerline to heel edge of hinge when ordering

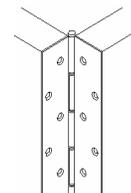


Sheared Leaf

Used for narrow door thickness', unevenly rabbeted frames or other special applications

Specify distance from pin centerline to heel edge of hinge when ordering

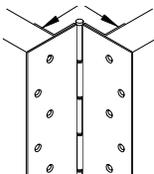
For Steel & Stainless Steel hinges only



Reinforcement may be required on extreme wide throw applications.

These conditions will be determined through a drawing approval process.

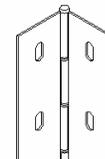
Cost will be determined at time of approval.



Custom Hole Pattern

Any hole shape or pattern other than Markar's standard templated hole pattern

Indicate desired pattern and include dimensioned diagrams when ordering



Automatic Door Bottom Cut

Weld End Pins Plug Weld

Blank Hinges

Holes omitted for special applications such as welded installations.

Security Studs

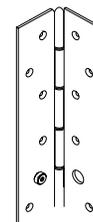
Stainless steel security studs mounted to the frame leaf

Door leaf is drilled to accommodate studs

Three studs installed on hinges up to 7'2"

Four studs installed on hinges over 7'2"

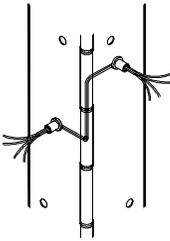
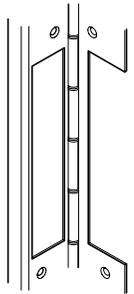
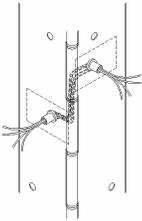
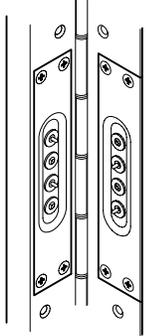
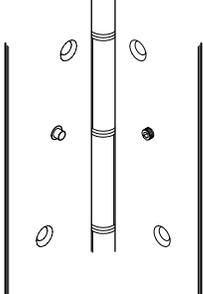
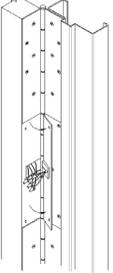
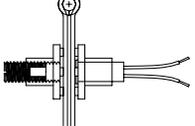
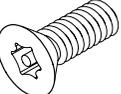
Door and frame must be specially prepared to accommodate security studs





Modifications

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<p>CE Concealed Current Transfer</p> <p>For 100 series CE-4: Qty (4) 28ga wires CE-8: Qty (8) 28ga wires</p>	 <p>Available for all edge mount models. Please consult factory For all other applications.</p>	<p>CTP Current Transfer Prep</p> <p>Centerline of hinge is standard location Hinge leaf cutout to accommodate Markar's AR- EPT Electric Power Transfer or Von Duprin Power Transfer Please provide location and handing for <u>all</u> locations</p>	
<p>CE Concealed Current Transfer</p> <p>For 300, 3500, and 200 series Edge mount only CE-4: Qty (4) 28ga wires CE-8: Qty (8) 28ga wires</p>		<p>EPT Electric Power Transfer</p> <p>AR-EPT 4612-1 Allows 90° swing AR-EPT-4612-2 Allows 180° swing for mortise CTP prep charge is additional</p>	
<p>CT Current Transfer Contact Switch</p> <p>Rated for 16 amp. surge current No wire furnished: 1/4-20 screw posts will accommodate any gauge wire <i>Recommended only for low-traffic doors; requires CTP Current Transfer Prep</i></p>		<p>ES Exposed Monitoring Switch</p> <p>Available in 100, 200, 300, and 3500 series hinges with the prefixes of HG, FM, HS, & HM. Suffix hinge "-ES" Comes with 3 x 28ga wires</p>	
<p>MP-EMAP Electrical Modification Access Prep</p> <p>Cutout prep for the CE, AMS, CT, & ES. Modifications that allows easy one person access to wiring between the hinge and door/frame.</p>		<p>AMS Adjustable Monitoring Switch</p> <p>Rigid welded assembly gives you the ability to adjust your monitoring switch to work with all applications. <i>Not available on aluminum.</i></p>	
<p>Security Fastener</p> <p>Torx Head security fasteners are available in lieu of standard fasteners.</p>		<p>Standard Edge Guard Cut-Outs</p> <ul style="list-style-type: none"> ◆ 4 7/8 ASA strike ◆ 161 latch ◆ 86 mortise ◆ manual flush bolt ◆ automatic flush bolt ◆ 161 strike <p>Templates may be required for custom cutouts.</p>	
<p>SS Bearings To replace all nylon bearings throughout the entire length of hinge.</p>			



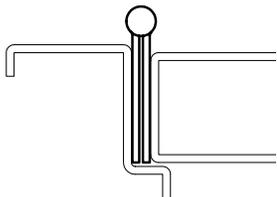
3500 Series Pin & Barrel Stainless Steel Security Hinges

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FM-3500 EDGE MOUNT SECURITY HINGE

For all 2" doors up to 900lbs.

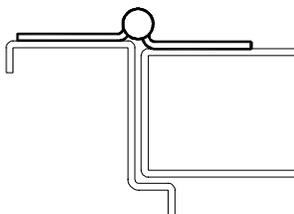
Used for high traffic high abuse doors suited for correctional facilities and other high security locations. Prison doors, gates, extremely tall doors and extra heavy doors are all good candidates



FS-3501 FULL SURFACE SECURITY HINGE/1/8" Inset

For all 2" doors up to 900lbs.

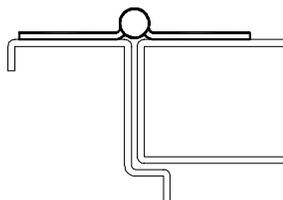
The 1/8" inset allows perfect alignment for retrofitting of doors in correctional facilities and other high security locations. Prison doors, gates, extremely tall doors and extra heavy doors are all good candidates



FS-3502 FULL SURFACE SECURITY HINGE

For all 2" doors up to 900lbs.

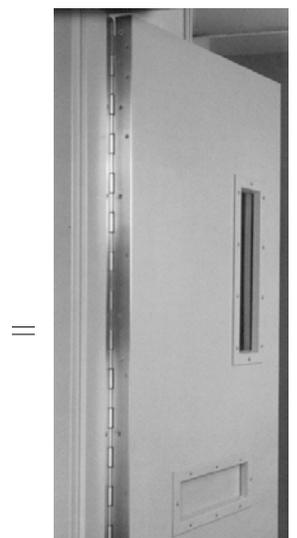
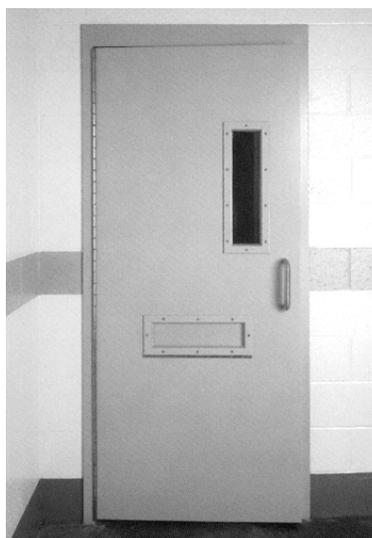
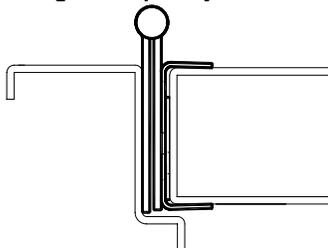
Used for solving door sag problems in correctional facilities and other high security locations. Prison doors, gates, extremely tall doors and extra heavy doors are all good candidates



HG-3505 HINGE GUARD SECURITY HINGE

For all 2" doors up to 900 lbs.

Allows an institute to secure openings to non-plumb frames using its unique adjustable features.





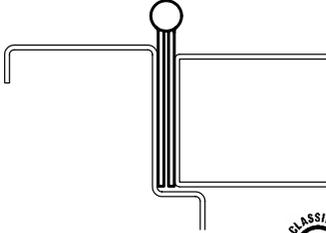
300 Series Pin & Barrel Stainless Steel Continuous Hinges

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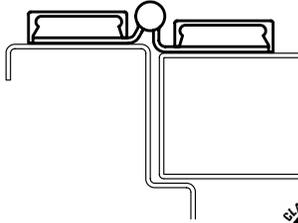
FM-300 EDGE MOUNT

For all 1 3/4" doors up to 600lbs.
Used on high traffic, high abuse doors



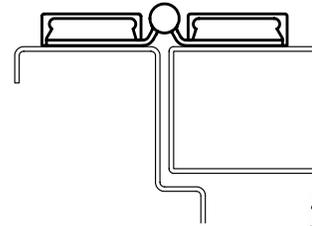
FS-301 FULL SURFACE/ 1/8" Inset

For all 1 3/4" doors up to 600lbs.
Used to repair doors with tight clearances
giving a weather tight seal



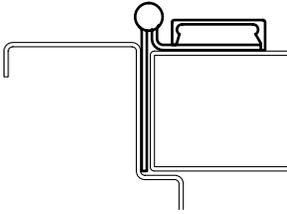
FS-302 FULL SURFACE/ Flush Mount

For all 1 3/4" doors up to 600lbs.
Used to repair doors with tight clearances
giving a weather tight seal



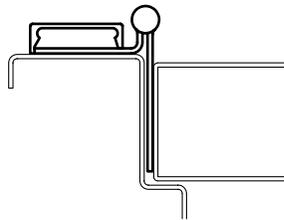
HS-303 HALF SURFACE

For all 1 3/4" doors up to 600lbs.
Used to replace butt hinges or to reverse
the handing or swing of the door without
any modification to the existing door



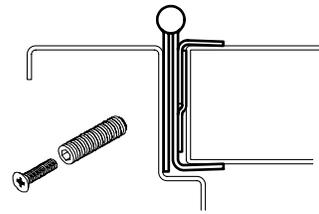
HM-304 HALF MORTISE

For all 1 3/4" doors up to 600lbs.
Used to replace butt hinges or to reverse
the handing or swing of the door without
any modification to the existing door



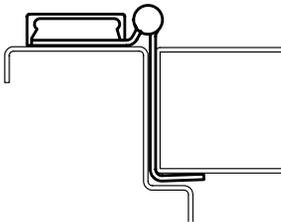
HG-305 HINGE GUARD

For all 1 3/4" doors up to 600lbs.
Used to make doors adjustable to non-
plumb frames & to protect the door from
gouges & dents



HG-306 HINGE/GUARD

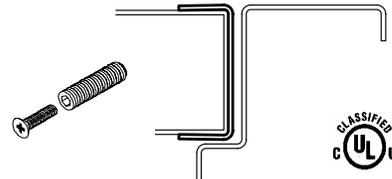
For all 1 3/4" doors up to 600lbs.
Used to reverse the swing of the door & to
protect the door from gouges & dents



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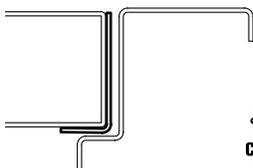
EG-308 EDGE GUARD

For all 1 3/4" doors
For both square and beveled doors
Used to make doors adjustable to non-
plumb frames & to protect the door from
gouges & dents



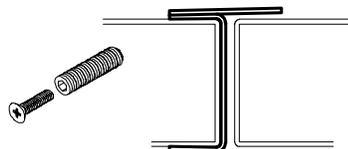
EG-C-308 EDGE GUARD

For all 1 3/4" doors
For both square and beveled doors
Used to protect the door from gouges &
dents



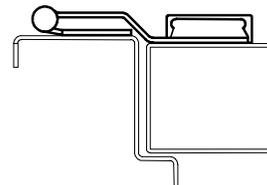
EG-T-308 EDGE GUARD

For all 1 3/4" doors
For both square and beveled doors
Used to make doors adjustable & to protect
the door from gouges & dents as well as
added security acting as a latch protector



FS/SC-309 FULL SURF. SWING CLEAR

For all 1 3/4" doors up to 600 lbs.
Used to ensure a door opened 90° is
entirely removed from the opening
Most commonly used on retrofit jobs



* Used on specialty doors with HG-315

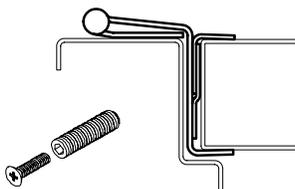


300 Series Pin & Barrel Stainless Steel Continuous Hinges

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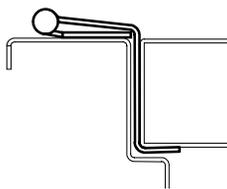
HG-310 SWING CLEAR HINGE/GUARD

For all 1 3/4" doors up to 600lbs.
Used on operating room doors to swing the door completely out of the opening as well as protecting the door from gouges & dents



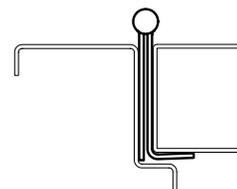
HG-311 SWING CLEAR HINGE/GUARD

For all 1 3/4" doors up to 600lbs.
Allows doors to meet ADA requirements
Enabling doors in a retrofit application to swing completely out of the opening



HG-315 EDGE MOUNT HINGE/GUARD

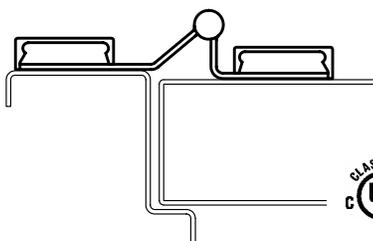
For all 1 3/4" doors up to 600lbs.
Prevents objects from being placed between door and frame as well as protecting the door from gouges & dents



*Used on specialty doors with EG-C-308

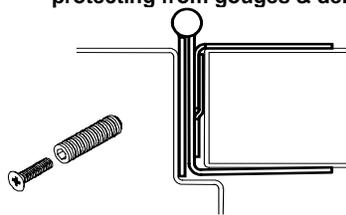
FS-321 FULL SURFACE/ 3/4" Offset

For all 1 3/4" doors up to 600lbs.
Used in conjunction with 3/4" offset door closers where intermediate pivots have worn and the floor closer can remain



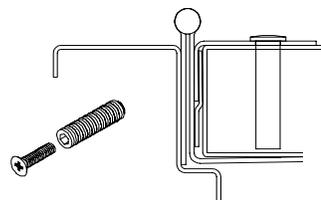
HG-322 EDGE MOUNT HINGE/GUARD

For all 1 3/4" doors up to 600lbs.
Used when the occasional door wrap is needed giving the door full adjustability when fitting non-plumb frames as well as protecting from gouges & dents



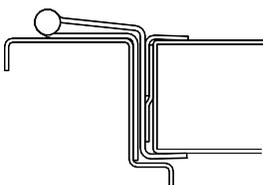
HG-323 EDGE MOUNT HINGE/GUARD

For all 1 3/4" doors up to 600lbs.
Used when saving a split door with the two stainless steel leaves sandwiching the door and through bolting it together
Also protecting from gouges & dents



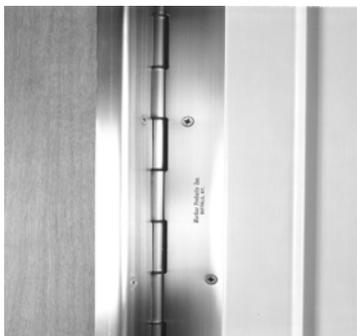
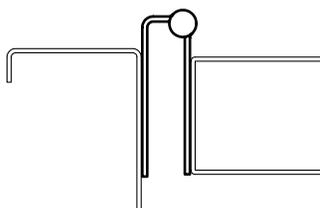
HG-326 Swing Clear Hinge Guard

For all 1 3/4" doors up to 600lbs.
This unique design solves the problem of aligning doors and locking mechanisms crucial in any security application.



FM-327 EDGE MOUNT SAFETY HINGE

For all 1 3/4" doors up to 600lbs.
This unique design will prevent any small fingers from being pinched in your elementary school or day care application
Must be used with a cased open type frame



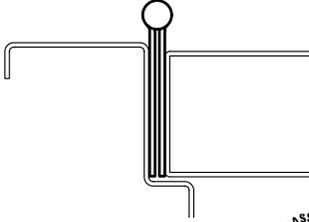


200 Series Pin & Barrel Carbon Steel Continuous Hinges

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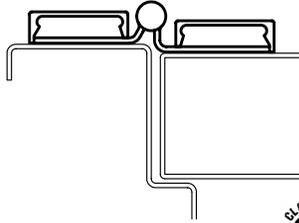
FM-200 EDGE MOUNT

For all 1 3/4" doors up to 600lbs.
Used on high traffic, high abuse doors



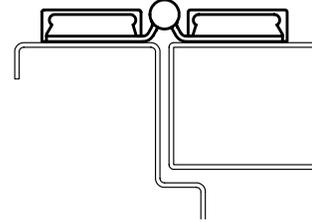
FS-201 FULL SURFACE/ 1/8" Inset

For all 1 3/4" doors up to 600lbs.
Used to repair doors with tight clearances
giving a weather tight seal



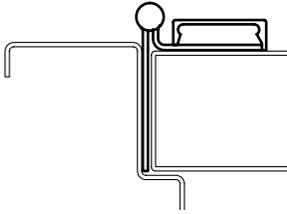
FS-202 FULL SURFACE/ Flush Mount

For all 1 3/4" doors up to 600lbs.
Used to repair doors with tight clearances
giving a weather tight seal



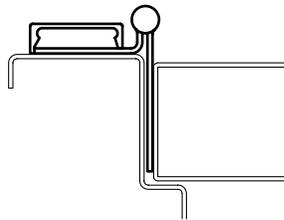
HS-203 HALF SURFACE

For all 1 3/4" doors up to 600lbs.
Used to replace butt hinges or to reverse
the handing or swing of the door without
any modification to the existing door

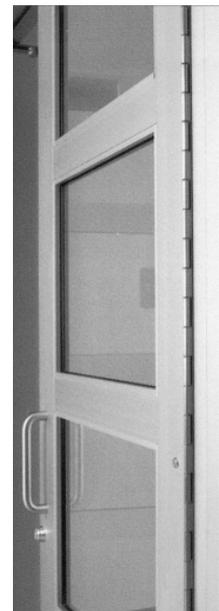


HM-204 HALF MORTISE

For all 1 3/4" doors up to 600lbs.
Used to replace butt hinges or to reverse
the handing or swing of the door without
any modification to the existing door



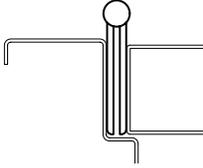
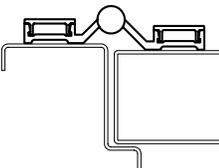
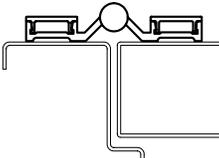
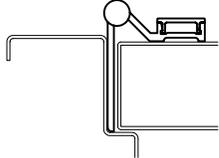
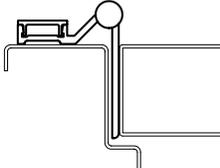
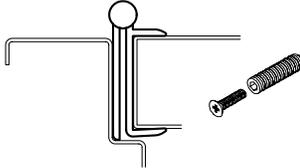
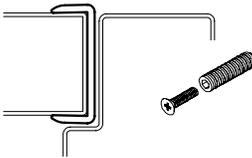
The finish for the
200 Series is
gray powder coat
primer.





100 Series Pin & Barrel Aluminum Continuous Hinges

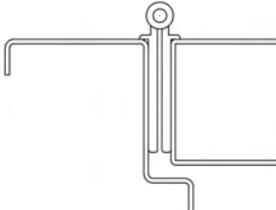
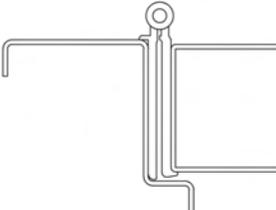
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<p>FM-100 EDGE MOUNT For all 1 3/4" doors up to 600lbs. Used in lieu of pivots or butt hinges distributing the weight of the door down the entire length of the hinge</p> 	<p>FS-101 FULL SURFACE/1/8" Inset For all 1 3/4" doors up to 600lbs. Used to solve door sag problems aligning retrofit doors to their existing frames with no need to readjust weather stripping</p> 	<p>FS-102 FULL SURFACE/Flush Mount For all 1 3/4" doors up to 600lbs. Used to solve door sag problems aligning retrofit doors to their existing frames</p> 	<p>HS-103 HALF SURFACE For all 1 3/4" doors up to 600lbs. Used to repair door assemblies where butt hinges have ripped out and frame needs reinforcement</p> 
<p>HM-104 HALF MORTISE For all 1 3/4" doors up to 600lbs. Used to repair doors that are split or have edge damage</p> 	<p>HG-105 HINGE/GUARD For all 1 3/4" doors up to 600lbs. Used in conjunction with automatic doors with heavy traffic making the doors adjustable to non-plumb frames & protecting them from gouges & dents</p>  <p>* Used in conjunction with EG-108</p>	<p>EG-108 EDGE GUARD For all 1 3/4" doors Used as a full wrap on the lock side of the door which prevents unsightly dents and gouges</p>  <p>* Used in conjunction with HG-105</p>	



1100 Series Pin & Barrel Aluminum Continuous Hinges

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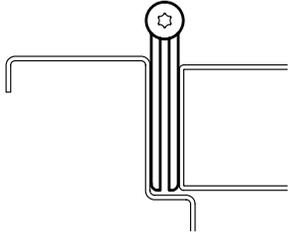
<p>FM-1100 Edge Mount Self-Aligning For all 1 3/4" doors up to 300lbs. Used on store front entry systems and aluminum curtain-wall projects.</p> 	<p>FM-1111 Edge Mount Self-Aligning For all 1 3/4" doors up to 300lbs. Used on store front entry systems and aluminum curtain-wall projects.</p> 
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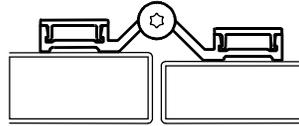
400 Series Aluminum Pin & Barrel Toilet Partition Hinges

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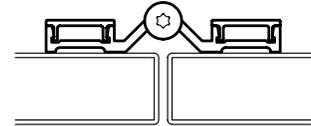
FM-400-TP/Spring Loaded
Close doors weighing up to 80 lbs.
Ideal for damp or corrosive environments.



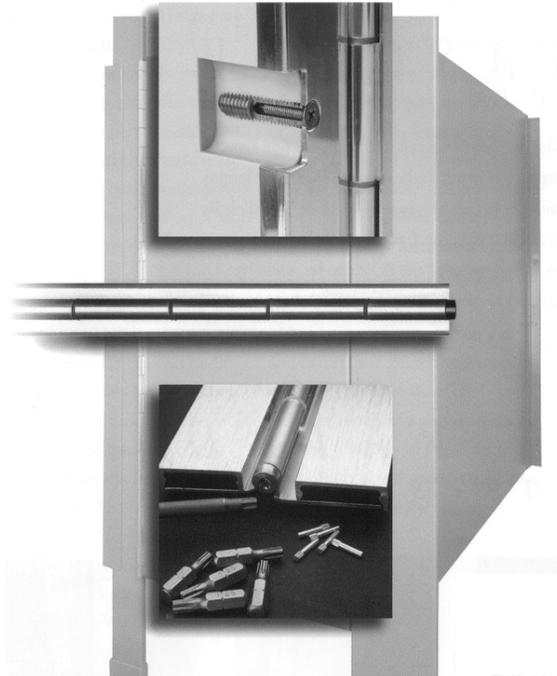
FS-401-TP/1/8" Offset Spring Loaded
Close doors weighing up to 80 lbs.
Use this hinge with 1 1/4" pilasters and 1" doors. Standard covers conceal fasteners and all mounting hardware to give a clean, finished appearance.
Safety lift feature available



FS-402-TP/Flush Spring Loaded
Close doors weighing up to 80 lbs.
Use this hinge when the pilaster and door are flush with each other. The standard security covers conceal fasteners and all mounting hardware to give a clean, finished appearance.
Safety lift feature available.



For doors over 3'0"
consult factory

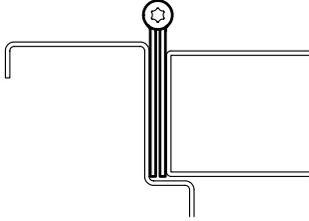




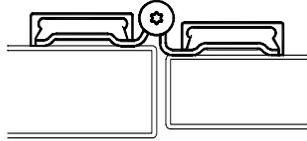
900 Series Stainless Steel Pin & Barrel Toilet Partition Hinges

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FM-900-TP/Spring Loaded
Close doors weighing up to 80 lbs.
Ideal for use in damp or corrosive environments. This hinge was designed for 1 3/4" stainless steel doors and frames. The addition of optional tamper proof security screws make this an excellent hinge for abusive traffic



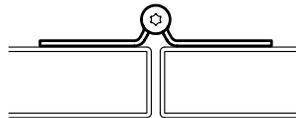
FS-901-TP/1/8" Offset Spring loaded
Close doors weighing up to 80 lbs.
Use this hinge with 1 1/4" pilasters and 1" doors. Standard covers conceal fasteners and all mounting hardware to give a clean, finished appearance



FS-902-TP/Flush Spring Loaded
Close doors weighing up to 80 lbs.
For pilasters and doors that are flush with each other. This stainless steel continuous toilet partition hinge is just right for retrofit or constructing a new facility, where high volume of abusive traffic can be found



FS-910-TP/Flush Spring Loaded
Close doors weighing up to 80 lbs.
This hinge was designed for detention facilities or areas where vandalism is common. The hinge can be mechanically fastened or welded in place for optimum security



For doors over 3'0" consult factory.

When it comes to privacy which door would you get behind?
Markar Spring-Loaded Toilet Partition Hinges

Problem

Solution

Markar's Continuous Hinge

Inside

- **Eliminate Open Sightlines**
Function specific designs in stainless steel or aluminum distribute stress along the entire length of the door and eliminate the gap or sightline at the hinge edge.
- **Adjustable Spring Loaded Hinges**
Permit the door to swing fully closed for ADA compliance.
- **Super Strong For Rugged Applications**
The strength and durability of Markar™ hinges are ideal for toilet compartments.
- **Perfect For Damp, Corrosive Environments**
Models are available in stainless steel or extruded aluminum.

www.markar.com

MARKAR
ARCHITECTURAL PRODUCTS, INC.



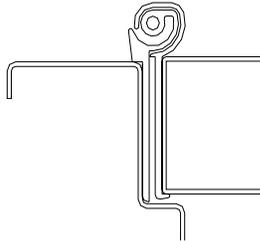
4000 Series Concealed Pin & Barrel Aluminum Continuous Hinge

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68 Ward Road, Lancaster, NY 14086 * 800-866-1688 * 716-685-4104 * 716-685-3919 fax * www.markar.com

FM-4011 Edge Mount

For all 1 3/4" doors up to 300 lbs.

The patented concealed pin and barrel design of this edge mount will withstand heavy traffic conditions while complementing many types of décor. This hinge is ideal for aluminum store front applications.



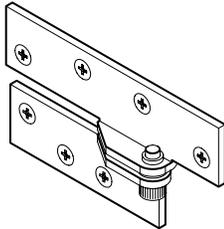


1900 Series Reinforcing Pivots

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B1921 Full Surface

1/2" to center line of 4" hinge pin
uses small pin & bushing



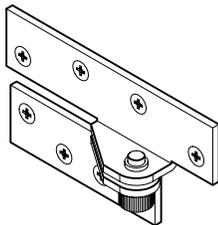
REINFORCER APPLICATIONS

The reinforcing pivot hinge from Markar is a reinforcement solution, The reinforcer adds support to the top of the door where most stress is concentrated with the conventional butt hinge systems.

The reinforcer can easily be installed by maintenance personnel, and comes with the necessary fasteners.

B1923 Full Surface

3/4" to center line of 4 1/2" hinge pin
uses large pin & bushing



REINFORCER BENEFITS

- **Cost Effective Reinforcement Solution**
 - **Insures Longer Door Operating Life**
 - **Easy to Install**
 - **Surface Applied- No Special Preparation**
 - **Restores Trouble-Free Operation**
 - **Adapts to Any Door**
 - **Acceptable for Use on Fire Doors**
-



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3500 Series Pin & Barrel Type Continuous Stainless Steel Hinges

Continuous hinges shall be full height piano-type hinge providing full height door support.

- Supports weights up to 900 lbs. 4'0" maximum door width
- Material to be 12 gauge (.105) 304 stainless steel
- .25 diameter 304 stainless pin
- Each knuckle 2", including split nylon bearing at each separation for a quiet, smooth, self-lubricating operation
- Finish: 304 S.S. No.4 (US 32D), or Polished Stainless (US 32)
- Hinge pin cap
- Non-handed
- All hinges shall be furnished with manufacturer's recommended hardware pack per specific model application
- Must be able to carry UL label for fire rated doors and frames up to 3 hours
- Hinges shall meet ANSI/BHMA Standard A 156.26 Grade 1
- Hinges shall meet abuse test (ASTM F-1450-A)
- **Symmetrically templated hole pattern**

Note: 10-Year Warranty on all Continuous Hinges

Note: Fire label for doors and frames should be placed on the header and top rail of fire rated doors and frames



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300 Series Pin & Barrel Type Continuous Stainless Steel Hinges

Continuous hinges shall be full height piano-type hinge providing full height door support.

- Supports weights up to 600 lbs. 4' 0" maximum door width
- Material to be 14 gauge, 304 stainless steel
- .25 diameter 304 stainless steel pin
- Exterior barrel diameter .438 (7/16)
- Each knuckle 2", including split nylon bearing at each separation for a quiet, smooth, self-lubricating operation
- Finish: 304 S.S. No. 4 (US 32D), or Polished Stainless (US 32)
- Non-Handed
- All hinges shall be furnished with manufacturer's recommended hardware pack per specific model application
- Must be able to carry Warnock Hersey Int. or UL for fire rated doors and frames up to 3 hours
- Hinges shall meet ANSI/BHMA Standard A 156.26 Grade 1
- **Symmetrically templated hole pattern**

Note: 10-Year Warranty on all Continuous Hinges

Note: If HG 305 or HG 310 – 1 3/8 Adjusta-Screw fastener with 10-32 thread x hex adjustment must be supplied

Note: Fire label for doors and frames should be placed on the header and top rail of fire rated doors and frames



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200 Series Pin & Barrel Type Continuous Steel Hinges

Continuous hinges shall be full height piano-type hinge providing full height door support.

- Supports weights up to 600 lbs. 4'0" maximum door width
- Material to be 14 gauge 1012 carbon steel
- .25 diameter 304 stainless steel pin
- Each knuckle 2", including split nylon bearing at each separation for a quiet, smooth, self-lubricating system
- Finish: prime painted
- Non-handed
- All hinges shall be furnished with manufacturer's recommended hardware pack per specific model application
- Must use undercut head screws
- Must be able to carry Warnock Hersey Int. or UL fire rated doors and frames up to 3 hours
- Hinges shall meet ANSI/BHMA Standard A 156.26 Grade 2
- **Symmetrically templated hole pattern**

Note: 10-Year Warranty on all Continuous Hinges

Note: Fire label for doors and frames should be placed on the header and top rail of fire rated doors and frames.



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100 Series Pin & Barrel Type Continuous Aluminum Hinges

Continuous hinges shall be full height piano-type hinge providing full height door support.

- Supports weights up to 600 lbs. 4'0" maximum width
- Material to be extruded aluminum 6063 -T6 alloy
- .25 diameter 304 stainless pin must be Teflon coated
- Each knuckle 2", including split nylon bearing at each separation for a quiet, smooth, self-lubricating operation
- Finish: anodized finish (anodized clear, black, dark bronze, light bronze). Other finishes upon request.
- Hinge pin cap
- Non-handed
- All hinges shall be furnished with manufacturer's recommended hardware pack per specific model application
- Exterior barrel diameter .515 (1/2 inch)
- Material thickness less than .125 inches
- Material weight will be no less than 1.5 lbs. per foot
- Hinges shall meet ANSI/BHMA Standard A 156.26 Grade 2
- **Symmetrically templated hole pattern**

Note: 10-Year Warranty on all Continuous Hinges



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1100 Series Pin & Barrel Type Continuous Aluminum Hinges

Continuous hinges shall be full height piano-type hinge providing full height door support.

- Supports weights up to 300 lbs. 3'0" maximum width
- Material to be extruded aluminum 6063-T6 alloy
- .1875 diameter 304 stainless pin must be Teflon coated
- Each knuckle 2", including split nylon bearing at each separation for a quiet, smooth, self-lubricating operation
- Finish: anodized finish (anodized clear, black, dark bronze, light bronze). Other finishes upon request.
- Hinge pin cap
- Non-handed
- All hinges shall be furnished with manufacturer's recommended hardware pack per specific model application
- Exterior barrel diameter .375 (3/8 inch)
- Hinges shall meet ANSI/BHMA Standard A156.26 Grade 3
- **Symmetrically templated hole pattern**

Note: 10-Year Warranty on all Continuous Hinges



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400 Series Spring Loaded Pin & Barrel Type Continuous Aluminum Hinges

Continuous hinges shall be full height piano-type hinge providing full height door support

- Supports weights up to 80lbs. 4'0" maximum width
- Material to be extruded aluminum 6463-T5 alloy
- Patented .25 diameter 303 stainless steel self closing pin assembly
- Each knuckle 2", including split nylon bearing at each separation
For a quiet, smooth, self-lubricating operation
- Finish: Bright dipped anodized (other finishes upon request)
- Adjustable, tamper resistant Torx Head end caps
- Non-handed
- Exterior barrel diameter .515 (1/2 inch)
- Material thickness less than .125 inches
- Material weight will be no less than 1.5lbs. per foot
- Removable roll pin for spring loaded adjustment
- **Symmetrically templated hole pattern**

Note: 10-Year Warranty on all Continuous Hinges



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900 Series Spring Loaded Pin & Barrel Type Continuous Stainless Steel Hinges

Continuous hinges shall be full height piano-type hinge providing full height door support.

- Supports weights up to 80lbs. 4' 0" maximum door width
- Material to be 14 gauge, 304 stainless steel
- Patented .25 diameter 303 stainless steel self closing pin assembly
- Exterior barrel diameter .438 (7/16)
- Adjustable, tamper resistant Torx Head end caps
- Each knuckle 2", including split nylon bearing at each separation for a quiet, smooth, self-lubricating operation
- Finish: 32D finish with aluminum cover caps bright dipped anodized
- Non-Handed
- All hinges shall be furnished with manufacturer's recommended hardware Pack per specific model application
- Removable roll pin for spring loaded adjustment
- **Symmetrically templated hole pattern**

Note: 10-Year Warranty on all Continuous Hinges



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4000 Series Pin & Barrel Type Continuous Capped Aluminum Hinges

Continuous hinges shall be full height piano-type hinge providing full height door support.

- Supports weights up to 300 lbs. 3'0" wide.
- Material to be extruded 6063-T6 alloy
- 3/16 diameter 304 stainless pin
- Hinge assembly supported by multiple nylon bearings providing a quiet, smooth, monolithic operation.
- Finish: anodized finish (anodized clear and dark bronze).
- All hinges shall be furnished with manufacturer's recommended hardware pack per specific model application.
- Exterior cap assembly .750 (3/4")
- Hinges shall meet ANSI/BHMA Standard A 156.26 Grade 2
- Maximum degree of opening: 130°
- **Symmetrically templated hole pattern**

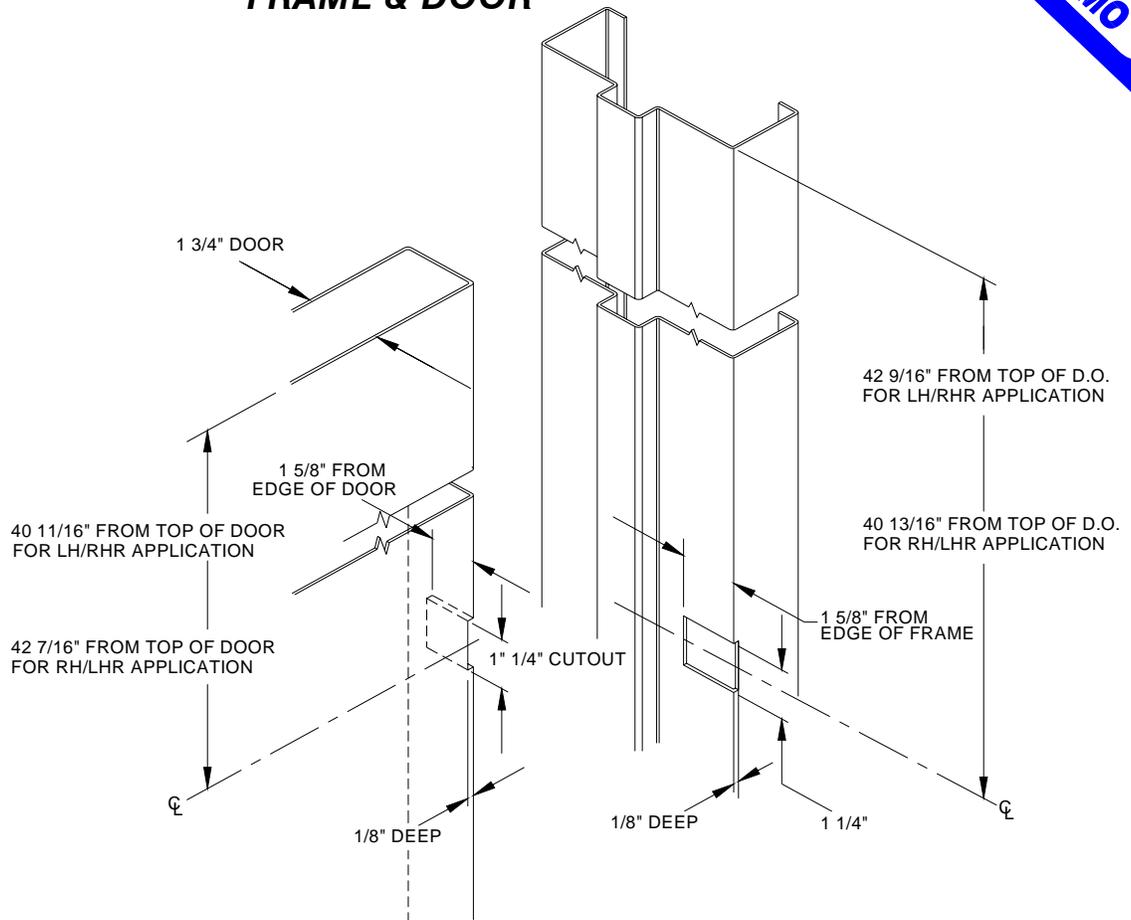
Note: Five-Year Warranty on FM 4011 Series Continuous Hinge

Note: Fire label for doors and frames should be placed on the header and top rail of fire rated doors and frames



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"CE" CONCEALED CURRENT TRANSFER PREPARATION FOR 7'0" 3500, 300 & 200 SERIES HINGES FOR HINGES UP TO 83 1/8" FRAME & DOOR



LEFT HAND APPLICATION SHOWN ABOVE

* DIMENSIONS SHOWN STAND TRUE WHEN TAKING INTO CONSIDERATION THE INDUSTRY STANDARD OF 1/8" CLEARANCE BETWEEN TOP OF DOOR OPENING AND TOP OF DOOR.



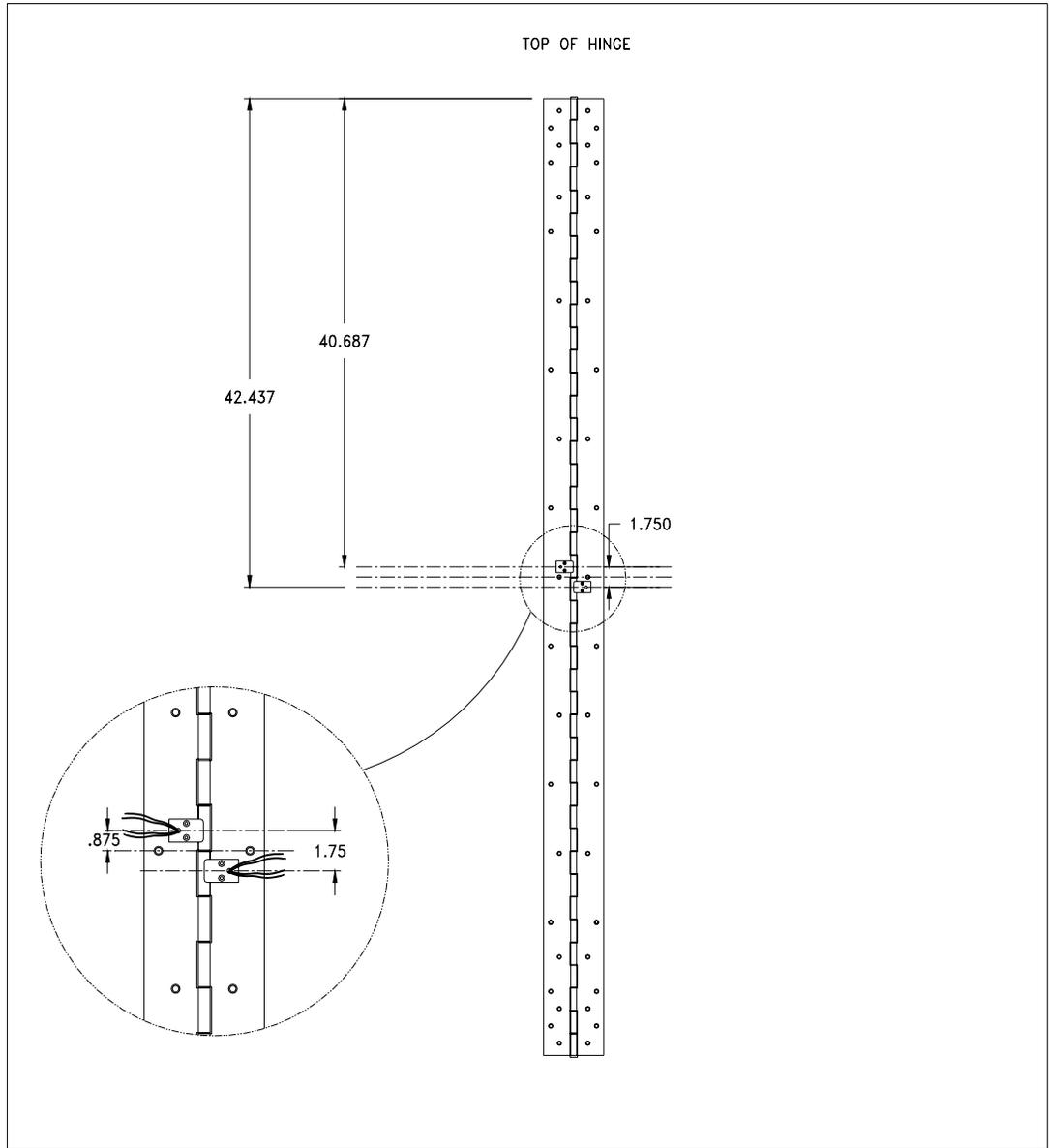
STOP
AVOID ERRORS
READ CAREFULLY



Please indicate desired handing & location when ordering custom location other than shown.



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 68 Ward Road, Lancaster, NY 14086 * 800-866-1688 * 716-685-4104 * 716-685-3919 fax * www.markar.com

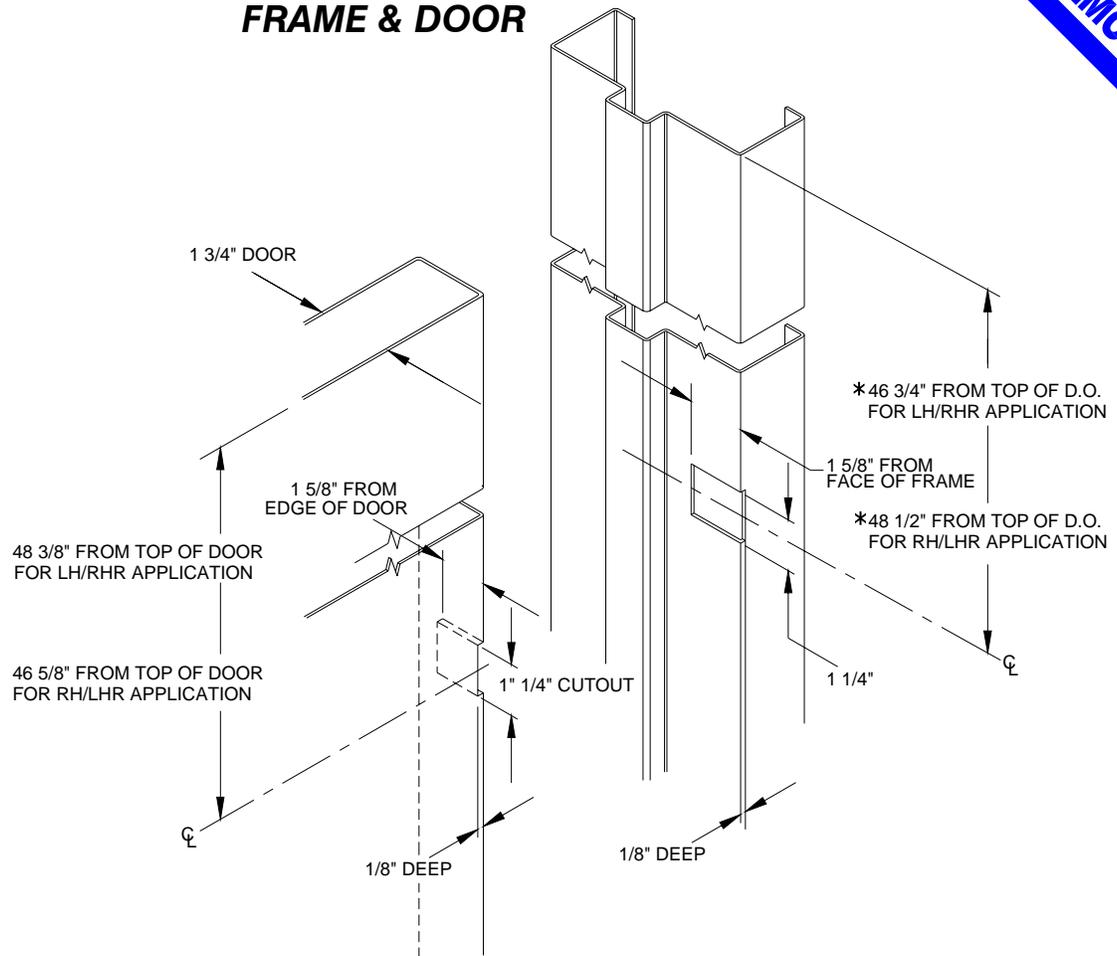


TITLE CE LOCATION FOR HINGES UP TO 83.125"		DRAWN BY S.R.B.	DATE 050101	REVISION			
		CHECKED BY	DATE	NO.	DESCRIPTION	DATE	BY
PART NO. CESTEEL	MATERIAL	APPROVED BY	DATE				
FILE NAME CESTEEL	FINISH 304 SS	VENDOR					
SCALE N.T.S.	SLIT WIDTH	VENDORS NO.					



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"CE" CONCEALED CURRENT TRANSFER PREPARATION FOR 3500, 300 & 200 SERIES HINGES 83 3/16" THRU 95" FRAME & DOOR



LEFT HAND APPLICATION SHOWN ABOVE

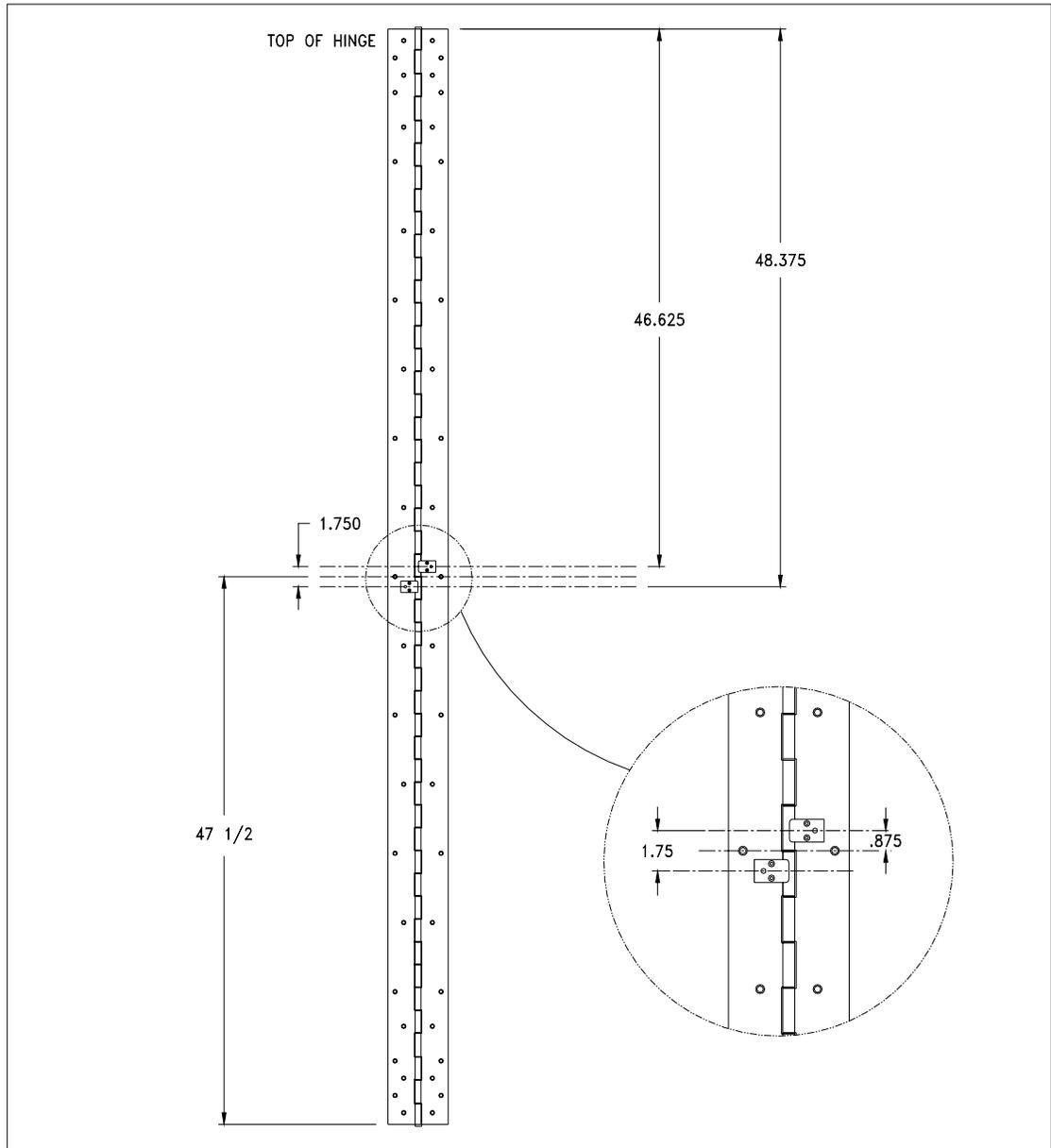
* DIMENSIONS SHOWN STAND TRUE WHEN TAKING INTO CONSIDERATION THE INDUSTRY STANDARD OF 1/8" CLEARANCE BETWEEN TOP OF DOOR OPENING AND TOP OF DOOR.



Please indicate desired handing & location when ordering custom location other than shown.



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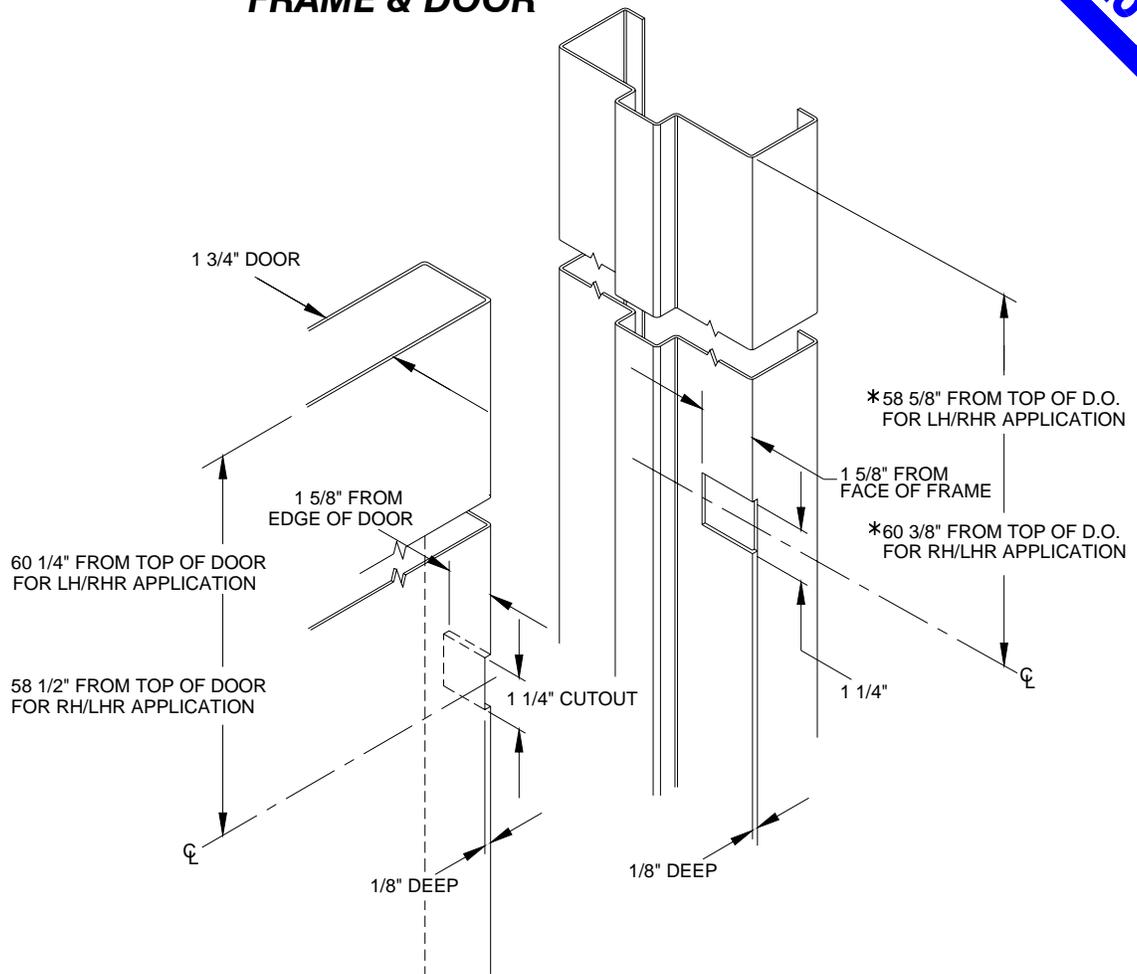
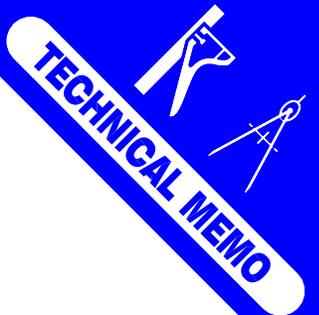


TITLE CE LOCATION FOR 83 3/16" THRU 95"		DRAWN BY S.R.B.	DATE 050101	REVISION		
CHECKED BY		DATE	NO.	DESCRIPTION	DATE	BY
PART NO. CESTEEL	MATERIAL	APPROVED BY	DATE			
FILE NAME CESTEEL	FINISH 304 SS	VENDOR				
SCALE N.T.S.	SLIT WIDTH	VENDORS NO.				



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"CE" CONCEALED CURRENT TRANSFER PREPARATION FOR 3500, 300 & 200 SERIES HINGES 95 1/16" THRU 118 3/4" FRAME & DOOR



LEFT HAND APPLICATION SHOWN ABOVE

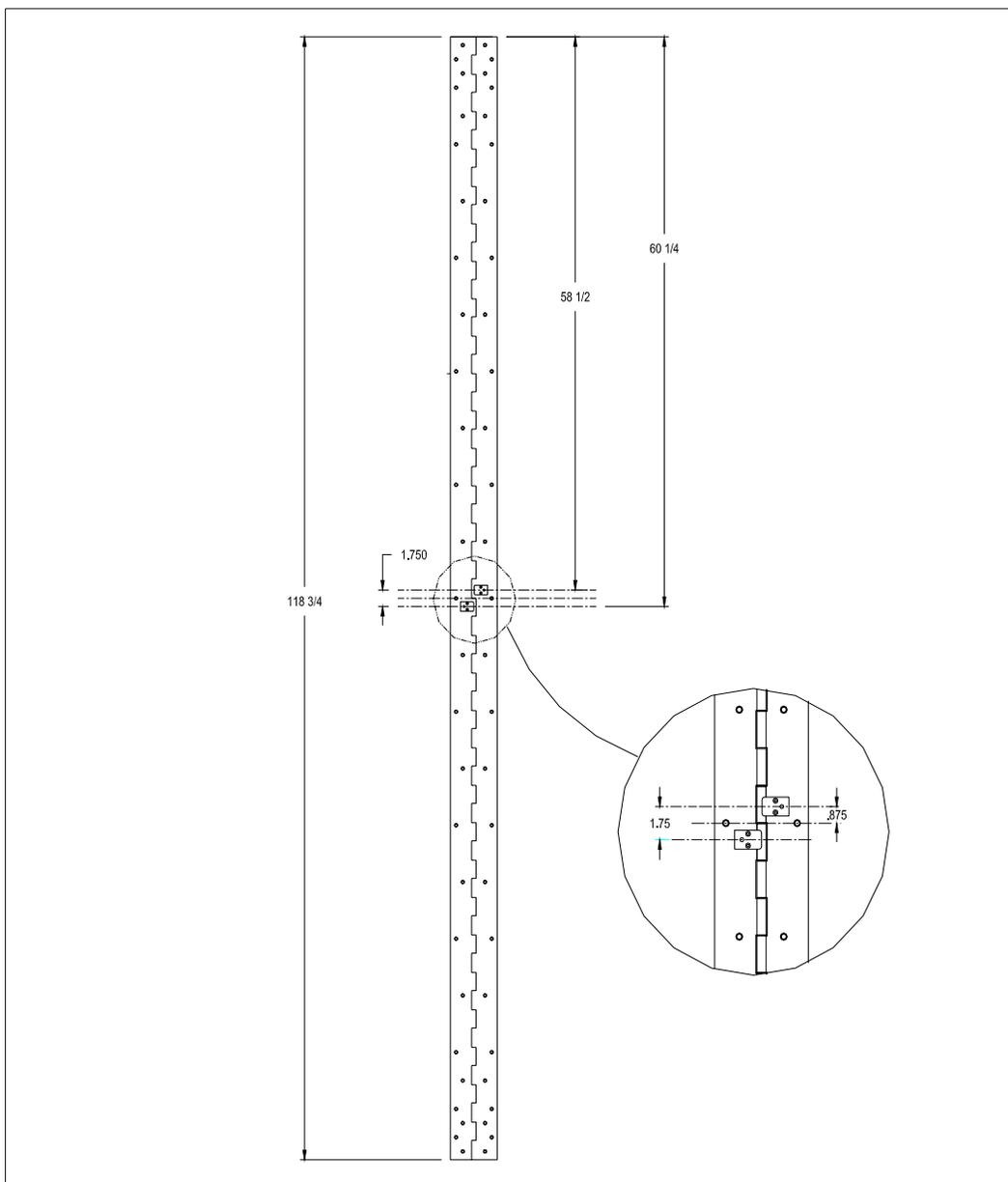
* DIMENSIONS SHOWN STAND TRUE WHEN TAKING INTO CONSIDERATION THE INDUSTRY STANDARD OF 1/8" CLEARANCE BETWEEN TOP OF DOOR OPENING AND TOP OF DOOR.



Please indicate desired handing & location when ordering custom location other than shown.



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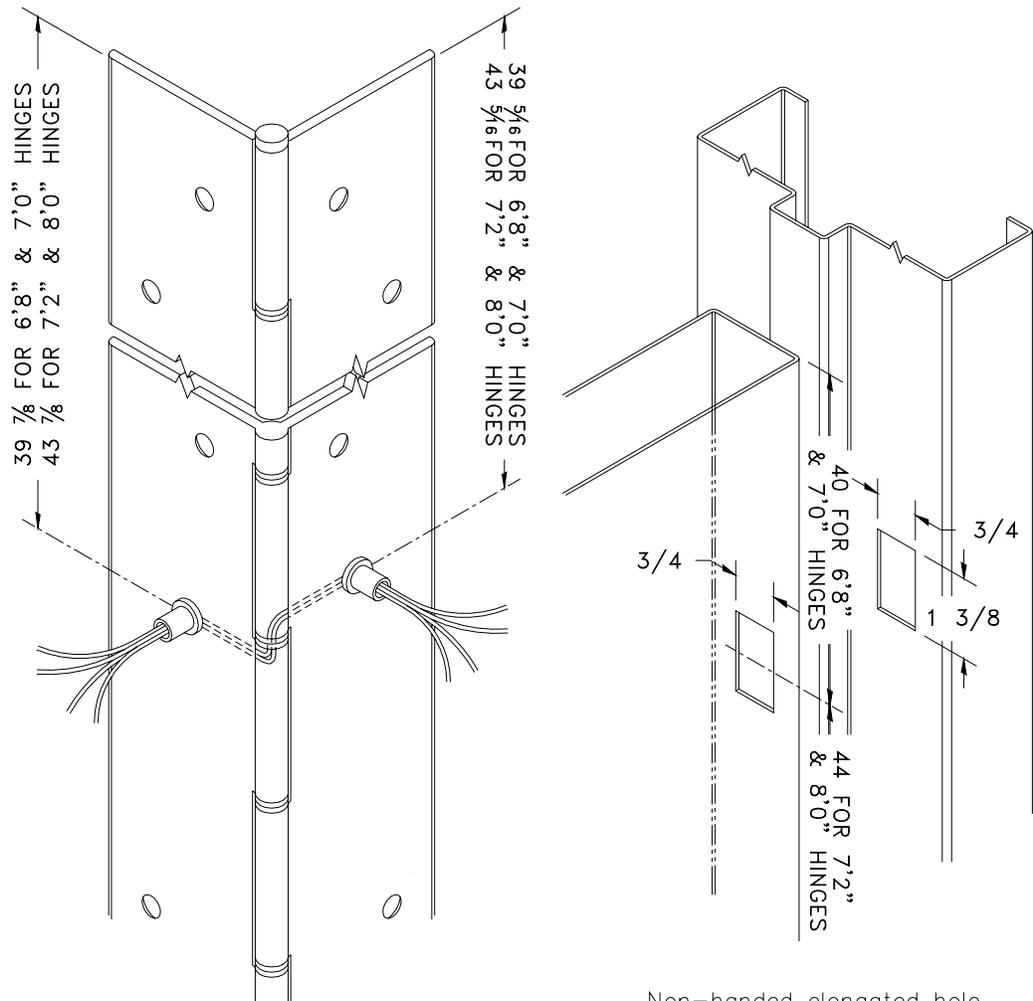
TITLE CE LOCATION FOR 95 1/16" THRU 118.75"		DRAWN BY S.R.B.	DATE 050101	REVISION			
		CHECKED BY	DATE	NO.	DESCRIPTION	DATE	BY
PART NO. CESTEEL	MATERIAL	APPROVED BY	DATE				
FILE NAME CESTEEL	FINISH 304 SS	VENDOR					
SCALE N.T.S.	SLIT WIDTH	VENDORS NO.					



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"CE" CONCEALED CURRENT TRANSFER

FOR 100 SERIES ALUMINUM PIN & BARREL



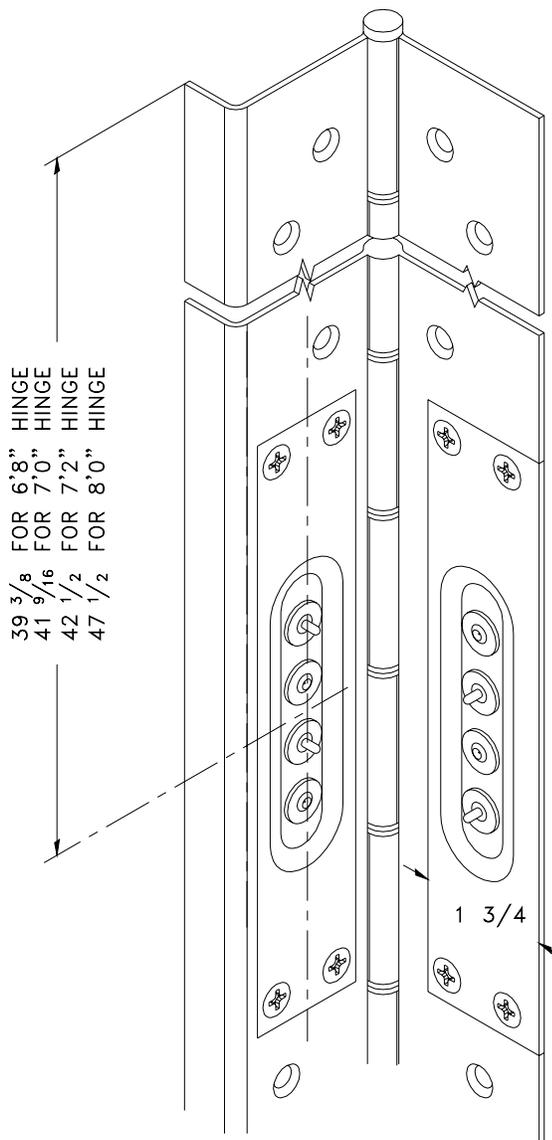
Non-handed elongated hole required (minimum dimensions shown) to receive electrical grommet in both door and frame.



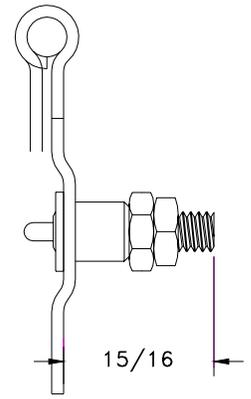
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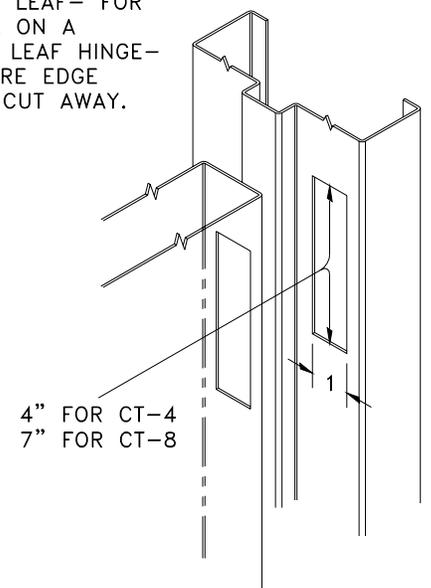
"CT" CURRENT TRANSFER CONTACT SWITCH



FOUR CONTACT MODEL ILLUSTRATED; AN EIGHT CONTACT MODEL IS ALSO AVAILABLE. SPECIFY BY PREFIXING "CT4" (FOR THE FOUR CONTACT MODEL) AND "CT8" (FOR THE EIGHT CONTACT MODEL) TO THE HINGES MODEL NUMBER. NO WIRE IS FURNISHED AS THE SCREW POST CONNECTIONS WILL TAKE ANY GAUGE OF WIRE.



NOTE: ON HINGES WHERE THE CUTOUT IS TOO CLOSE TO THE EDGE OF THE FRAME OR DOOR LEAF— FOR EXAMPLE, ON A SHEARED LEAF HINGE— THE ENTIRE EDGE WILL BE CUT AWAY.

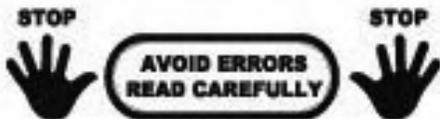
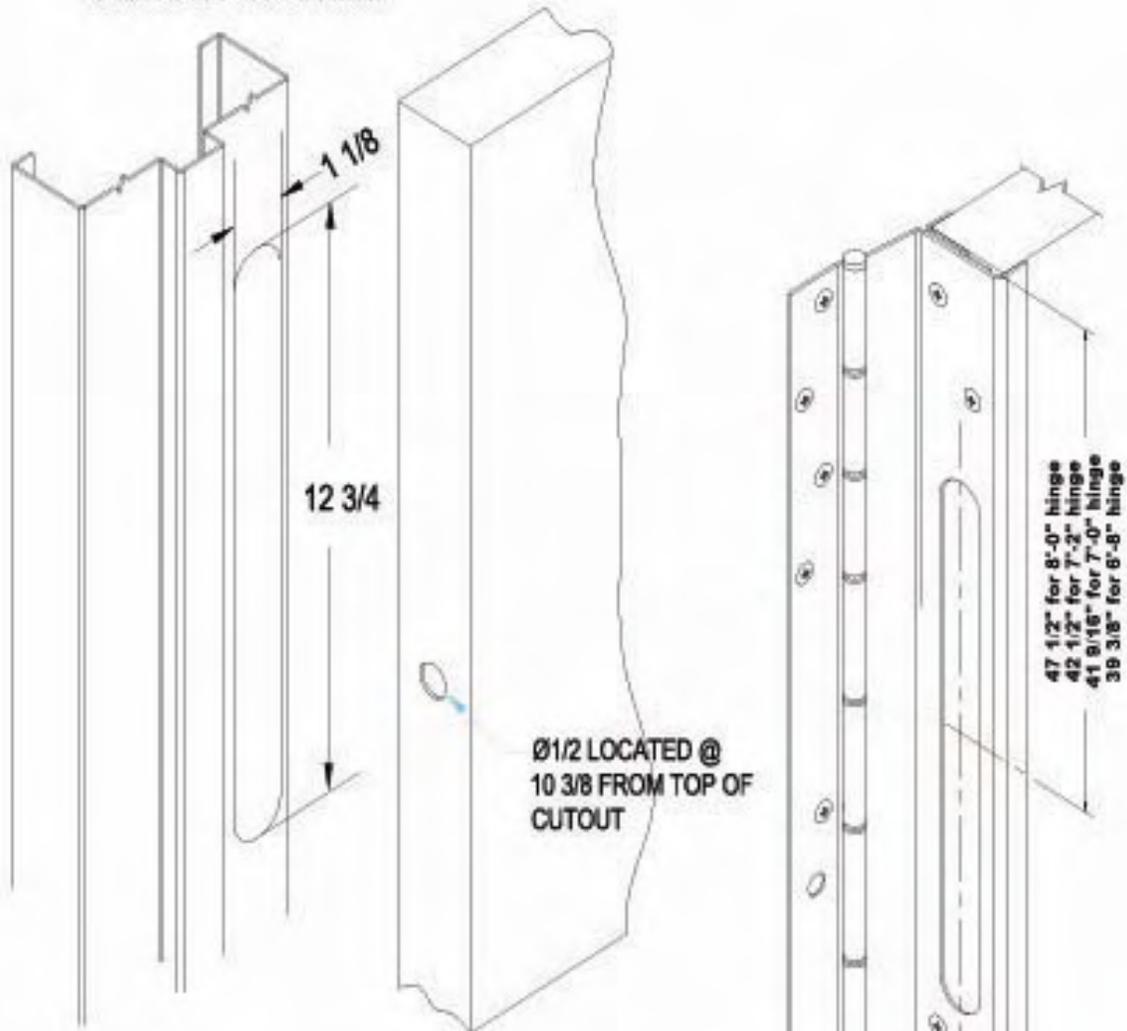




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"CTP" CURRENT TRANSFER PREPARATION ADAMS RITE 4612 CUT OUT

PREPPED IN FRAME



Please indicate desired handing
& location when ordering custom
location other than shown.

Door Swing

- 1 105'
- 2 180'

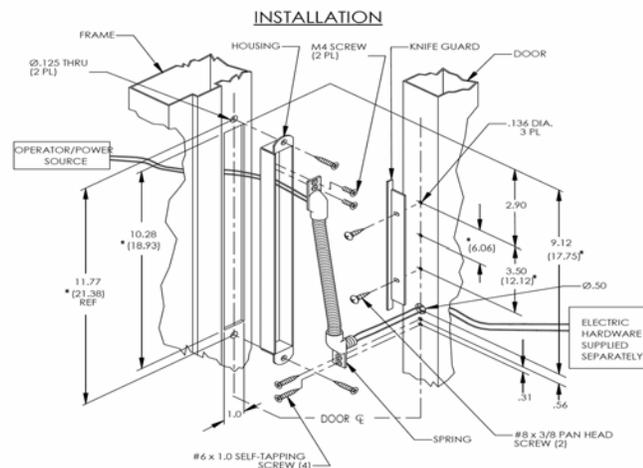
4612

1



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ADAMS RITE 4612 ELECTRIC POWER TRANSFER



Features Include:

Conduit: Spring teal helix has internal diameter of approximately $\frac{5}{16}$ ". This provides ample room for multiple wires of the low voltage type used with most electrical hardware.

Housing: Stamped steel, approximately $\frac{1}{16}$ " thick. Short (105° degree swing) version 12- $\frac{3}{4}$ " long. 180° version is 21- $\frac{3}{8}$ " long. **Finish:** Chrome

Cast-Knife Guard: Particular for out-swinging doors, a steel barrier fence offers extra protection against attack on the conduit by knives, shims or other tools. Completely hidden when door is closed.

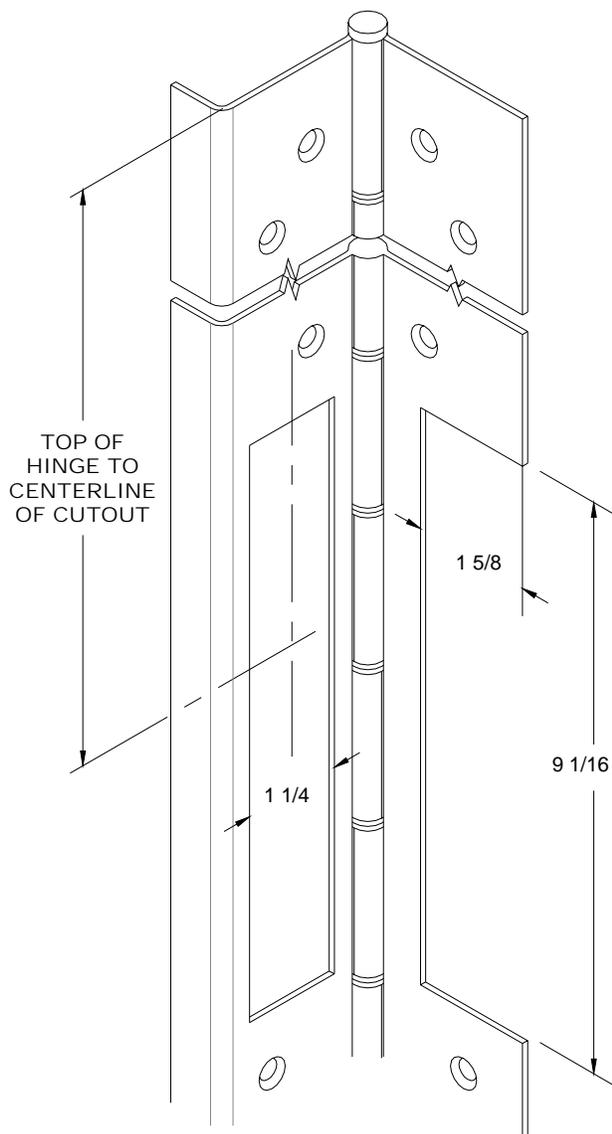
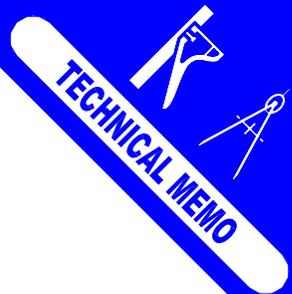
Function: Provides a secure and unobtrusive means of channeling electrical wiring from door frame into door itself for powering electric strikes, locks, exit bars, ect. Suitable for any door hung with butt-type hinges, continuous hinges, or pivots offset $\frac{3}{4}$ " or less. (Not compatible with center-pivot doors)



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"CTP" CURRENT TRANSFER PREPARATION VON DUPRIN CUTOUT

(THIS TEMPLATE REPLACES "CTPN" & "CTPO" PREP. TECH MEMOS)



Cutout in frame or door leaf to accommodate Von Duprin's new-style power transfer unit. Specify by suffixing "-CTP" to the hinges model number.

NOTE: On hinges where the cutout is too close to the edge of the leaf - for example, on a sheared leaf hinge - the entire edge will be cut away.

Top of hinge to centerline of cutout distance:
39 3/8" for 6'-8" hinge
41 9/16" for 7'-0" hinge
42 1/2" for 7'-2" hinge
47 1/2" for 8'-0" hinge



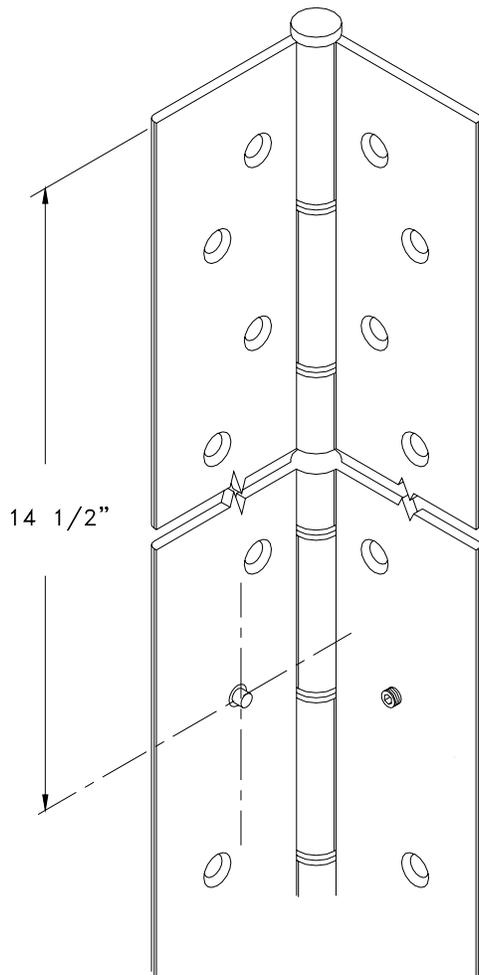
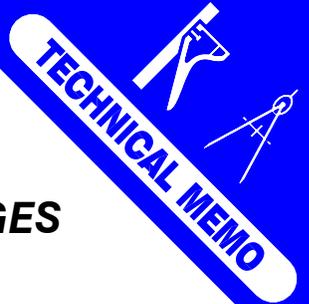
Please indicate desired handing & location when ordering custom location other than shown.



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"ES" EXPOSED MONITORING SWITCH

FOR 100, 200, 300 & 3500 SERIES HINGES



THE CONTACT SWITCH
COMES WITH THREE
28 GAUGE WIRE LEADS
ATTACHED. ADD AN
"ES" SUFFIX TO THE
HINGE'S MODEL
NUMBER TO SPECIFY
THIS OPTION.

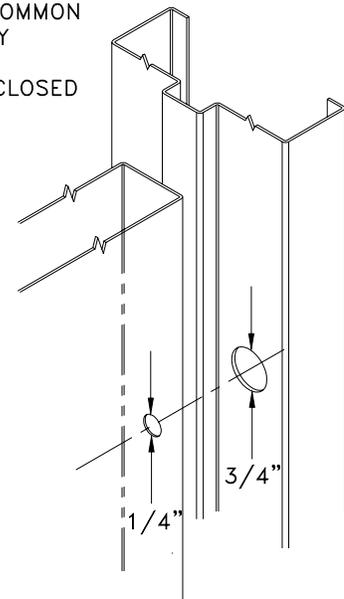
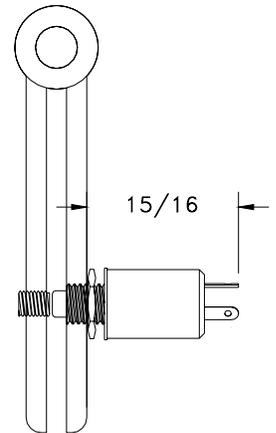
RATING
250 AMPS, 30 WATTS
NON- INDUCTIVE AT
120 VOLTS

OR

1 AMP, 30 WATTS AT
28 VOLTS

WIRING

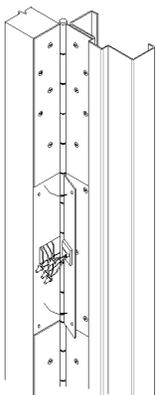
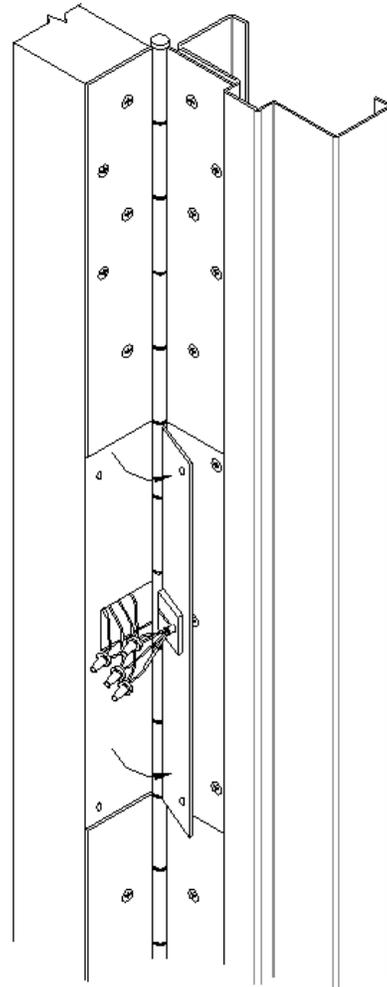
BLACK.....COMMON
WHITE..NORMALLY
OPEN
RED.NORMALLY CLOSED





Electrical Modification Access Prep

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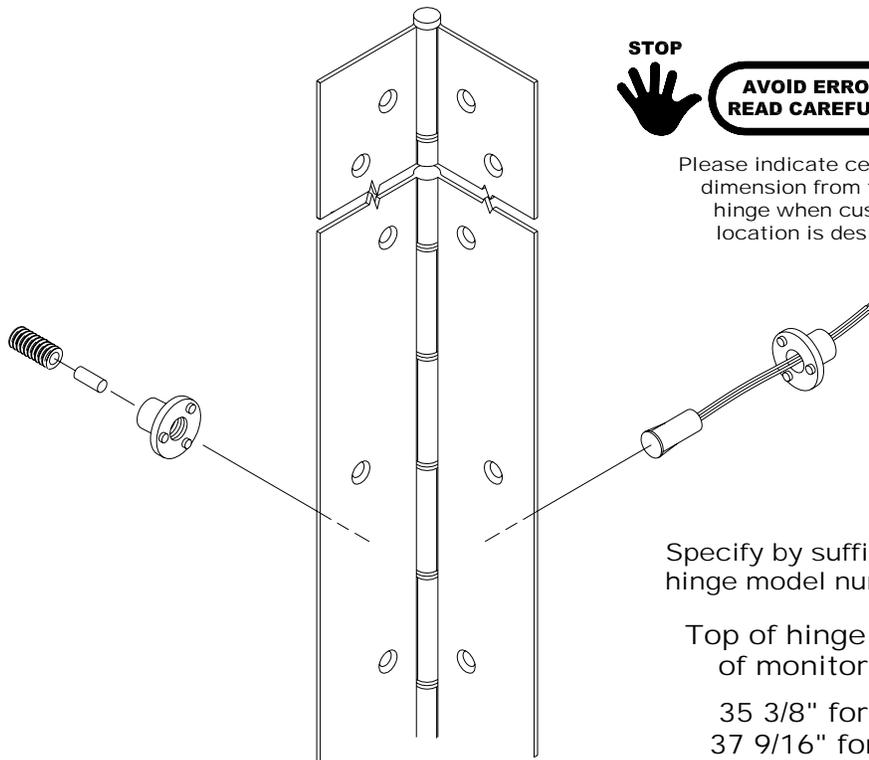
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"AMS" ADJUSTABLE CONCEALED MONITORING SWITCH

TECHNICAL MEMO



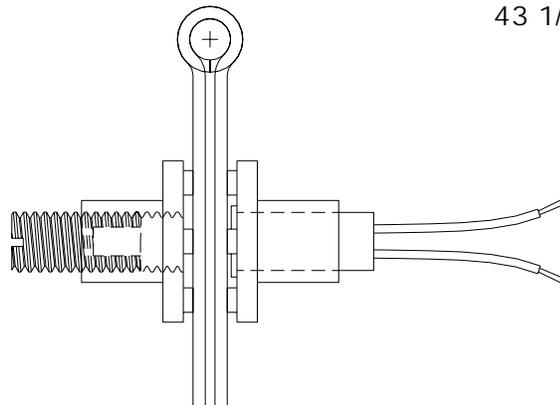
Please indicate centerline
dimension from top of
hinge when custom
location is desired.



Specify by suffixing "AMS" to the
hinge model number.

Top of hinge to centerline
of monitoring switch:

- 35 3/8" for 6'-8" hinge
- 37 9/16" for 7'-0" hinge
- 38 1/2" for 7'-2" hinge
- 43 1/2" for 8'-0" hinge

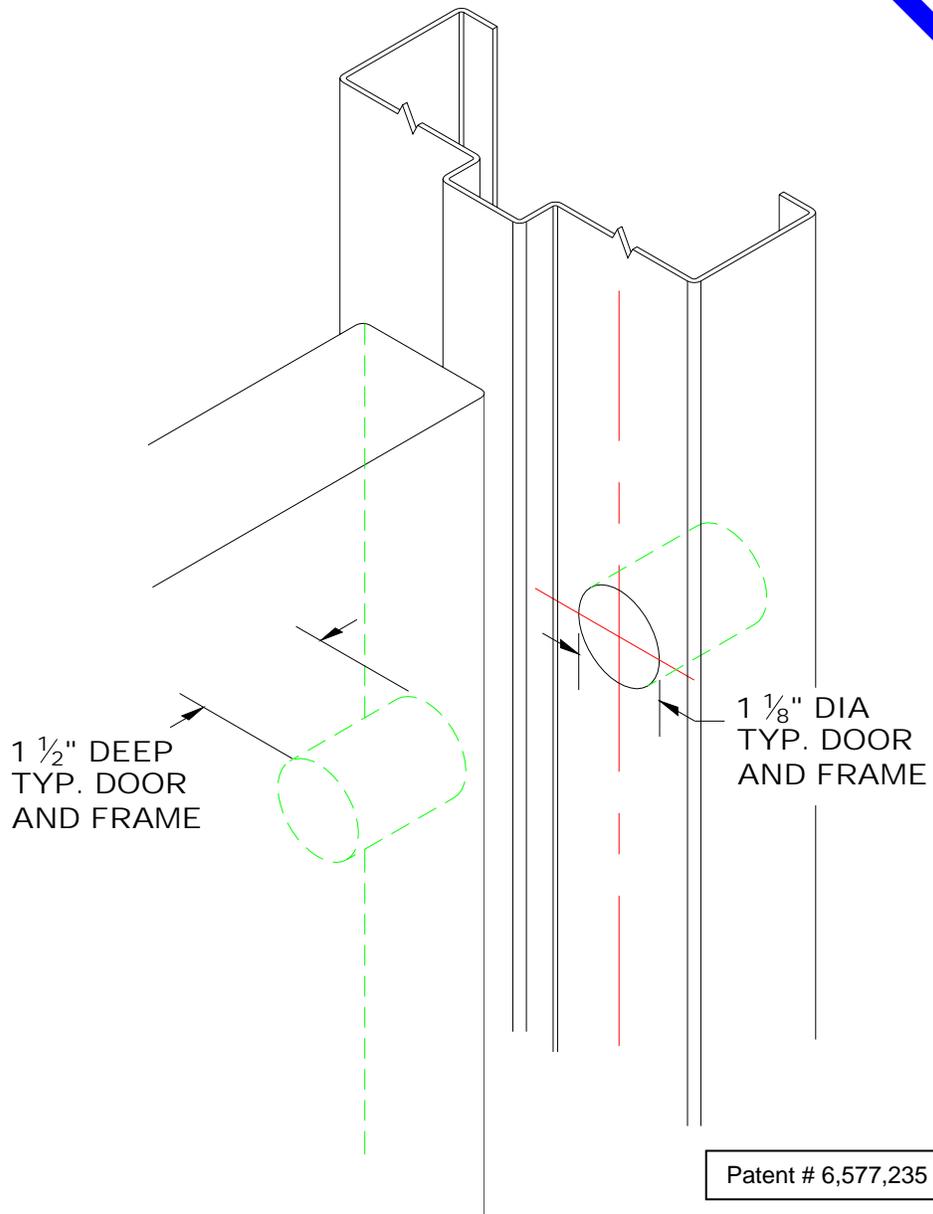


Patent # 6,577,235 B2



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"AMS" ADJUSTABLE CONCEALED MONITORING SWITCH





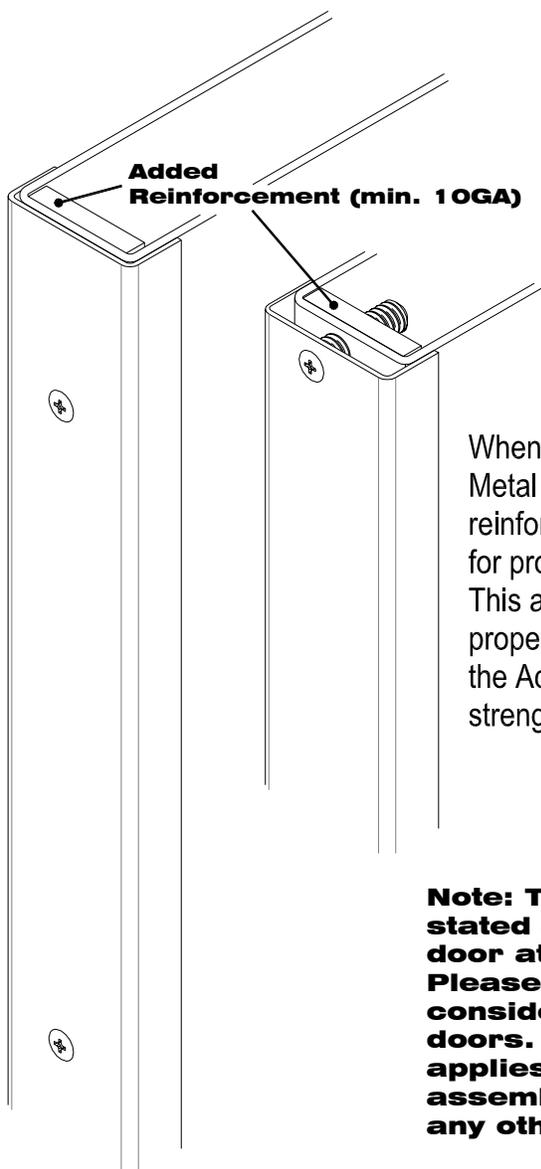
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HOLLOW METAL DOOR PREPARATION

RECOMMENDED BY FACTORY FOR MODELS:

EG-308, EG-T-308, EG-208, EG-T-208, EG-108

TECHNICAL MEMO



When using Markar's EG models in a Hollow Metal Door application, we strongly suggest reinforcement at the lock side of the door for proper use of the Adjusta-Screw Assembly. This added reinforcement will ensure the proper amount of material for threading the Adjusta-Screw, giving the assembly the strength needed to last the life of the door.

Note: The added reinforcement as stated above, must be added to the door at the time of manufacturing. Please be sure to take this into consideration when ordering your doors. This reinforcement only applies to the Adjusta-Screw assembly and is not needed for any other hardware application...

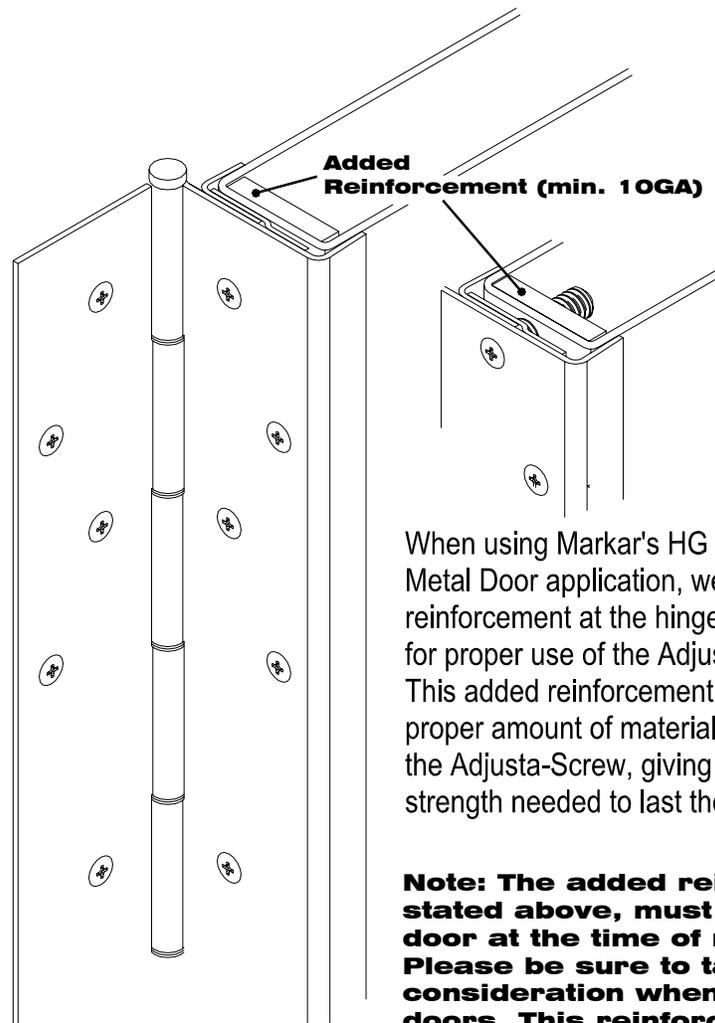


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HOLLOW METAL DOOR PREPARATION

RECOMMENDED BY FACTORY FOR MODELS:
HG-3505, HG-305, HG-310, HG-322, HG-326, HG-105

TECHNICAL MEMO



When using Markar's HG models in a Hollow Metal Door application, we strongly suggest reinforcement at the hinge side of the door for proper use of the Adjusta-Screw Assembly. This added reinforcement will ensure the proper amount of material for threading the Adjusta-Screw, giving the assembly the strength needed to last the life of the door.

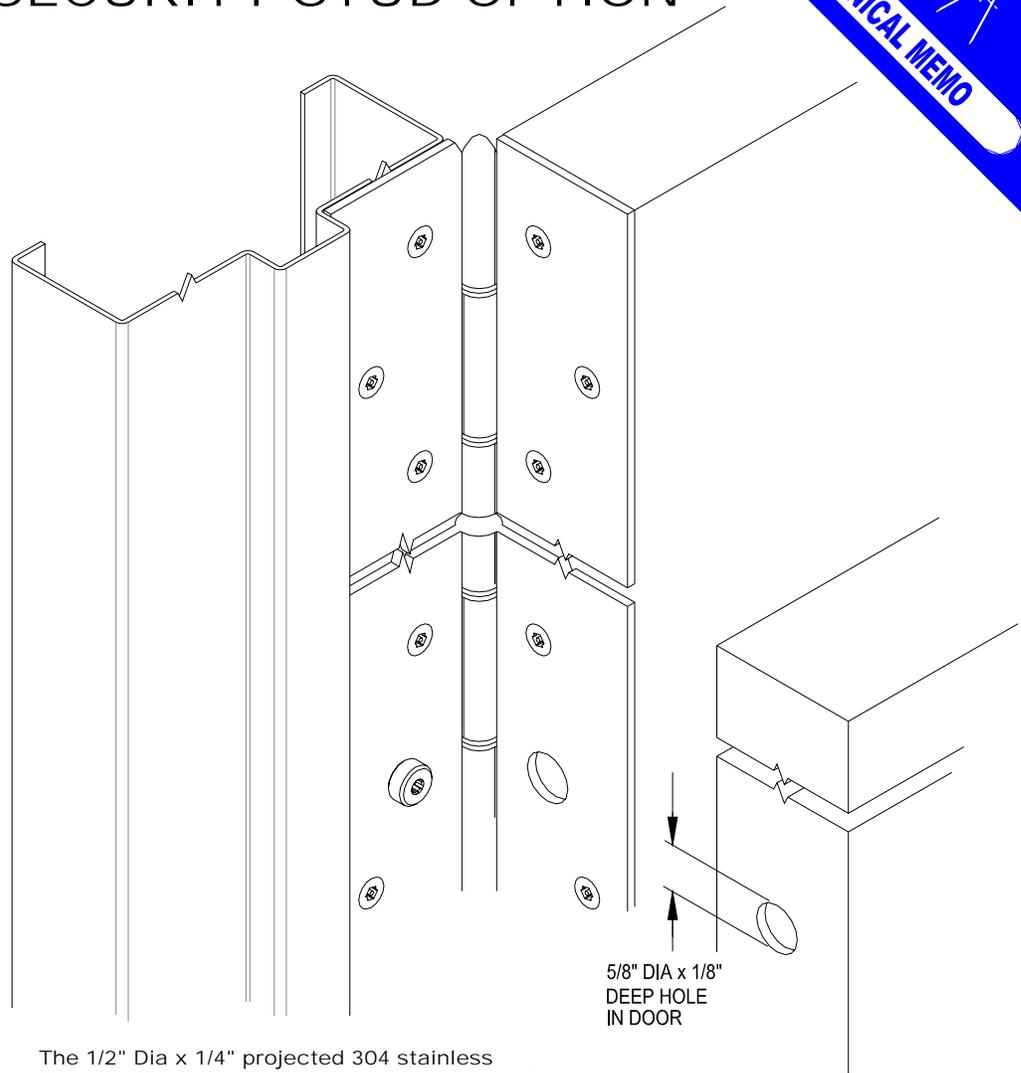
Note: The added reinforcement as stated above, must be added to the door at the time of manufacturing. Please be sure to take this into consideration when ordering your doors. This reinforcement only applies to the Adjusta-Screw assembly and is not needed for any other hardware application...



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FM-3500 SECURITY STUD OPTION

TECHNICAL MEMO



The 1/2" Dia x 1/4" projected 304 stainless Security Stud is permanently mounted to the frame leaf and extends through the door leaf into the door for added security. There are 3 Security Studs required for the 7'0" hinge and QTY 4 required for the 8'0" hinge. See additional page for exact Security Stud locations. A 5/8" x 1/8" hole is required in the door to receive the Security Stud.

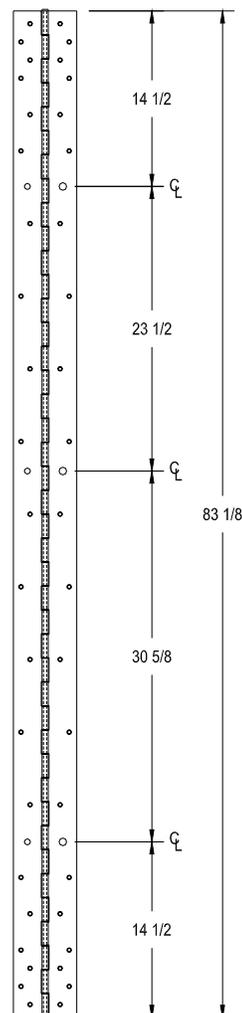
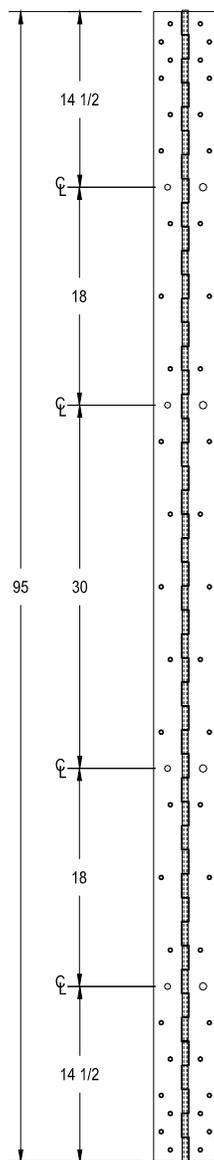


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FM-3500 SECURITY STUD LOCATIONS FOR 8'0" & 7'0"



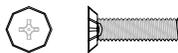
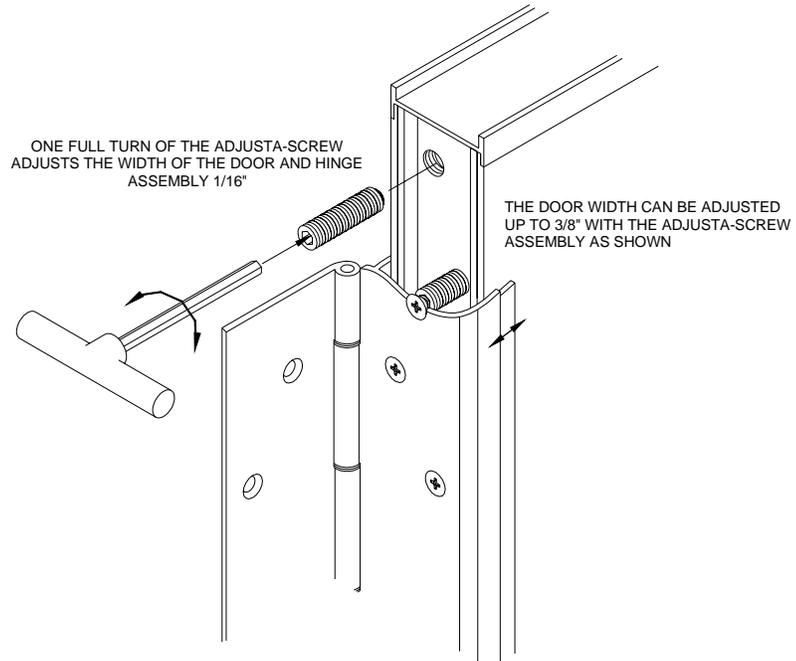
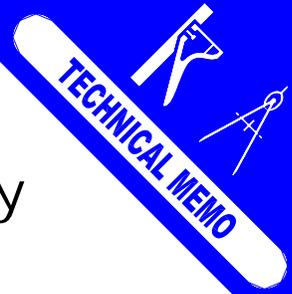
A 5/8" x 1/8" HOLE
IS REQUIRED IN THE DOOR
TO RECEIVE THE SECURITY STUD



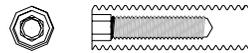


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Markar's Adjusta-Screw Assembly



MP-7 10-32 x 3/4"
Phillips flat head
undercut stainless steel
machine screw



MP-25 1 3/8"
Adjusta-stud fastener
with 10-32 internal thread
and hex head adjustment

NOTE:
You must pre-drill your door using a 5/16" bit for every fastener.
Please see instruction sheets for full details on proper prep-work and installation
procedures.

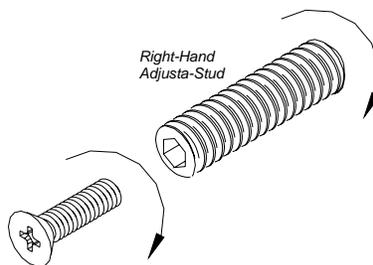


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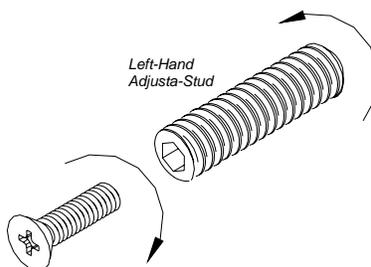
Adjusta-Stud Hollow Metal vs Wood

HG-3505, HG-305, HG-310, HG-322, HG-326, HG-105

The right hand Adjusta-Stud was designed for use in a wood door application. The Adjusta-Stud will cut its own thread into the pre-drilled pilot hole. Pre-tapping of the pilot hole is not required in a wood application.



The left hand Adjusta-Stud was designed for use in a hollow metal door application. Proper reinforcement must first be applied to the door during manufacturing to allow for tapping of the 3/8-16 left handed thread. Using this left handed stud in a hollow metal door application will help prevent the stud from dropping into the door during hinge installation and adjustment.



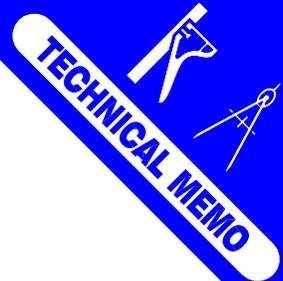
Note: When ordering the hinges indicated above, where the Adjusta-Stud is included at no extra charge, you must indicate which type of application is preferred. The standard default will provide the right hand Adjusta-Stud.



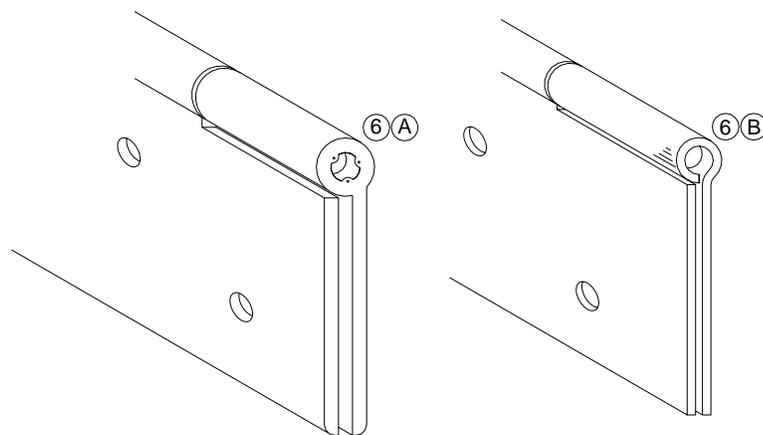


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CUTTING HINGES TO CUSTOM LENGTHS PIN & BARREL HINGES



- ① The following instructions will apply to all Markar pin and barrel hinges. The general instructions apply to all three; 100, 200 and 300 series hinges. Follow option (A) for specific directions related to 100 series aluminum hinges and option (B) for specific directions related to 200 & 300 series steel and stainless steel hinges.
- ② Determine the amount that the hinge needs to be shortened. Note the hand of the hinge before beginning to lay out your cut. All cuts will be done at the bottom of your hinge assembly making sure to leave the gang hole pattern at the top.
- ③ Measure from the top down and scribe a cut line on your leaf at the desired length.
- ④ Cut the hinge to length with a hacksaw, going through the leafs, barrel and pin. If necessary, use a file to remove sharp edges and deburr.
- ⑤ Slide the stainless steel pin out approximately 1" making sure the assembly stays together as one unit. Remove 1/4" from the end of the pin using a hacksaw and then push back into it's original position.
- ⑥ (A) Using a hammer and a center-punch, swage the aluminum material towards the center of the hole locking the hinge pin into place making sure it will not slide out.
- ⑥ (B) Using a pair of vice-grips, crimp the end of the steel barrel making sure the hinge pin will not slide out.



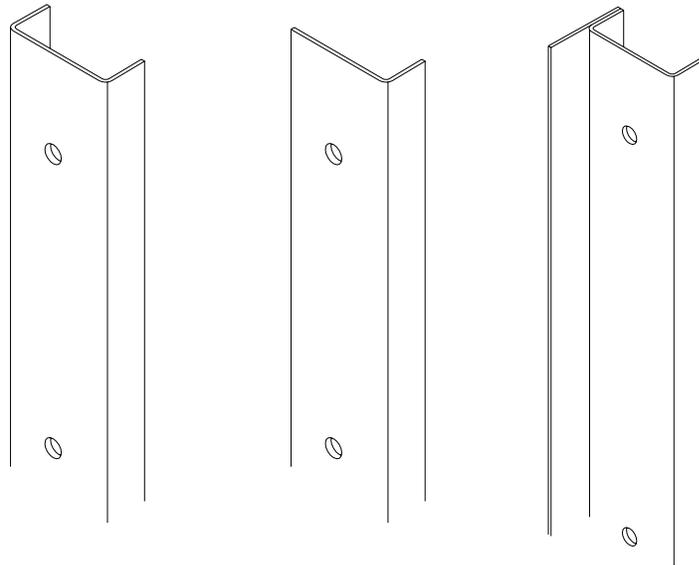


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FIRE RATED EDGE GUARDS & ASTRAGALS



Markar's EG-308, EG-C-308 and EG-T-308 edge guards are fire-rated up to 1 1/2 hours for use on wood, plastic coated, wood composite and hollow metal fire rated doors. The edge guards are rated with Underwriters Laboratories. Please see the registration card below for reference.



**MAY NOT APPLY TO ALL WOOD DOORS IN
ACCORDANCE WITH UBC CODE STANDARD 7-2.
PLEASE CONSULT FACTORY FOR SPECIFIC
WOOD DOOR APPLICATIONS.**

	LISTED Miscellaneous Firedoor Accessory 8N60
	Markar Products, Inc. Lancaster, NY

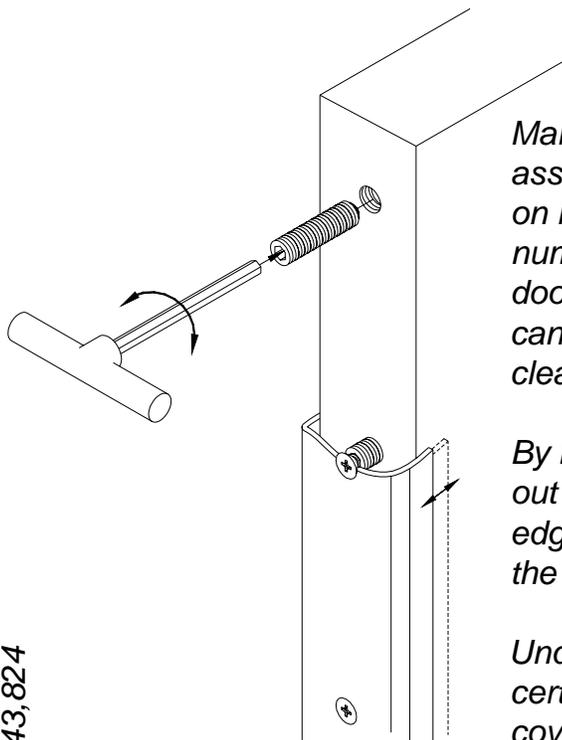
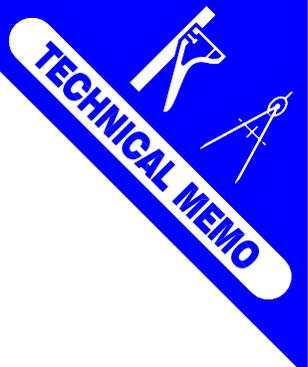
	ALSO CLASSIFIED IN ACCORDANCE WITH UBC CODE STANDARD 7-2, FIRE TEST OF DOOR ASSEMBLIES FOR POSITIVE PRESSURE
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FIRE RATED EDGE GUARDS & ASTRAGALS

WITH ADJUSTA SCREW FASTENERS



Markar's Patented AdjustaScrew assemblies are now approved for use on labeled doors. This can solve numerous field problems for wood door suppliers since the edge guards can be adjusted to give a perfect clearance (Fit) every time.

By backing the AdjustaScrew in or out with an Allen wrench, the door edge can be adjusted up to 3/8" within the edge guard channel.

Underwriters Laboratories Inc. certification file number R15384 (N) covers Markar's edge guard models EG-308 and EG-T-308

MAY NOT APPLY TO ALL WOOD DOORS IN ACCORDANCE WITH UBC CODE STANDARD 7-2. PLEASE CONSULT FACTORY FOR SPECIFIC WOOD DOOR APPLICATIONS.

US PATENT NUMBER 5,943,824

	LISTED
	Miscellaneous Firedoor Accessory 8N60 Markar Products, Inc. Lancaster, NY

	ALSO CLASSIFIED IN ACCORDANCE WITH UBC CODE STANDARD 7-2,
	FIRE TEST OF DOOR ASSEMBLIES FOR POSITIVE PRESURE



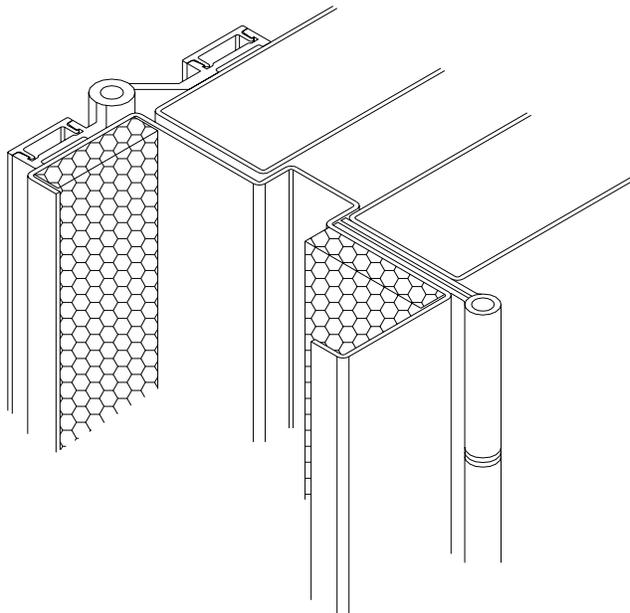
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PREVENTING MORTAR FROM BREAKING DRILLS AND TAPS



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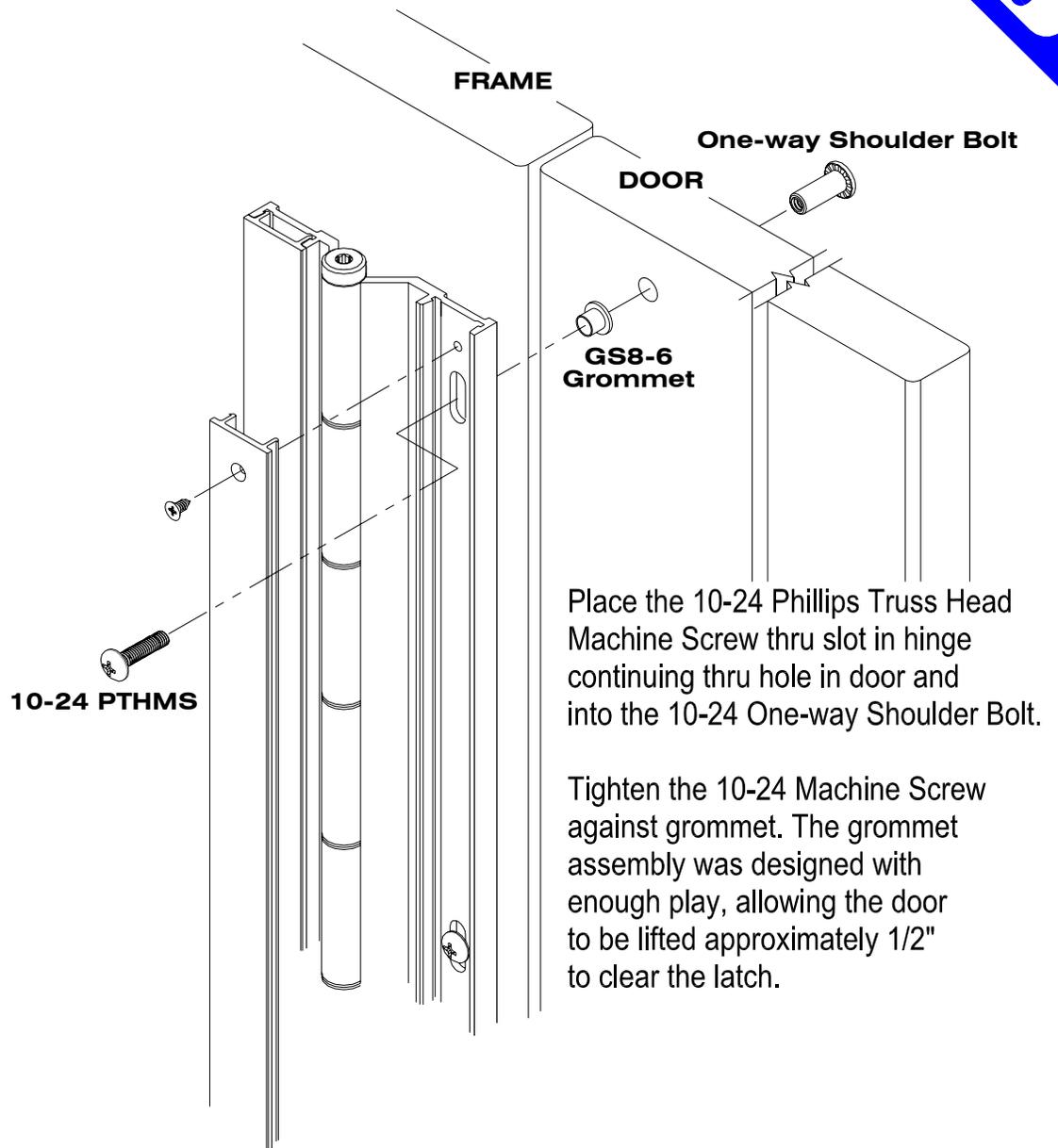




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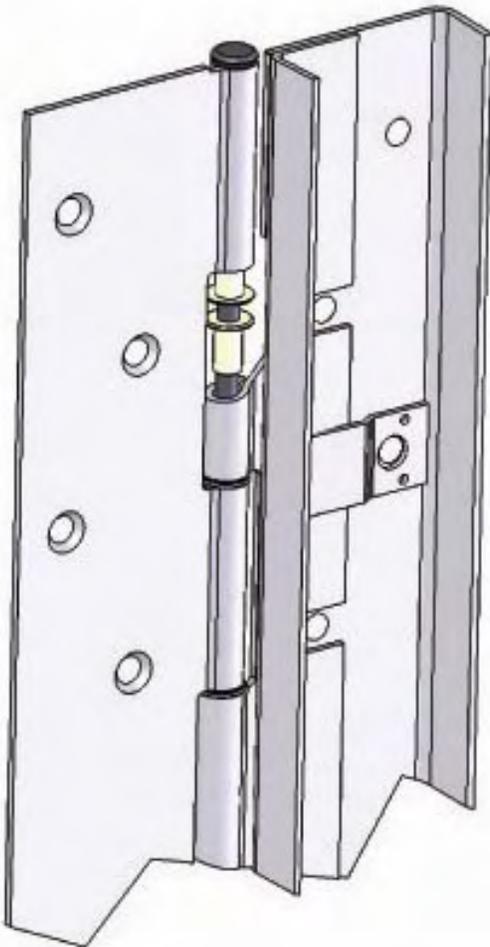


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