ACCESS DOOR, INC.

SMART TOUCH

SMART GRIP

INSTALLATION INSTRUCTIONS

For technical support call: 319-526-7705

OVERVIEW

The “Smart Touch” and Smart Grip Exit Devices allow immediate release of magnetically locked non-fire rated all-glass doors. When the bar is touched, a relay in the sensor is tripped, releasing the lock. The bar’s sensitivity is adjustable. The standard “Smart Touch” bar is constructed from 1 ¼” diameter Stainless, Brass or Bronze 16 gauge tubing. The Smart Grip can be any standard or custom metal handle The “Smart Touch” exit device’s sensor electronics are fully concealed within the tubular handle. The Smart Grips sensor electronics are concealed in the door style or door jamb.

SPECIFICATION

The exit device shall be one of ACCESS DOOR’s standard GSTB series (for all-glass doors) and SGB or FSTB series (for framed doors) touch sensitive exit devices combined with a ACCESS DOOR exterior push or pull handle. Custom designs are available; drawings must be submitted and approved by ACCESS DOOR prior to submittal to the architect. A door cord in stainless or black powder coat finish may be supplied with the exit bar. Entrance systems, magnetic locks and other electric door control products are optional. ACCESS DOOR can supply a complete electric door control system.

FINISH: The “Smart Touch” and Smart Grip exit bars are available in most architectural finishes. Stainless Steel, Brass and Bronze finishes are clear powder coated, standard and custom colors are also available in powder coat finishes.

TECHNICAL DATA:

Power: 12-24 Volt AC or DC Current Draw: 5mA at rest, 25mA active Contact: 2 amps at 24 Volts Wire: 6 Conductor, 22 gauge, 6 feet provided Use: Indoor only

QUESTIONS MOST ASKED

THE "SMART TOUCH"& "SMART GRIP" EXIT DEVICE

Does the touch sensor meet the panic code?

The panic codes were written to define specifications of latch release mechanisms on doors that are to be locked while the interior space is occupied. The codes provide standard information and requirements of width and height of crash bars, opening force requirements, fire door requirements and other requirements for compliance.

The introduction of electrical locking hardware has necessitated the addition to the codes of special conditions where the doors are magnetically locked. It is this part of the model building codes that will apply to the "Smart Touch" and Smart Grip exit bar.

The "Smart Touch" and Smart Grip exit bars are the exit switch that is required on the interior of the door that allows free egress from the locked interior space to the outside. Because the lock is released at the touch of the hand or body on the door handle as the door is exited normally "no prior knowledge" is required to exit the magnetically locked doors. The "Smart Touch" and Smart Grip bars are custom made to fit your requirements of the panic codes and because the devices requires no pressure to release the lock it always meets the pressure to release the lock requirement.

How does the "Smart Touch" and Smart Grip exit bar work?

The sensor functions by setting up an oscillating electric field that conforms along any metal surface that contacts the sensor's antenna wire. In the "Smart Touch" exit bar it is the tubular handle itself that carries the field. In the Smart Grip it is the metal alloy push bar or pull handle which is connected to the sensors antenna wire. The electric field is disturbed by the near proximity of ionized fluids within the body, which form a conductive mass. For example, if a person wearing gloves touches the bar with his/her fingertip, the door will generally not release. When the gloved hand is wrapped around the bar in normal use, the door will release because the conductive mass of the hand is in much closer contact with the bar.

What if the power in the building goes down?

The magnetic locks used with the "Smart Touch and Smart Grip" exit bar system are "fail safe". Should the power go out the locks will release and access both the interior and exterior spaces will be available. Remember that the all-glass door is **never** a fire-rated entrance so mechanical latching of the door should not be required. If security must be maintained for a short time during power outages, battery back-ups are available for power supplies with a wide range of extended power options.

Can the "Smart Touch" and or "Smart Grip" exit bar be used in conjunction with an automatic door operator?

Yes, the electrical hook-up requires the use of an additional timer switch and relay logic pack to tell the system to release the lock and engage the door operator sequence. After the lock releases, the door operator opens the door and allows it to close, afterwards the timer switch re-locks the door.

Does the "Smart Touch" exit bar work on "European" patch fitting all-glass doors?

We could accommodate the patch fitting door even though we do not have a typical wire transfer condition. Should you run into this situation we cannot provide a system of patch fittings that will allow us to run the wiring from the lead edge of the door over to the pivot and into the header. We do hope to develop this application in the future.

Does the "Smart Touch" and "Smart Grip" exit bar work on framed aluminum doors?

Yes, the FSTB-34 and SGB have been developed to fill a need for a more architecturally correct exit device for framed aluminum doors. This device is also easily installed on solid core wood doors and framed architectural metal doors.

Where would you use the "Smart Touch" exit bar?

The "Smart Touch" exit device is just that, an electrical switching device that turns on or off another electrical system component, in this case, a magnetic lock. When used as a door control component the touch sensitive technology becomes a powerful and attractive part of an access control system.

Does the "Smart Touch" and Smart Grip exit bar meet ADA?

When ADA guidelines are applied to all-glass doors and framed doors, width and height requirements for door hardware easily custom manufactured into the design of the "Smart Touch and Smart Grip" bar. In function, the releasing device requires no prior knowledge, no pressure to release the lock and no pinching or twisting of the wrist to operate. Should the door be approached by someone with a prosthetic device, the touch sensor can read their presence through clothing so any part of the body will release the lock.

All ADA concerns should be carefully considered when applying door hardware and we welcome the opportunity to help provide solutions to these situations.

Can the "Smart Touch" exit bar be retrofit on existing all-glass doors?

Yes, as long as the door can be equipped with a magnetic lock and has a full top rail, the "Smart Touch" exit bar provides an attractive access control upgrade for existing all-glass installations. If your existing doors have a bottom rail only, please consult the factory for your options.

The FSTB-34 and Smart Grip device can also be retrofit to existing framed doors. ACCESS DOOR can modify mounting dimensions to fit existing push bar mounting hardware.

Is the "Smart Touch" exit bar limited by design?

The "Smart Touch" and "Smart Grip" bar's electronic sensor leads itself to architectural design. The "Smart Touch" has the ability to accommodate different may different shapes and is limited only by the requirement that the tubular bar extend to a point on the door that the wire can be transferred to the door frame. Most hollow tubular shapes can be adapted to the touch sensitive device. ACCESS DOOR welcomes the challenge of designing and supplying a custom design. The Smart Grip has limitless design possibilities and is only restricted to being manufactured from a metal alloy.

What are the electrical requirements for use?

Power: 12-24 volt AC or DC Current Drawn: 5mA at rest – 25mA active Contacts: 2 amps at 24 volts Wire: 6 conductor, 22 gauge, 6 feet provided Use: Indoor only

What finishes are available?

The "Smart Touch" and Smart Grip bars are available in Stainless, Brass and Bronze satin and mirror polish clear powder coated finishes and a wide variety of color powder coat finishes.

SMART TOUCH INSTALLATION

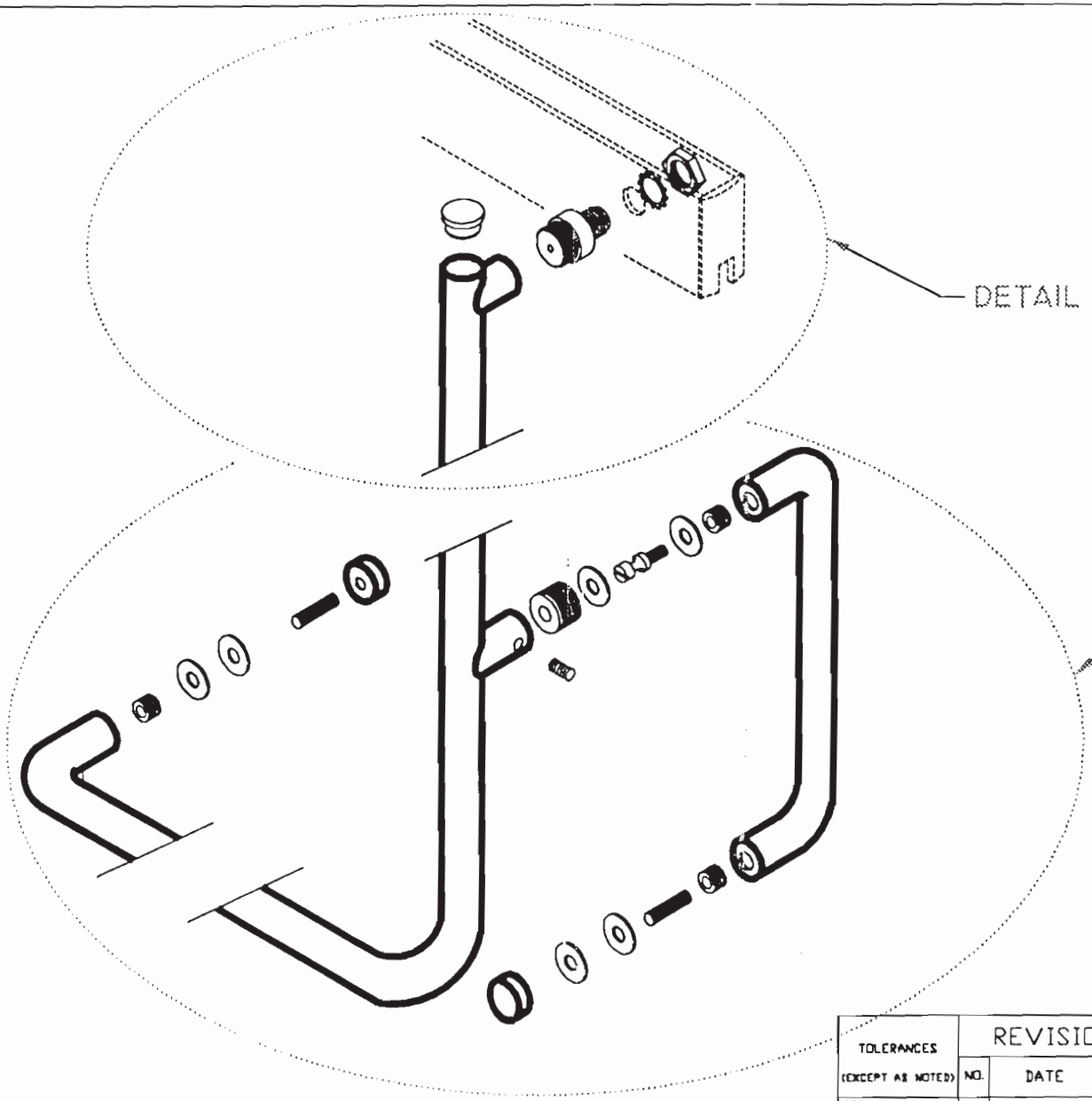
The **"SMART TOUCH"** bar comes from the factory with a specially designed stand off for mounting to the top or bottom of the door. When the bar has been placed on the door, check the mounting holes drilled in the glass, scribe the location of the black plastic portion of the rail standoff. You will need to mark and drill a wire-way hole in the full top or bottom rail depending on the design of the **"SMART TOUCH"** bar you are installing. This should be a 7/8" diameter hole and should typically be located at a distance of 1 3/16" from the top of the door rail to the centerline of the hole.

You are now ready to install the **"SMART TOUCH"** bar. First align the black plastic standoff with the 7/8" hole drilled in the door rail and pass the threaded portion through the rail and secure with the locking nut provided. Care should be taken when threading the locking nut onto the plastic standoff to prevent stripping the plastic threads. Your glass hole locations should match up at this time and the remaining installation of the exit bar to the door is similar to the installation of a standard tubular push-pull, with through-bolt attachments through holes in the glass.

2.1 Wire Pulling

The wiring should be pulled through the top rail and attached to the bottom web of the rail with adhesive backed wire fasteners or a durable tape. The wire should exit the top rail via the supplied door cord, which attaches to the web of the top or bottom rail and passes into the header. The header should be milled or drilled to accept the door cord and provide room for slack in the cord to accommodate the opening of the door in a center-pivoted condition (see illustration 1a.). If you are drilling this hole, use a 23/64" drill bit for ideal sizing and a 3/8" drill bit if this is unavailable. The door cord should then be secured via the two plastic covers supplied with door cord. Self-tapping screws are supplied with the door cord covers for attachment.

The touch sensitive circuitry is mounted in the top of a bar, which mounts to the top rail of the door and at the bottom of a bar, which passes to the bottom rail of a door. The touch sensor is pre-installed at the factory. A foam-insulating sheath is provided to hold the circuit in the end of the tube. Should you need to reattach the wiring to the sensor, pull the sensor to the top of the bar and snap the pre-wired cable connector together. Slide the sensor back into the tubular bar. The wiring should then be pulled through the wire-way hole and into the rail of the door.



* REVISED *
2/25/00

TOLERANCES (EXCEPT AS NOTED)	NO.	REVISIONS DATE	BY
DECIMAL XXX ± .002	1.	2/25/00	RTP
DECIMAL XX ± .005	2.		
DECIMAL X ± .010	3.		
FRACTIONAL ± 1/64	4.		
ANGULAR ± 1°	5.		

ACCESS DOOR, INC.

SMART TOUCH EXIT DEVICE
- GSTBLU EXPLODED VIEW

DRAWN BY	SCALE	MATERIAL
RTP	N.T.S.	
CHK'D	DATE 9/4/97	DRAWING NO.

COMPUTER GENERATED DRAWING
DO NOT REVISE MANUALLY

INSTALLATION INSTRUCTIONS FOR GSTB-2

1. DESCRIPTION

ACCESS DOOR's Smart Touch, touch sensitive exit device is an exit device for all-glass doors secured by electromagnetic locks. The assembly consists of a 1 ¼" tubular push-pull bar for an all-glass door designed to accommodate an electronic touch sensor. The bar is made to the specification of your door's hole configuration and is fastened to the all-glass door with thru-bolts through holes in the glass. When the bar is touched, a relay in the sensor is tripped which releases the lock. The bar's sensitivity is adjustable. It can be set so as to read a touch through heavy gloves or clothing, or set to require skin contact.

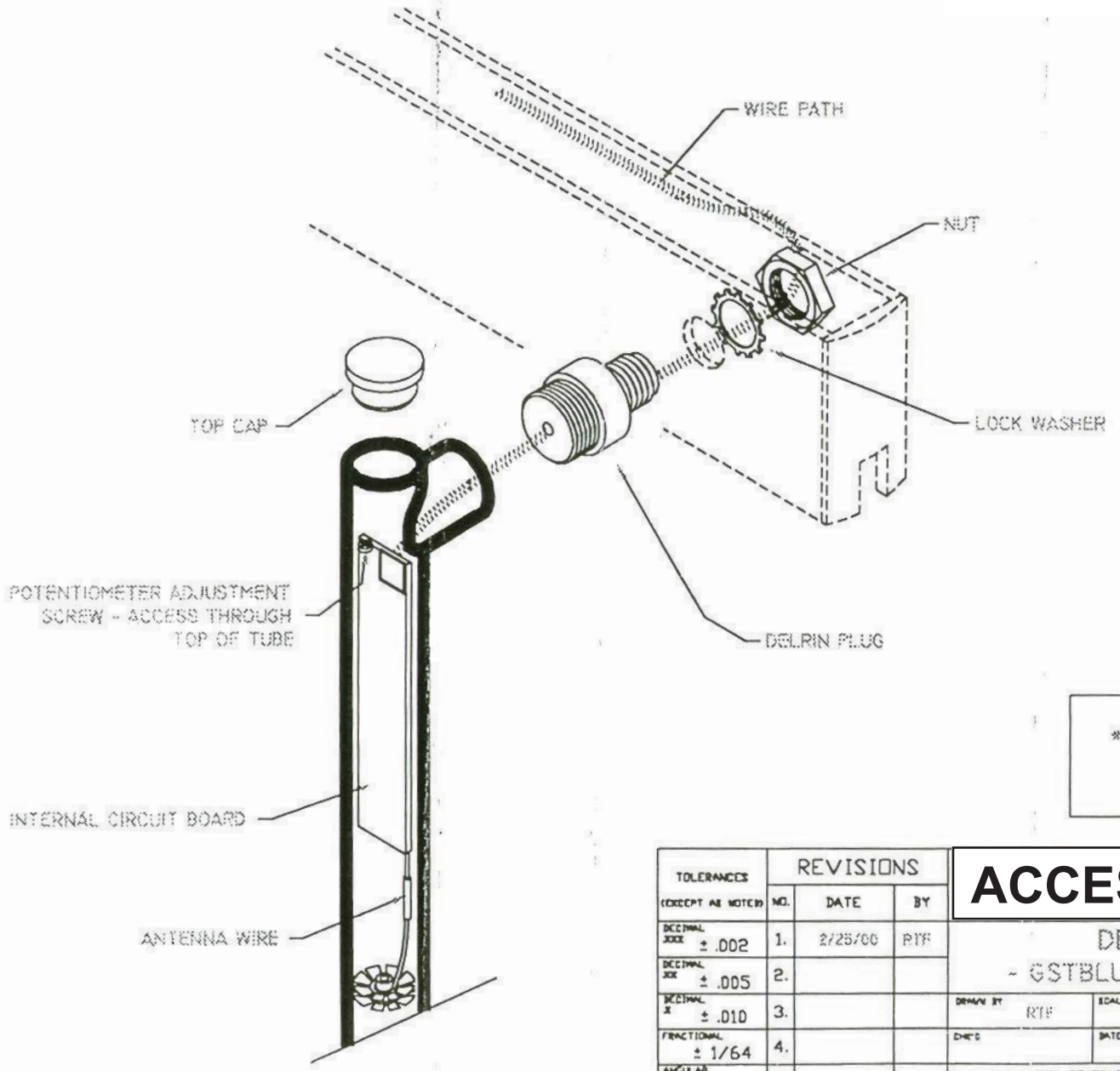
As the "**SMART TOUCH"** exit device is normally used to allow egress on an electrically secured door, make sure that you are complying with applicable building codes for your area. Check with your local building department and/or fire prevention department. The touch sense bar cannot be used outside in rain conditions.

The "Smart Touch" bar is a component for use in Special Locking arrangements for access control egress doors where permitted by Chapters 8 through 30 of NFPA 101. The ultimate installation must utilize all elements of an access-controlled egress door installation as defined in Chapter 5 of NFPA 101.

2. PHYSICAL INSTALLATION

Be sure that you have the correct bar for your door's hole layout. Note the location of the sensor portion of the bar and the standoff of the bar, which will mount to the frame of the door. The six-conductor cable for the touch sensitive circuit has been installed at the factory. Should the cable be disconnected during installation it is pre-fitted with a push-on connector. The wiring passes through a specially designed non-conductive standoff for attachment to the door rail and provides a wire pathway into the rail. All other attachment hardware is located in the marked package.

The door should be laid flat on bucks for assembly of the touch sense bars (care should be used to prevent scratching the glass during this operation). Place the clear plastic 1 ¼" washers on the holes and put the touch sense bar in place. The mounting posts and holes in the door should match up (if not, check to make sure you have the correct bar for your door and check your center to center hole locations on the door).



* REVISED *
2/25/00

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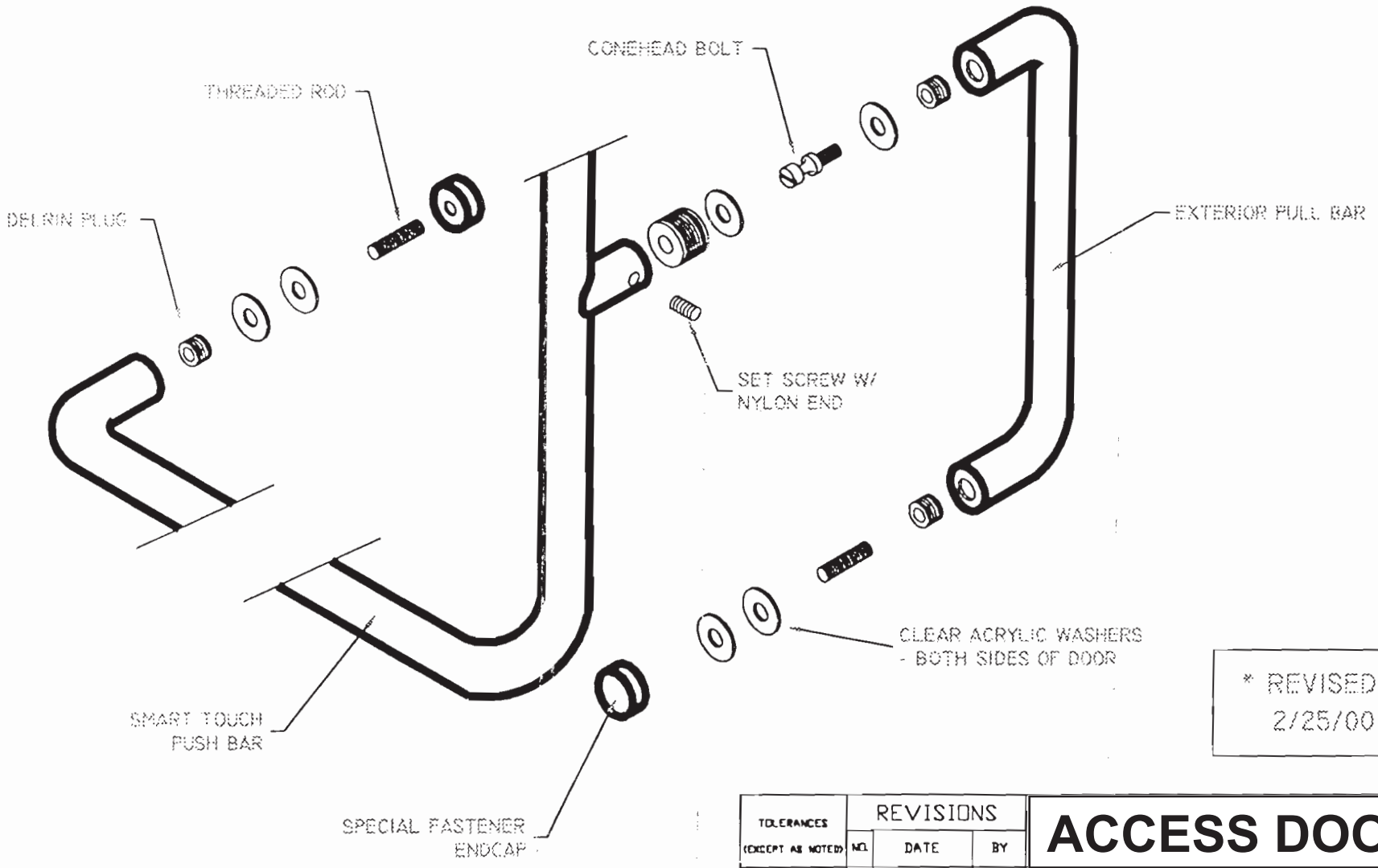
DECIMAL XX ± .005	2.		
DECIMAL X ± .010	3.		
FRACTIONAL ± 1/64	4.		
ANGULAR ± 1°	5.		

ACCESS DOOR

DETAIL "E"
- GSTBLU EXPLODED VIEW

DRAWN BY	SCALE	MATERIAL
RTF	N.T.S.	
CHK'D	DATE 9/6/97	DRAWING NO.

COMPUTER GENERATED DRAWING
DO NOT REVISE MANUALLY



* REVISED *
2/25/00

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DECIMAL X ± .010	3.		
FRACTIONAL ± 1/64	4.		
ANGULAR ± 1°	5.		

ACCESS DOOR

DETAIL "F"
- GSTBLU EXPLODED VIEW

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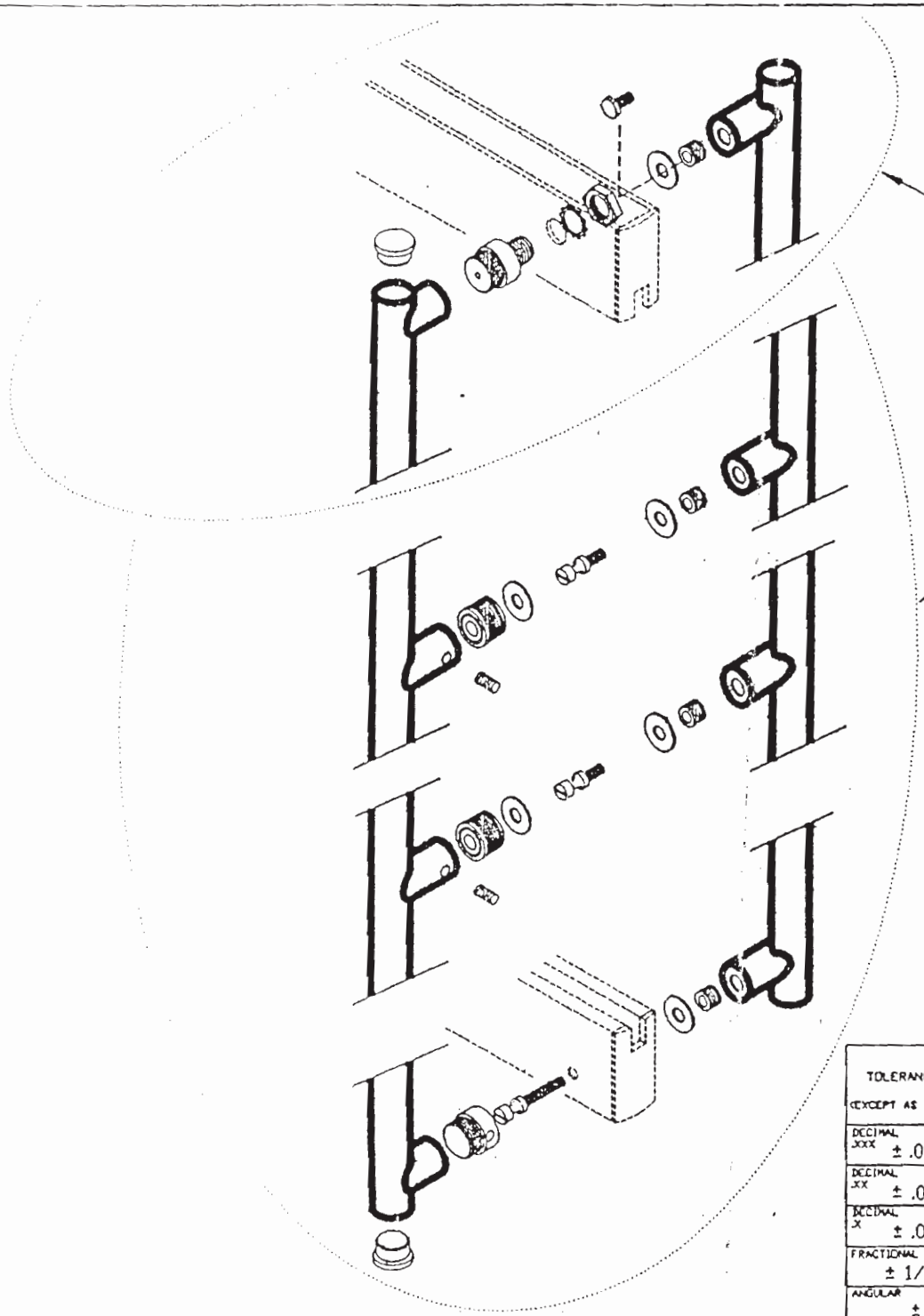
DO NOT REVISE MANUALLY



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2/25/00

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DECIMAL .XX ± .005	2.		
DECIMAL .X ± .010	3.		
FRACTIONAL ± 1/64	4.		
ANGULAR ± 1°	5.		

ACCESS DOOR

SMART TOUCH EXIT DEVICE
- GSTBFH X GFH2540

DRAWN BY	SCALE	MATERIAL
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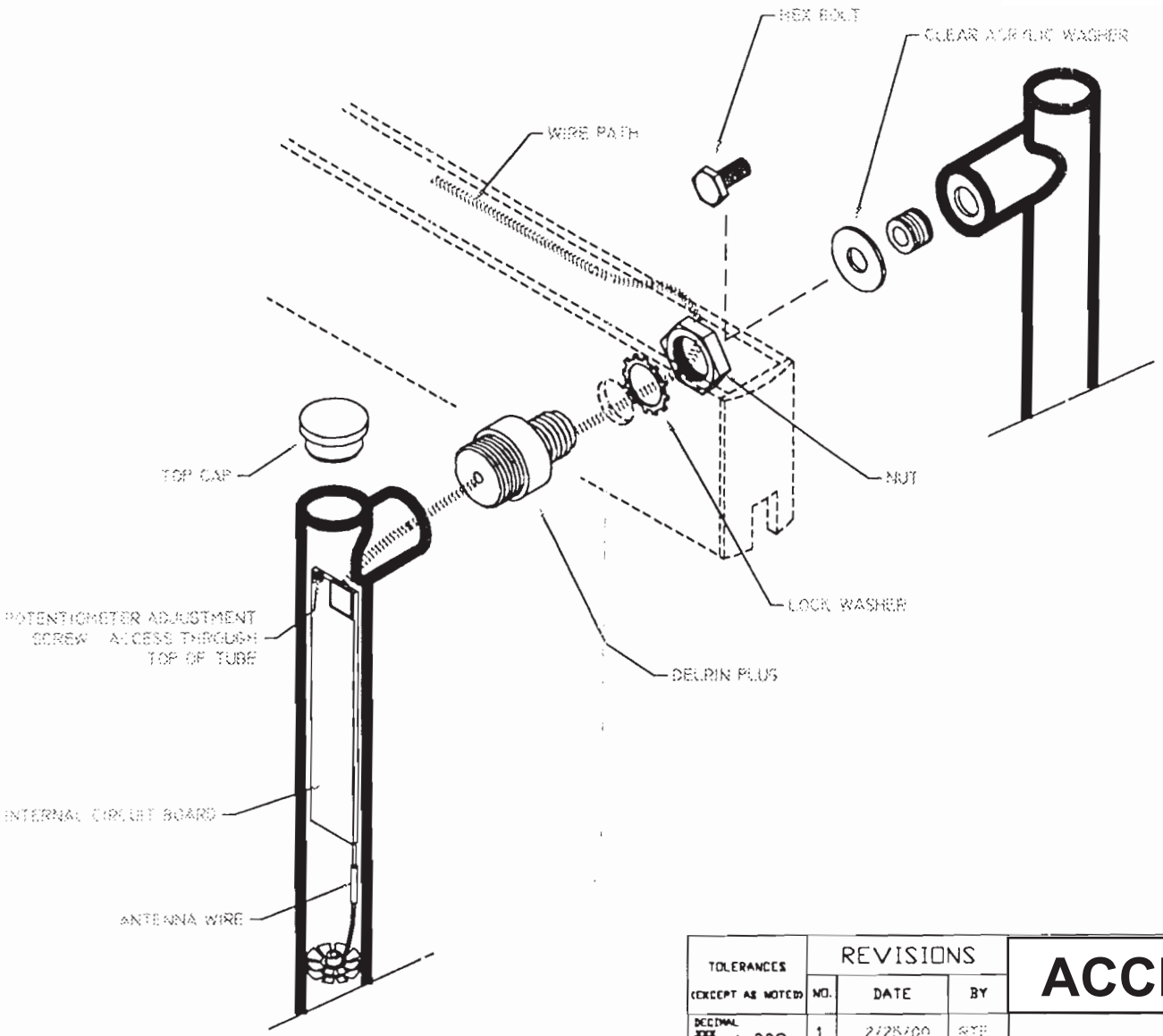
CHK'D	DATE	DRAWING NO.
	2/18/98	

COMPUTER GENERATED DRAWING
DO NOT REVISE MANUALLY



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2/25/00

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DECIMAL .XX ± .005	2.		
DECIMAL .X ± .010	3.		
FRACTIONAL ± 1/64	4.		
ANGULAR ± 1°	5.		

ACCESS DOOR

DETAIL "G"
- GST6FH EXPLODED VIEW

DRAWN BY	SCALE	MATERIAL
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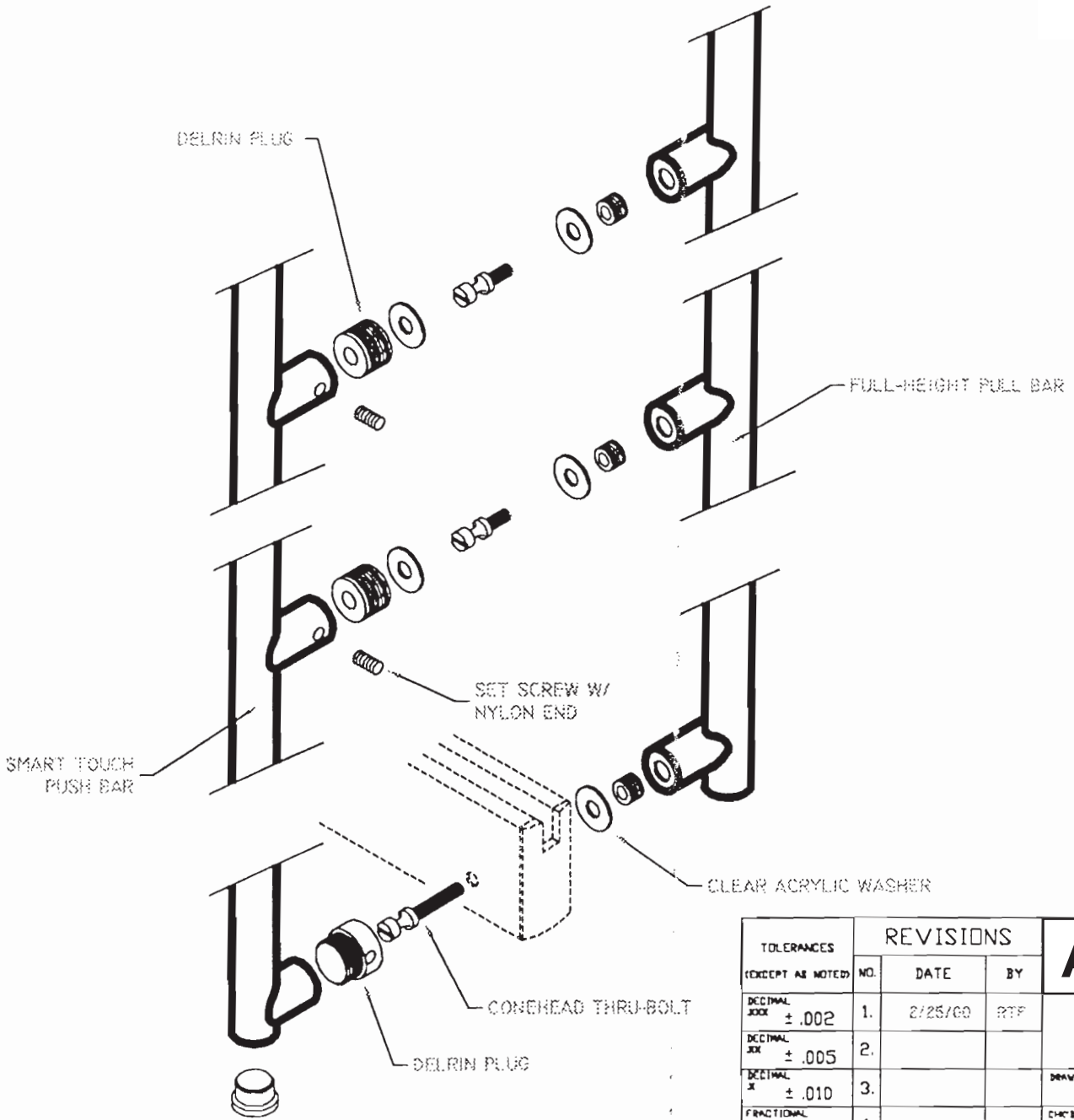
CHK'D	DATE	DRAWING NO.
	2/18/98	

COMPUTER GENERATED DRAWING
DO NOT REVISE MANUALLY



* REVISED *
2/25/00

TOLERANCES (EXCEPT AS NOTED)	NO.	REVISIONS DATE	BY
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DECIMAL XX ± .005	2.		
DECIMAL X ± .010	3.		
FRACTIONAL ± 1/64	4.		
ANGULAR ± 1°	5.		

ACCESS DOOR

DETAIL "H"
- GSTBFH EXPLODED VIEW

DRAWN BY	SCALE	MATERIAL
RTF	N.T.S.	
CHK'D	DATE 2/18/98	DRAWING NO.

COMPUTER GENERATED DRAWING
DO NOT REVISE MANUALLY

INSTALLATION INSTRUCTIONS FOR FSTB-34

1. DESCRIPTION

ACCESS DOOR's FSTB-34 touch sensitive exit device is an exit device for framed aluminum, wood and other architectural metal doors secured by electromagnetic locks. The assembly consists of a 1 ¼" tubular push-pull bar designed to accommodate an electronic touch sensor. The bar is made in standard sizes for installation on narrow, medium and wide stile doors. When the bar is touch, a relay in the sensor is tripped, which releases the lock. The bar's sensitivity is adjustable. It can be set so as to read a touch through heavy gloves or clothing, or set to require skin contact.

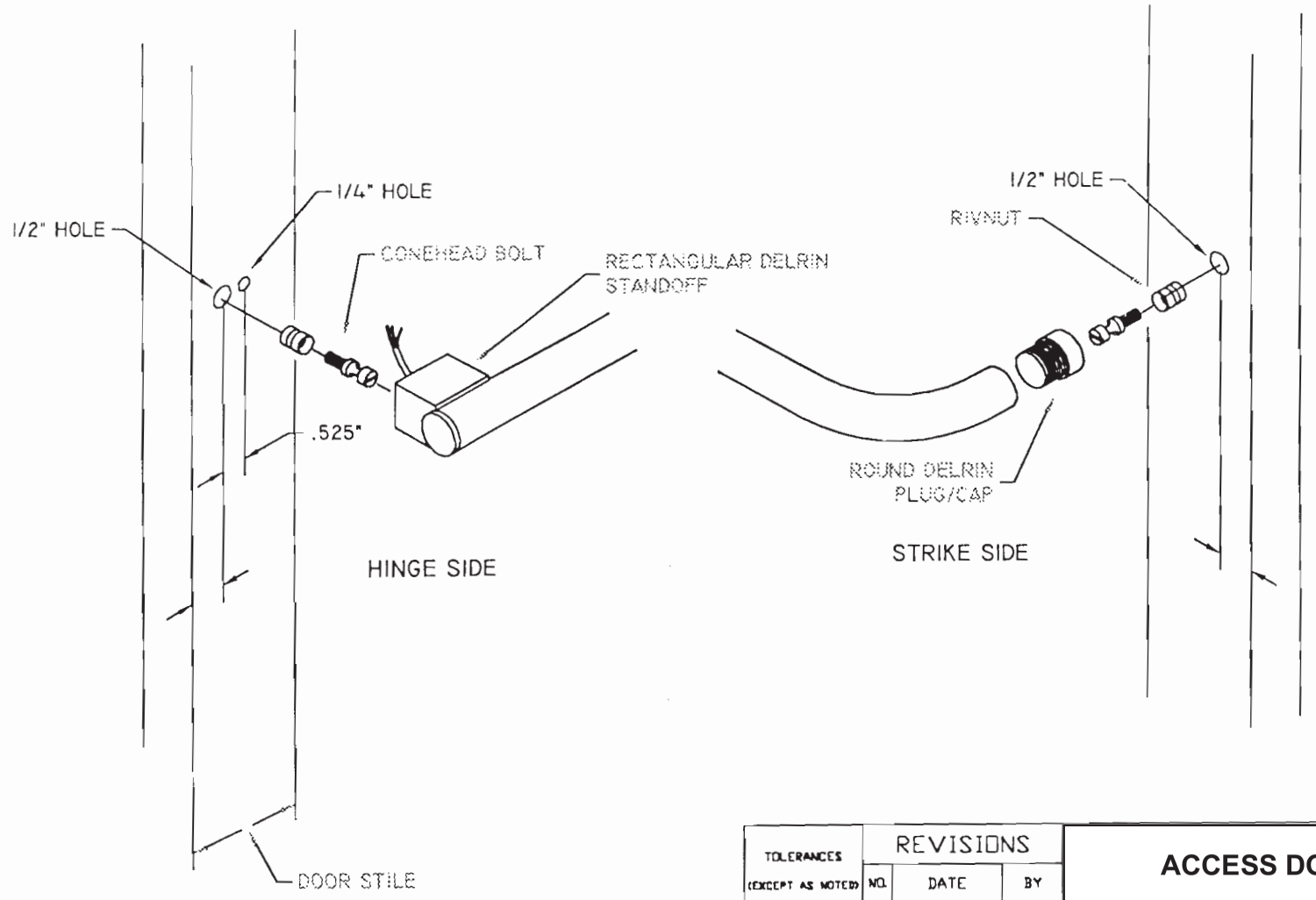
As the **"SMART TOUCH"** exit device is normally used to allow egress on an electrically secured door, make sure that you are complying with applicable building codes for your area. Check with your local building department and/or fire prevention department. The touch sense bar cannot be used outside in rain conditions.

The "Smart Touch" bar is a component for use in Special Locking arrangements for access control egress doors where permitted by Chapters 8 through 30 of NFPA 101. The ultimate installation must utilize all elements of an access-controlled egress door installation as defined in Chapter 5 of NFPA 101.

As a component for use in Delayed Egress Locking conditions, the device is suitable for use on doors that do not serve as a means of egress as defined in Chapter 5 of NFPA 101.

2. PHYSICAL INSTALLATION

The FSTB series **"SMART TOUCH"** exit device is made to size in the factory and cannot be cut in the field. Be sure that you have the correct bar for your door width and door stile. Note the location of the sensor portion of the bar and the standoff of the bar, which will mount to the hinge stile of the door. The six-conductor cable for the touch sensitive circuit has been installed at the factory. Should the cable be disconnected during installation it is pre-fitted with a push-on connector. The wiring passes through a specially designed non-conductive standoff for attachment to the door stile and provides a wire pathway into the vertical stile. All other attachment hardware is located in the marked package.



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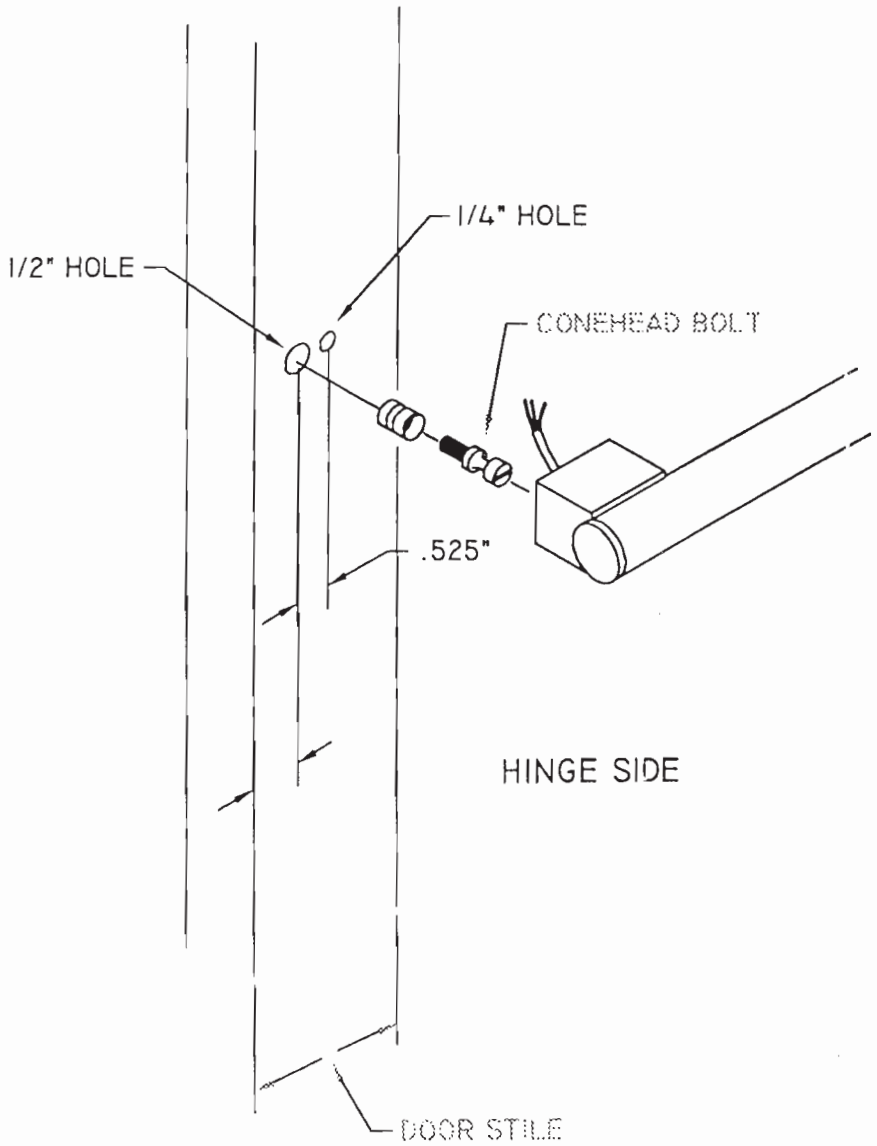
DECIMAL .XX ± .005	2.		
DECIMAL .X ± .010	3.		
FRACTIONAL ± 1/64	4.		
ANGULAR ± 1°	5.		

ACCESS DOOR, INC.

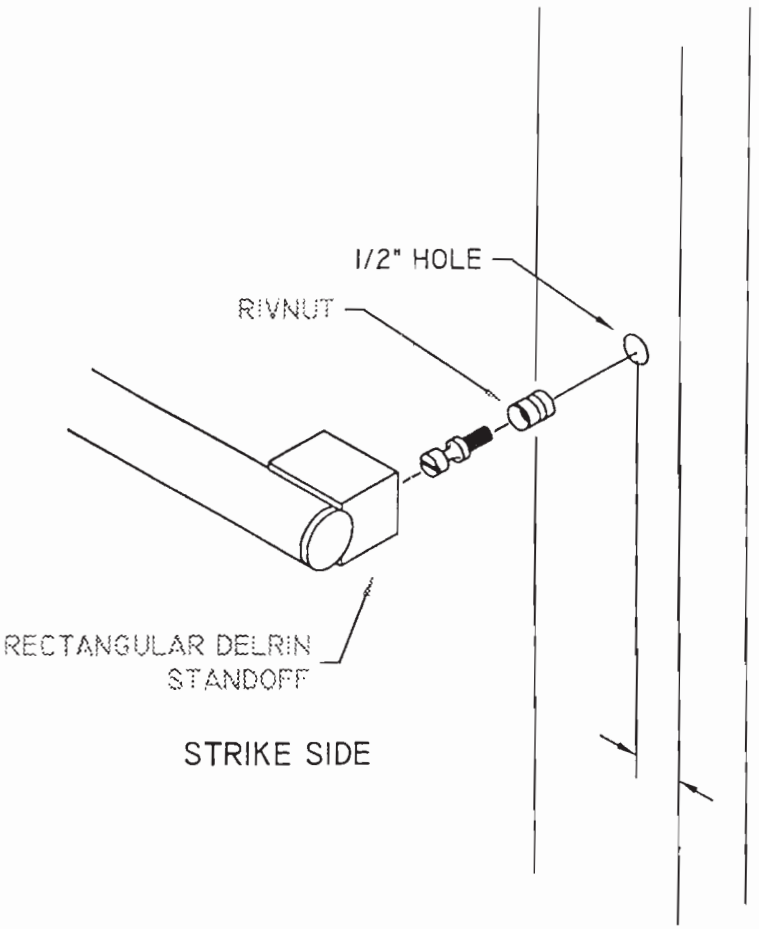
FSTB-BRIE

DRAWN BY	SCALE	MATERIAL
RTF	N.T.S.	
CHK'D	DATE 9/6/97	DRAWING NO.

COMPUTER GENERATED DRAWING
DO NOT REVISE MANUALLY



HINGE SIDE



STRIKE SIDE

TOLERANCES (EXCEPT AS NOTED)	REVISIONS NO.	DATE	BY
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DECIMAL .XX ± .005	2.		
DECIMAL .X ± .010	3.		
FRACTIONAL ± 1/64	4.		
ANGULAR ± 1°	5.		

ACCESS DOOR, INC.

FSTB-1

DRAWN BY	SCALE	MATERIAL
RTF	N.T.S.	
CHK'D	DATE 9/4/97	DRAWING NO.

COMPUTER GENERATED DRAWING
DO NOT REVISE MANUALLY

When the bar has been placed on the door, scribe the location of the black plastic portion of the rail standoff. The hinge side standoff requires the attachment of a cone-head fastener and the wire-way hole. You may drill and tap the hole for the cone-head (5/16"18 threads) and drill the wire hole with a 5/16" drill bit. The attachment of the **"SMART TOUCH"** bar at the latch stile of the door is a standard through-bolt connection and in most situations attaches back-to-back with the exterior pull handle.

You are now ready to install the **"SMART TOUCH"** bar. First align the black plastic wire-way standoff with the two holes drilled in the door's vertical stile and pass the 6 wire cable into the stile and pull through the stile (see 2.1 below). The **"SMART TOUCH"** bar now will slip over the cone-head fasteners and tighten down with the setscrews provided.

2.1 Wire Pulling

The wiring should be pulled through the vertical stile to the location of the wire transfer from the door to the doorframe. The wire should exit the stile via the supplied door cord. The door cord attaches to the web of the top or bottom rail and passes into the doorframe, which should be milled or drilled to accept the door cord and provide room for slack in the cord to accommodate the opening of the door. If you are drilling this hole, use a 23/64" drill bit for ideal sizing and a 3/8" drill bit if this unavailable. The door cord should then be secured via the two plastic covers supplied with the door cord. Self-tapping screws are supplied with the door cord covers for attachment.

The touch sensitive circuitry is mounted in the end of the bar, which includes the six-wire cable. The touch sensor is pre-installed in the factory. Should you need to reattach the wiring to the sensor, pull the sensor to the top of the bar and snap the pre-wired cable connector together. Slide the sensor back into the tubular bar. The wiring should then be pulled through the wire-way hole and into the rail of the door.

Layout handle location on door. If this is a retrofit application the holes used for this layout are already drilled. These will become the pilot holes for the iso-stud fabrication. The holes for the iso-stud are 5/8” diameter holes on the touch sensitive side of the door panel. This hole may be slightly over drilled to ease insertion (pilot point drill bits are recommended to eliminate the potential for your drill bit to wander). Exterior holes are sized to bolt supplied w/bars.

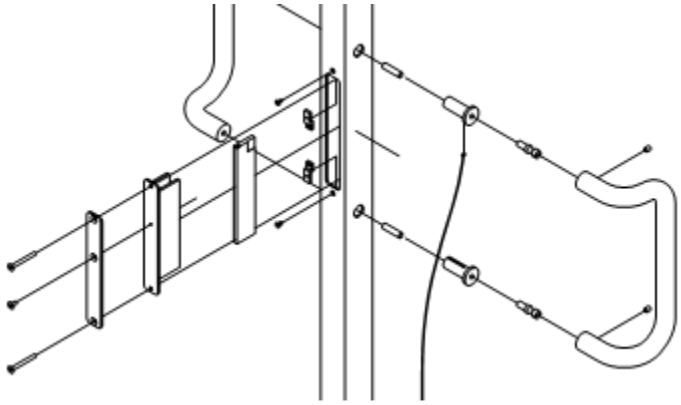
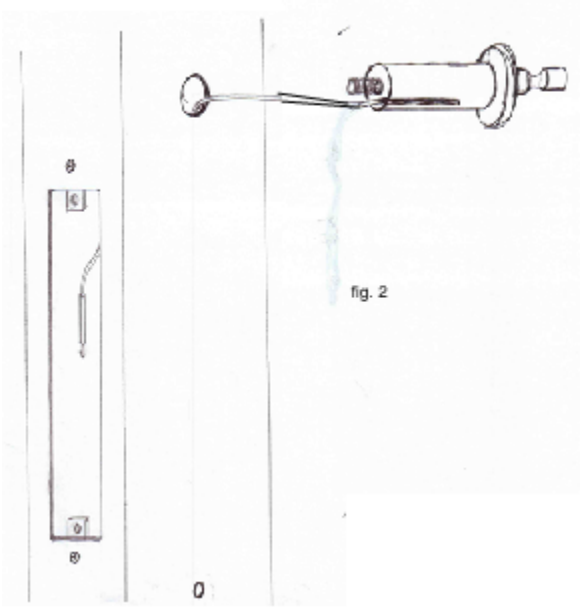
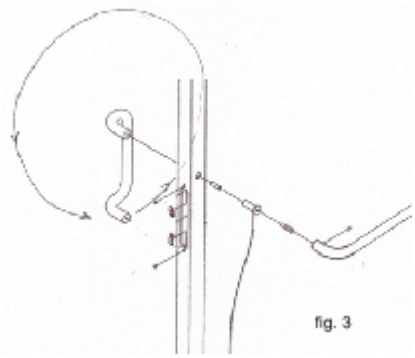


fig. 1

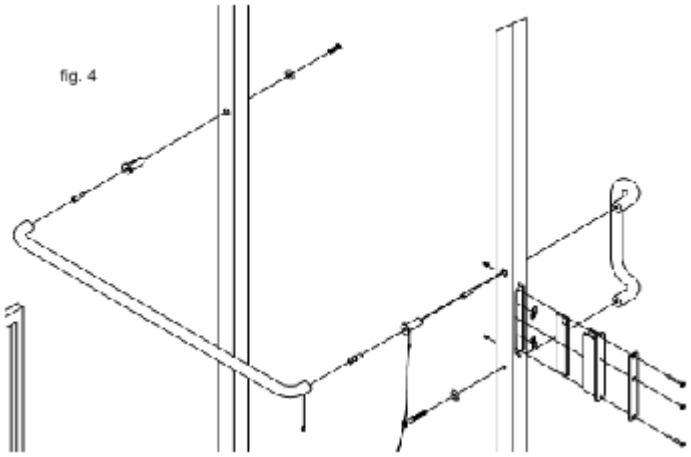
Insert the iso-stud with conehead at shoulder, threaded rod opposite and touch sensor antenna inserted and captured as shown in fig. 1. Feed the antenna wire through the 5/8” diameter hole first and follow with the iso-stud assembly inserting the assembly through the door until the threaded rod protrudes through the exterior face of the door (fig. 2.).



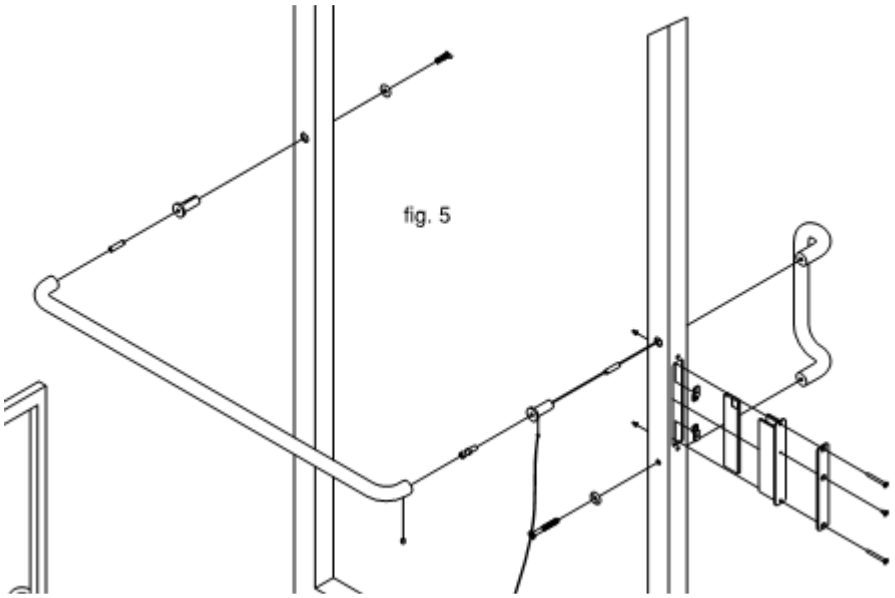
The exterior pull must be threaded onto the threaded rod in this application. The iso-stud assembly must be kept stationary to prevent antenna wire from winding around the stud inside the door cavity. Do not overtighten the pull as it snugs against the door as the other fastener will secure the pull mechanically. At this time, fasten the other pull attachment with a common through-bolt machine screw and trim ring. (fig.3.)



Now the touch sensitive handle can be attached to the interior of the door. Thread the iso-stud for the hinge side of the door onto the handle as shown in (fig. 4A.) Insert the attached iso-stud and handle as shown in (fig. 4.). Secure the push handle with set screws (included) and complete the attachment on the exterior of the door with the smaller machine screw and trim ring (included). For adjustable push the bar must be field cut and the SCCM offset Delrin iso-receiver with screw and trim ring used.



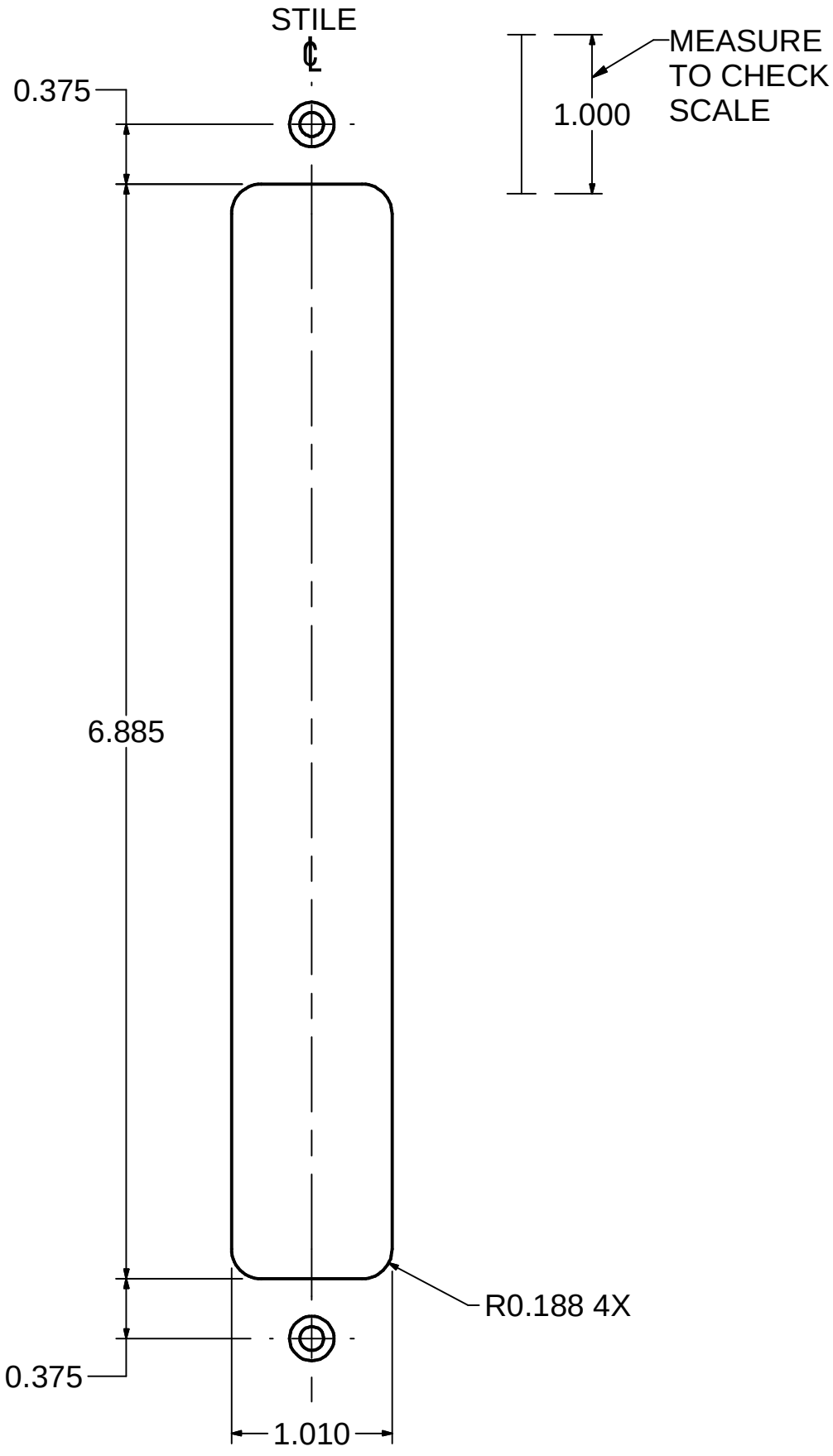
The handle is now secured to the door. The touch sensor circuit antenna wire should be visible in the MS lock cut-out in the vertical edge of the door. The touch sensor cable wire should be fished through the door frame as shown. Wire transfer from the door to the door frame can be accomplished with a door cord or other wire transfer, electric hinge options.

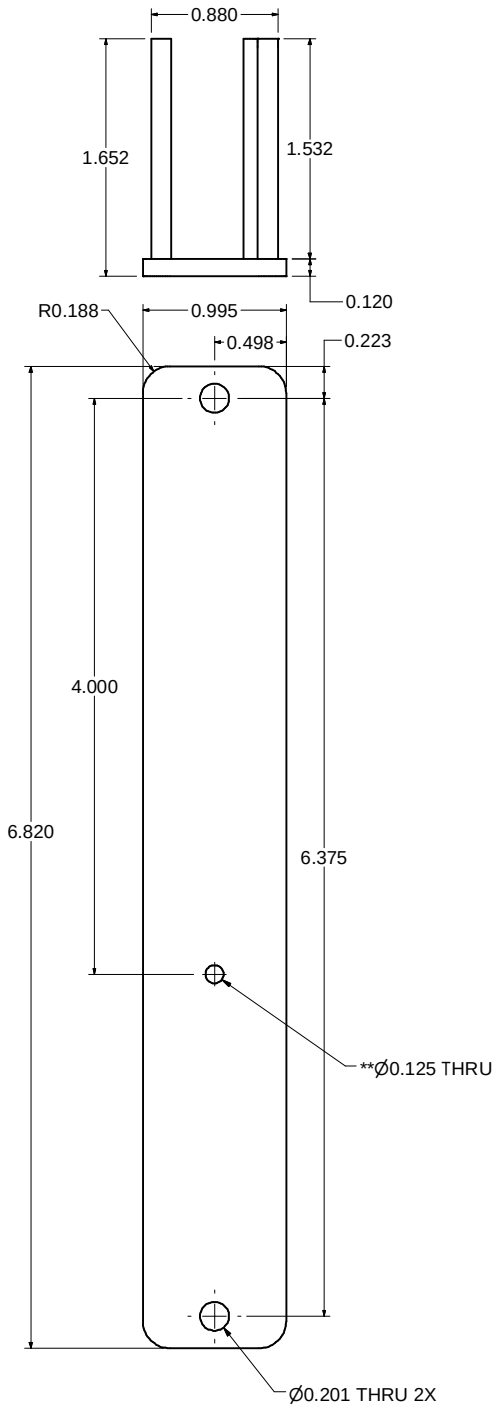


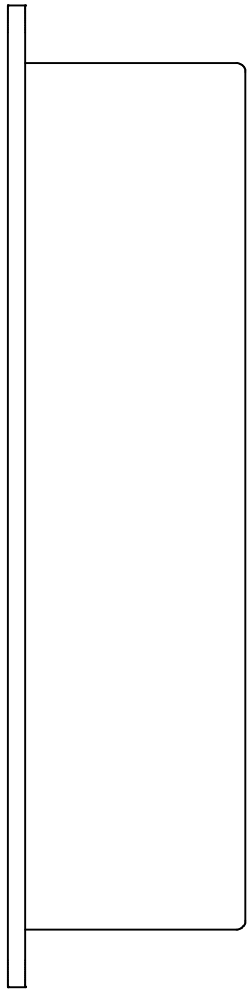
Attach the touch sensor cable and antenna wire to the sensor. The sensor board is contained inside a black plastic housing that uses the same door fabrication and attachment as a standard MS lock. Insert the sensor assembly and secure with the screws (included). The blank cover plate attaches with the screws supplied.

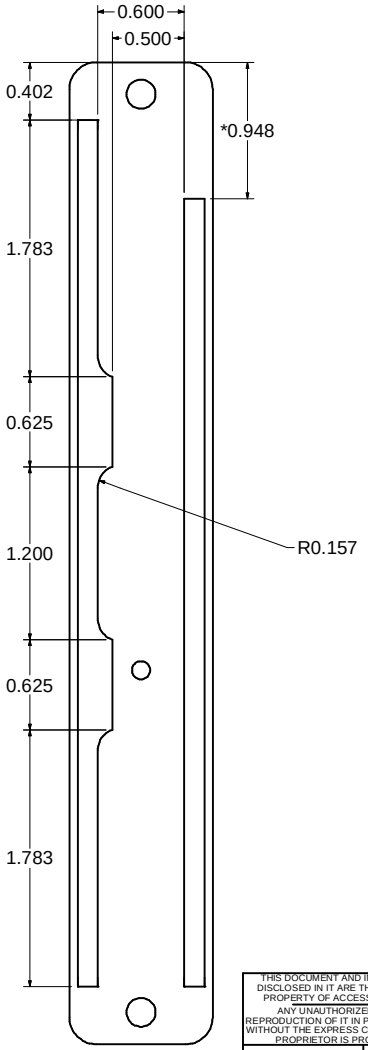
Stile Preparation Template

SCALE 1:1

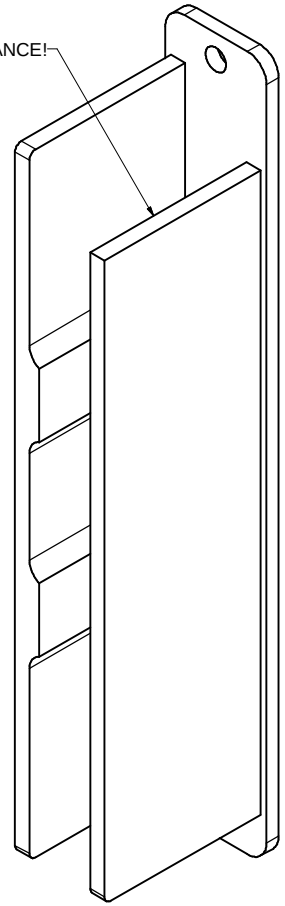








NOTE: *MATERIAL CUT AWAY FOR CLEARANCE!



SCALE 1.5 : 1

REVISION HISTORY			
REV	DESCRIPTION	DATE	APPROVED
A	*Added Cutout Clearance	6/19/2007	M.J.A.
B	**Added Hole in Face	6/21/2007	M.J.A.
C	Removed Retainer Pin Holes	6/29/2007	M.J.A.

UNSPECIFIED TOLERANCES: DECIMAL .X ±.10, .XX ±.030, .XXX ±.015; FRACTIONAL ±1/16; ANGULAR ±.5° — THIRD-ANGLE PROJECTION

DRAWN M.J.A. 3/30/2007

APPROVED M.K. 7/2/2007

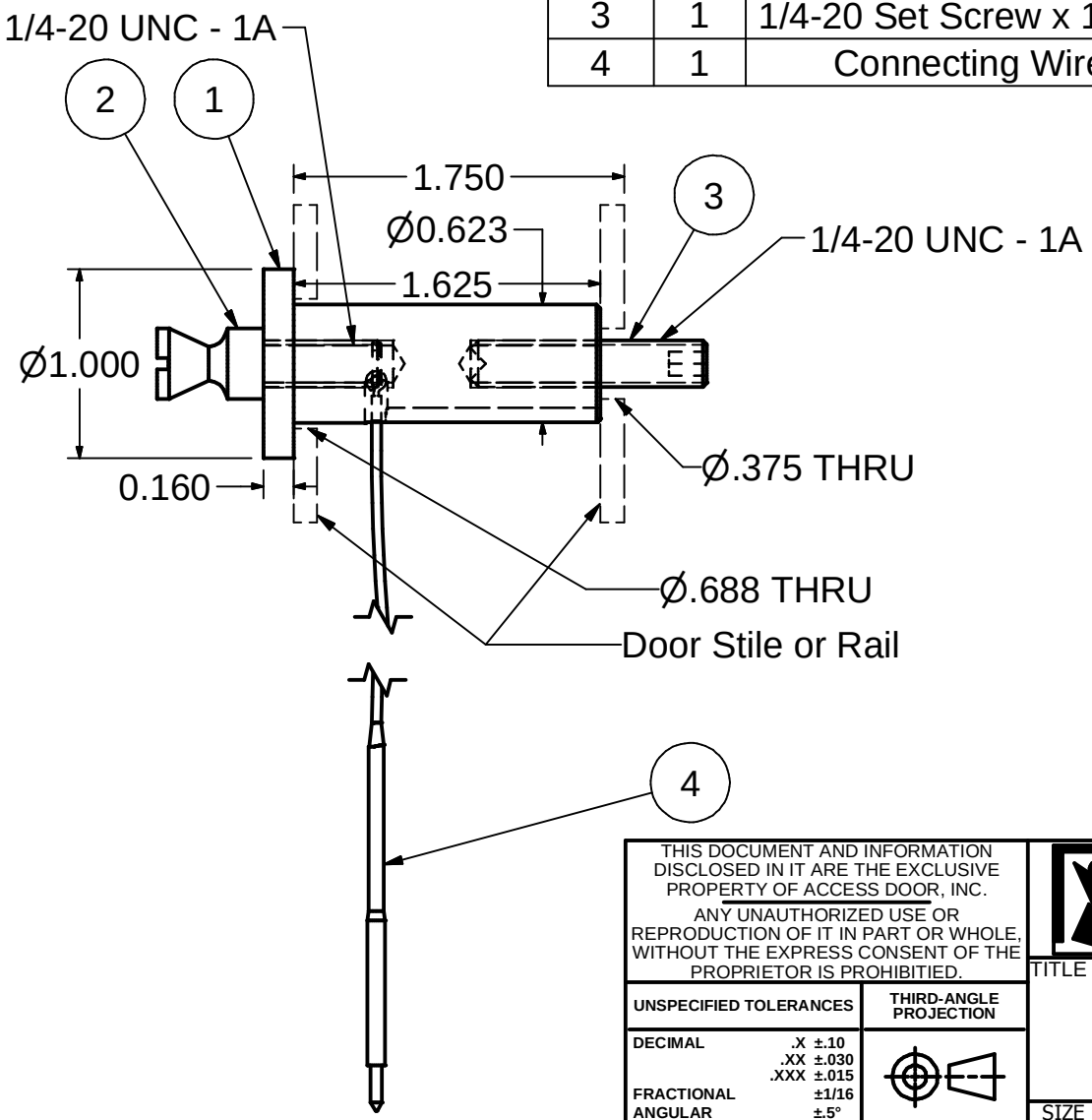
Access Door, Inc.
P.O. Box 517 - Keokuk, IA 52632

TITLE: **001-Delrin Sensor Housing**

SIZE C | DWG NO 001-Delrin Sensor Housing | REV

SCALE 1.5:1 | MATERIAL BLACK DELRIN | SHEET 1 OF 1

Parts List			
ITEM	QTY	PART NAME	DESCRIPTION
1	1	004-1in Iso Stud x 14-20	1.0 " OD, 1/4-20 UNC, Black Delrin
2	1	1/4-20 Conehead	1/4-20 UNC, SST
3	1	1/4-20 Set Screw x 1.25in	1/4-20 UNC, SST
4	1	Connecting Wire	20 AWG X 20"



UNSPECIFIED TOLERANCES	THIRD-ANGLE PROJECTION
DECIMAL .X ±.10, .XX ±.030, .XXX ±.015	
FRACTIONAL ±1/16	
ANGULAR ±.5°	

Access Door, Inc.
P.O. Box 517 - Keokuk, IA 52632

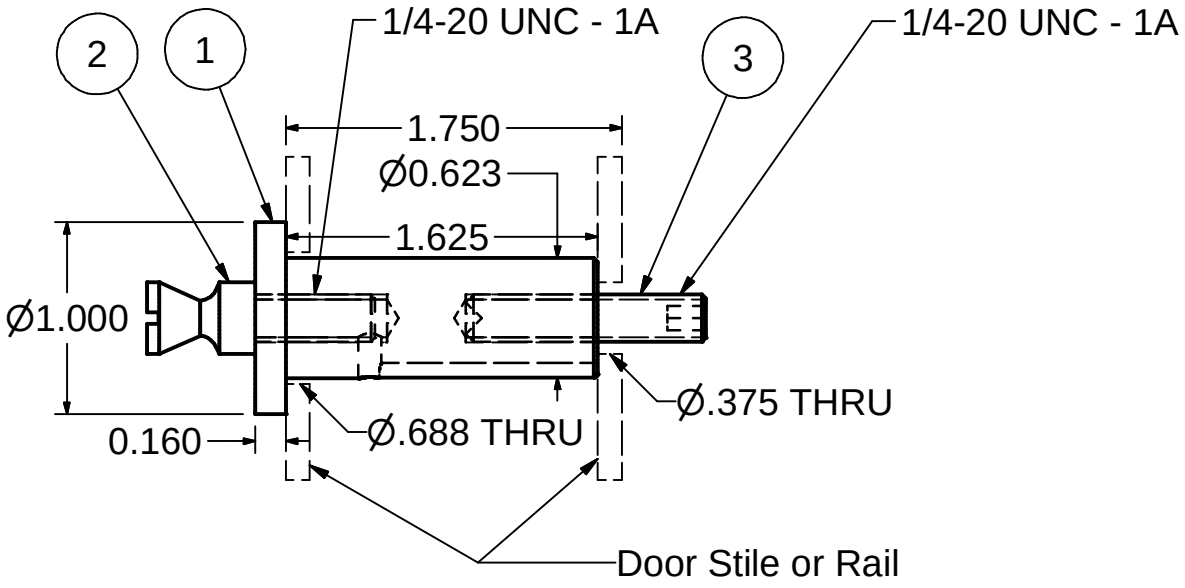
TITLE
011-Iso Stud Assy

DRAWN M.J.A.	6/22/2007	SIZE A	DWG NO 011-Iso Stud Assy
APPROVED M.K.	7/2/2007	SCALE 1:1	MATERIAL VARIES

REV

SHEET 1 OF 1

Parts List			
ITEM	QTY	PART NAME	DESCRIPTION
1	1	004-1in Iso Stud x 14-20	1.0 " OD, 1/4-20 UNC, Black Delrin
2	1	1/4-20 Conehead	1/4-20 UNC, SST
3	1	1/4-20 Set Screw x 1.25in	1/4-20 UNC, SST



UNSPECIFIED TOLERANCES	THIRD-ANGLE PROJECTION
DECIMAL .X ±.10, .XX ±.030, .XXX ±.015 FRACTIONAL ±1/16 ANGULAR ±.5°	

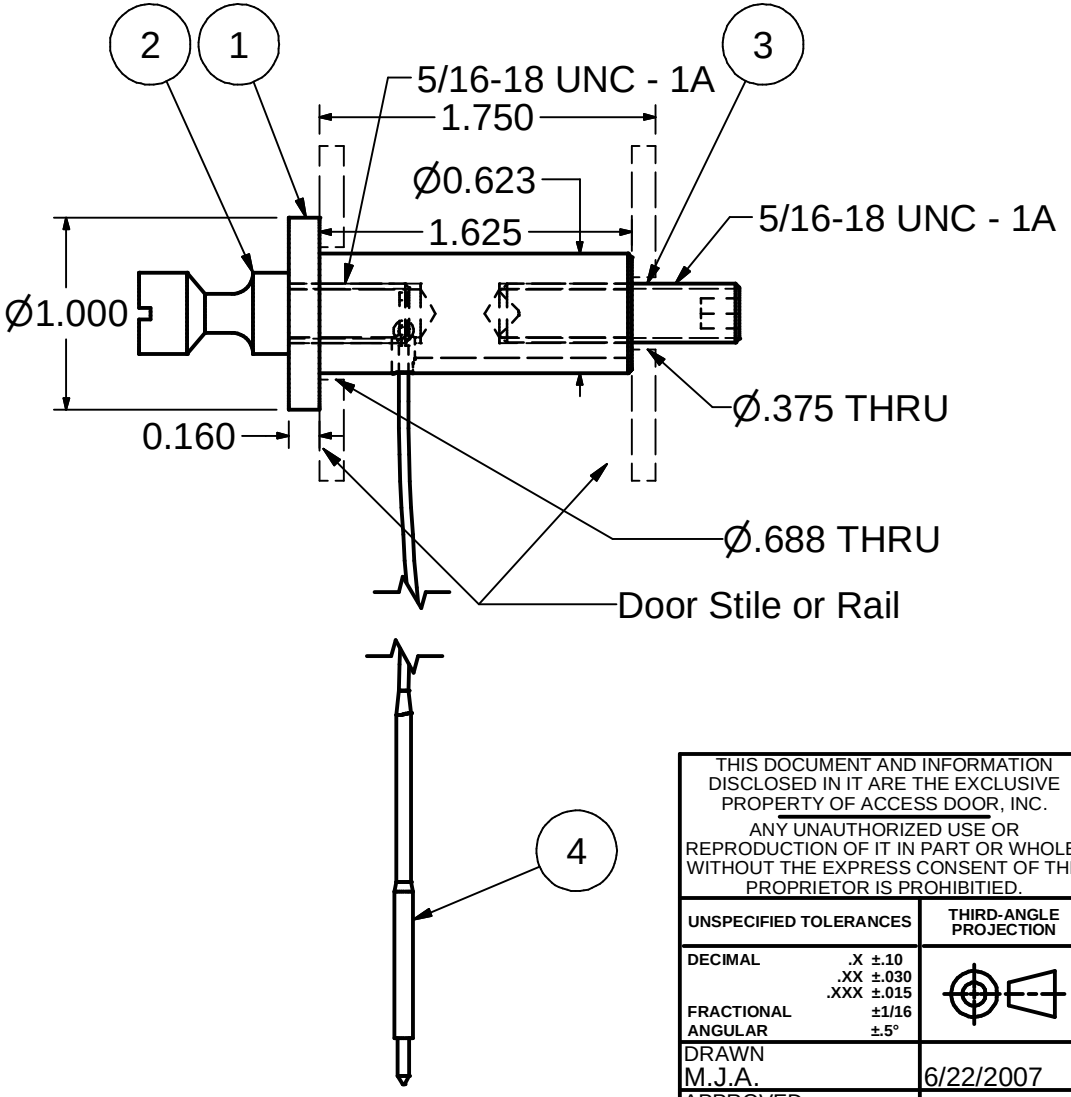
Access Door, Inc.
P.O. Box 517 - Keokuk, IA 52632

TITLE

011-Iso Stud Assy

DRAWN M.J.A.	6/22/2007	SIZE A	DWG NO 012-Iso Stud Assy — REV
APPROVED M.K.	7/2/2007	SCALE 1:1	MATERIAL VARIES — SHEET 1 OF 1

Parts List			
ITEM	QTY	PART NAME	DESCRIPTION
1	1	005-1in Iso Stud x 516-18	1.0" OD, 5/16-18 UNC, Black Delrin
2	1	5/16-18 Conehead	5/16-18 UNC, SST
3	1	5/16-18 Set Screw x 1.25in	5/16-18 UNC, SST
4	1	Connecting Wire	20 AWG X 20"



UNSPECIFIED TOLERANCES	THIRD-ANGLE PROJECTION
DECIMAL .X ±.10, .XX ±.030, .XXX ±.015 FRACTIONAL ±1/16 ANGULAR ±.5°	

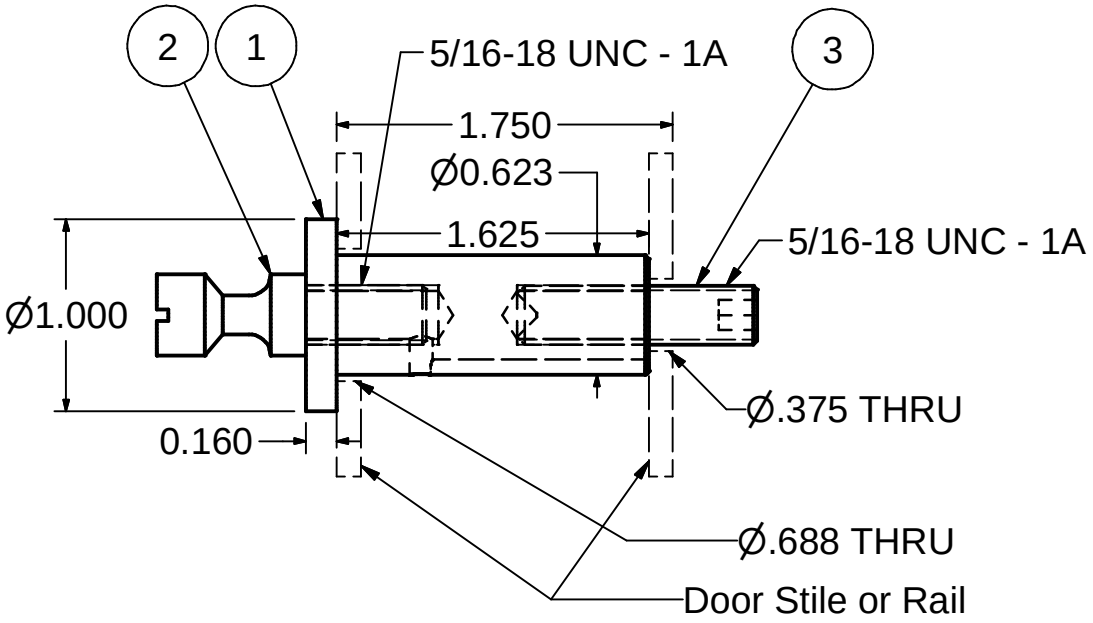
Access Door, Inc.
P.O. Box 517 - Keokuk, IA 52632

TITLE

013-Iso Stud Assy

DRAWN M.J.A.	6/22/2007	SIZE A	DWG NO 013-Iso Stud Assy / REV
APPROVED M.K.	7/2/2007	SCALE 1:1	MATERIAL VARIES / SHEET 1 OF 1

Parts List			
ITEM	QTY	PART NAME	DESCRIPTION
1	1	005-1in Iso Stud x 516-18	1.0" OD, 5/16-18 UNC, Black Delrin
2	1	5/16-18 Conehead	5/16-18 UNC, SST
3	1	5/16-18 Set Screw x 1.25in	5/16-18 UNC, SST



UNSPECIFIED TOLERANCES	THIRD-ANGLE PROJECTION
DECIMAL .X ±.10, .XX ±.030, .XXX ±.015 FRACTIONAL ±1/16 ANGULAR ±.5°	

Access Door, Inc.
P.O. Box 517 - Keokuk, IA 52632

TITLE

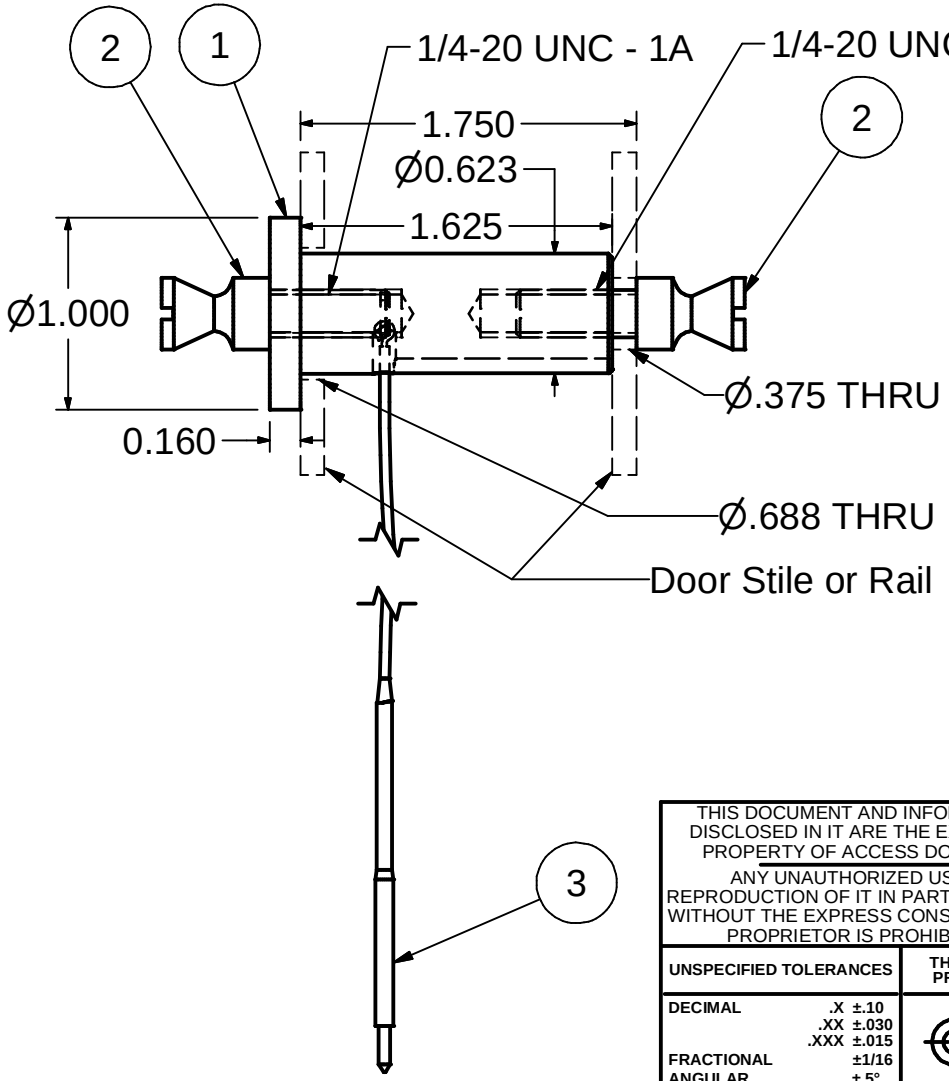
014-Iso Stud Assy

DRAWN M.J.A.	6/22/2007	SIZE A	DWG NO 014-Iso Stud Assy
APPROVED M.K.	7/2/2007	SCALE 1:1	MATERIAL VARIES

REV

SHEET 1 OF 1

Parts List			
ITEM	QTY	PART NAME	DESCRIPTION
1	1	004-1in Iso Stud x 14-20	1.0 " OD, 1/4-20 UNC, Black Delrin
2	2	1/4-20 Conehead	1/4-20 UNC, SST
3	1	Connecting Wire	20 AWG X 20"



UNSPECIFIED TOLERANCES	THIRD-ANGLE PROJECTION
DECIMAL .X ±.10, .XX ±.030, .XXX ±.015 FRACTIONAL ±1/16 ANGULAR ±.5°	
DRAWN M.J.A.	6/22/2007
APPROVED M.K.	7/2/2007

Access Door, Inc.
P.O. Box 517 - Keokuk, IA 52632

TITLE

015-Iso Stud Assy

SIZE	DWG NO	REV
A	015-Iso Stud Assy	

SCALE	MATERIAL	SHEET
1:1	VARIES	1 OF 1

ELECTRICAL INSTALLATION

1. SENSOR WIRING

The touch sensor has 6 colored wires, which are for sensor power and DPST relay output:

Red – "+" DC Power or AC Black – "-" DC Power or AC White – Relay Common, Pole 1 Green – Relay Normally Closed, Pole 1 Blue – Relay Common, Pole 2 Orange – Relay Normally Open, Pole 2

The cable connector is plugged into the male connector on the circuit board so that the cable routes directly back into the rail standoff. The relay has 2 amp contacts and when the bar is touched, the relay energizes. For applications releasing an electric lock, the following drawing (figure 1b) shows typical connections of sensor, power supply and fail-safe (released when powered) electric locks. Fail secure electric locks are normally not permitted for use with the touch sensor on required exit applications. Note installation of MOV in parallel with the electric lock. The MOV is supplied loose with the bar. It is a black or blue disc-like component with two bare wires for connection. The MOV acts to suppress the inductive kickback from the lock, which will greatly shorten the life of the relay contacts if no suppressed. To work properly, it should be spliced in as close to the electric lock as possible. It has no polarity. **If, however, Securitron Magnalock is used in the installation, the MOV is not necessary as the Magnalock is internally suppressed.**

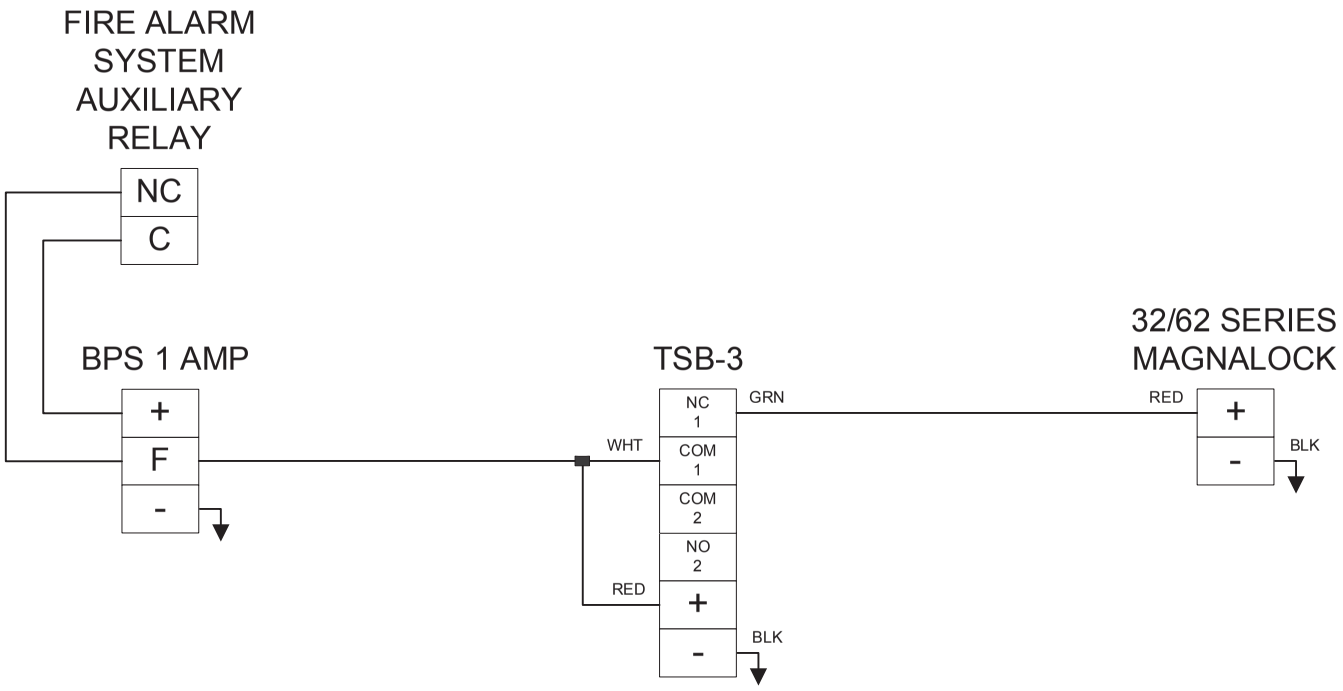
TOUCH SENSOR WIRING FOR FAIL SAFE ELECTRIC LOCK

NOTE 1: MOV NOT NEEDED IF SECURITRON MAGNALOCK USED

NOTE 2: POWER SUPPLY MUST ALWAYS CONNECT DIRECTLY TO SENSOR OTHER CONTROL SWITCHES SHOULD BREAK OF PARALLEL RELAY CONTACTS AS NEEDED

NOTE 3: IF DC POWER IS USED POLARITY MUST BE OBSERVED

The sensor operates on 12-24 volts AC or DC and is normally powered by the same power supply that operates the electric lock. **If DC power is used, polarity must be observed.** Note that the sensor draws 6 Ma when “at rest” and 20 Ma when it is releasing the lock.



LEGEND

RED=RED
BLU=BLUE
BLK=BLACK
ORG=ORANGE
WHT=WHITE
BRN=BROWN
GRN=GREEN
YELL=YELLOW
VLT=VIOLET

■ = CONNECTION

=“NEG. VDC”
0VOLTS DC
COMMON NEG.

2. ALL SECURITRON EQUIPMENT INSTALLATION

Figure 1b shows a generic use of the touch bar with any type of magnetic lock and power supply. Often, ACCESS DOOR supplies all of these products and the installer expects an interconnection drawing for the **"SMART TOUCH"** bar and all Securitron products. We can provide such drawings if needed. In this case, the replacement of the generic products shown above is so simple as not to require separate drawings. Just note that for any Securitron Magnalock, the red wire denotes the "+" input and the black wire for any denotes the negative. Remember that you don't need to install the MOV with any Securitron Magnalock. Securitron offers a wide range of different power supplies, so it is necessary to consult the individual power supply manual to identify the DC output terminals. Then connect the power supply outputs to the rest of the systems shown above.

3. CAUTION ON USE WITH PROXIMITY CARD READERS

When a proximity card reader is used for entry and touch sensor is used for egress, there is a small possibility of interference. The proximity reader projects an electric field of considerable intensity and we have seen rare cases where this can be picked up by the touch sensor. It depends on the power of the proximity reader and the nearness of the reader on the outside of the door to the bar on the inside. To make sure a problem does not exist after the installation is complete, perform the following test. Turn the bar sensitivity up as high as you can to the point just before it is open all the time (see Section 3.6). Then, from the outside of the door, place your hand on the reader and lean your body against the door to see if the bar can be triggered. The effect of coupling the reader's energy through your body into the door tends to increase the sensitivity of the bar.

If you find that the bar triggers from this test, there is some interference. You have two options. It may be that the interference is so little that when the sensor is adjusted down, there is no risk of triggering from the outside. You can experiment with this.

4. CAUTION WITH SWITCHING POWER SUPPLIES

The touch sensor is capable of being operated by a wide variety of power supplies and does not require regulated power but a certain class of power supplies call "switching" can sometimes interfere with the operation. Switching supplies are unusual in the security industry. Most regulated power supplies are of the "linear" type. Some switching supplies can produce little noise, which will affect the touch sensor by rendering it hard to adjust. If you find that a touch sensor is hard to adjust, check the power supply. If it is a switcher, the power supply can be replaced with a linear Securitron unit or addition of two capacitors generally solves the problem. Connect on 0.01 mF capacitor between power supply + and earth ground. Connect a second 0.01 mF capacitor between power supply negative and earth ground. See the drawing to the left.

5. ADJUSTING SENSITIVITY

With wiring completed, sensor adjustment should be set. Note that the sensor board has a potentiometer on it accessible when the bar's end cap is removed. The potentiometer on the sensor will increase sensitivity when turned clockwise and decrease it when turned counter-clockwise. Turn the pod. clockwise **without touching the bar** until you hear the relay click on. In this condition, sensitivity is so high that the unit is on all of time. Slowly rotate the pot. Counter-clockwise until you hear the relay click off and then another 15 degrees counter-clockwise. This is generally a good setting. Before replacing the end cap, experiment by touching the bar and observe that the lock releases. Experiment with gloves if you expect that they will be used. You may want to increase the sensitivity somewhat, but if you leave it just below the point where it is continuously released, you risk a condition where the unit will fail by being on all the time.

6. ELECTRIC LOCK SELECTION

Electric lock selection is important to obtain best results from the touch sensor. The product allows silent and immediate egress without the mechanical action of traditional exit devices, which require periodic maintenance and placement. Having no moving parts, the touch sensor possesses an extended operation life. The product was designed for use with Securitron's Magnalock. The Magnalock secures the door with magnetic force only and therefore has no possibility of jamming and thereby denying egress. The Magnalock also has internal electronics, which allow it to release very rapidly. When used with the touch sensor, which is also a fast device, exit is immediate and the impression a person exiting gets is that the door is not locked at all. Other magnetic locks generally operate significantly more slowly that the Magnalock. This makes egress less convenient as a person must pause somewhat after touching the bar until the door releases.

7. OPERATIONAL SECURITY CONSIDERATIONS

In the typical use of the **"SMART TOUCH" and SMART GRIP** exit bar, it provides free egress from the interior protected area. The electric lock secures against unauthorized entry from outside. If is of important concern that persons on the outside cannot activate the interior release device from the outside. This is a common problem with other interior release devices. For instance, if a panic bar with switch is used, it is possible to trip it from the outside if the intruder can introduce a coat hanger in between the door and frame. All-glass doors tend to allow this more than other types. Similarly, microwave detectors used on the inside can sometimes be activated from the outside if the door is vibrated strongly.

When supplied on glass doors the **"SMART TOUCH"** exit device is more secure with respect to the outside. To assure this security, however, the user must be made aware of certain operational characteristics. The sensor functions by setting up an oscillating electric field, which conforms along any metal surface that contacts the sensor's antenna wire.

In the **"SMART TOUCH" and SMART GRIP** exit bar it is the bar itself that carries the field. The electric field is disturbed by the near proximity of ionized fluids within the body, which form a conductive mass. It is this mass that the bar detects. As a proximity device the bar is sensitive to the closeness of the mass. For example, if a person wearing gloves touches the bar with his fingertip, the door will generally not release. When the gloved hand is wrapped around the bar in normal use, the door will release because the conductive mass of the hand is in much closer contact with the bar.

The main security concern regarding outside entry is if a person could introduce a metal wire from the outside and make metal-to-metal contact with the bar. The field could then propagate along the wire and be activated by the intruder's hand. In practice, this is unlikely. The bar is powder coated and therefore insulated so it will not make contact with the wire. The intruder would have to scratch away the coating that requires both effort and knowledge. Also, the field propagates weakly along a thin wire.

8. SENSOR REPLACEMENT for the SMART TOUCH BAR

Should it ever be necessary to replace the sensor, it is done as follows:

A. Remove the end-cap at the point where the wire cable is introduced into the door rail. Remove the cable connector from the sensor circuit board. Grasp the foam cylinder and gently remove from the exit bar. The wiring for the attachment of the sensor should be pulled free of the end of the exit bar, disconnected and left available for re-connecting the new sensor circuit board.

B. Remove the sensor from the protective foam cylinder.

C. To install the new sensor, reverse the procedure above.

9. TROUBLESHOOTING

PROBLEM – The door will not release when the bar is touched.

To monitor operation of the bar, it is quite easy to hear the relay click when the bar is touched. **If you don't hear a click,** make sure you understand section 3.2 on how to adjust sensitivity of the bar. It may be set too low. Another fault could be that the sensor itself is not receiving 12-24 AC or DC power on the red and black wires.

Check the power supply and if you're using DC voltage, be sure the polarity is correct. Also, even if power is being applied on the red and black wires, it's possible that it's not getting to the sensor. Check the connector block that plugs into the sensor card for loose wires. Finally, it is possible that the ring terminal or connector that connects the sensor to the bar itself has come loose.

If you can hear this click, and the door not release, the problem must be in the installation wiring. Review your wiring to make sure the sensor is correctly applied in the circuit. If you hear the click but cannot release the lock and adjustment of the sensitivity does not correct the problem, call the factory as the defect appears to be in the relay contacts and the sensor will have to be replaced.

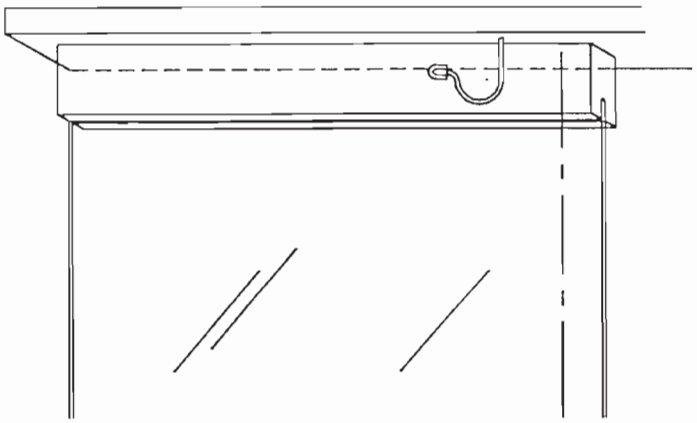
PROBLEM – The door remains released constantly

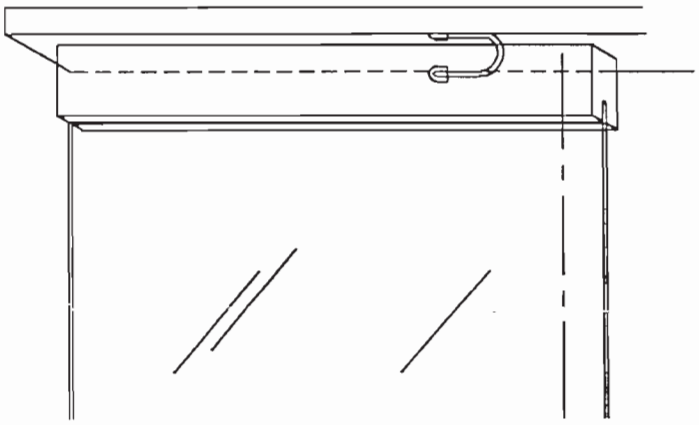
If you hear a click when you touch the bar but the lock remains released, the problem is probably in the wiring, which should be reviewed to be sure the sensor is correctly applied in the circuit. **If you don't hear a click,** the sensor is probably adjusted too high (review Section 3.2). Rotate the adjustment pod. Counter-clockwise **while not touching the bar.** If this doesn't lock the door, some effect is probably keeping the relay energized all the time. First confirm that this is happening by unplugging the connector from the sensor card (you should hear a click as the relay de-energizes). Re-plug the connector and you should hear another click as the relay energizes again.

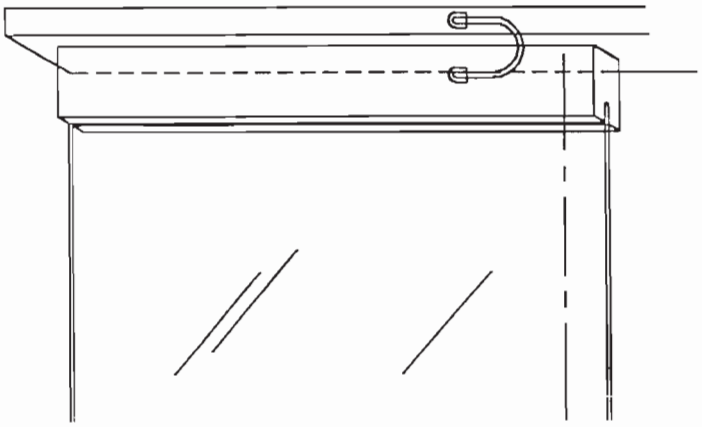
The most likely cause for the relay to remain energized is that the sensor "sees" an overwhelming large signal is if someone was continually touching the bar. This will happen if the bar is not properly isolated from a metal door. Because of the plastic end piece and non-conductive bolt attachment through the glass, the intrinsic isolation of the bar from the door is many times greater than it needs to be. Make sure that there is no "foreign object" creating a conductive path from the bar to the door.

The same effect will occur if the bar is used outside in the rain or if water is flowing down the inside of the door. This overcomes the electrical isolation needed between the bar and door.

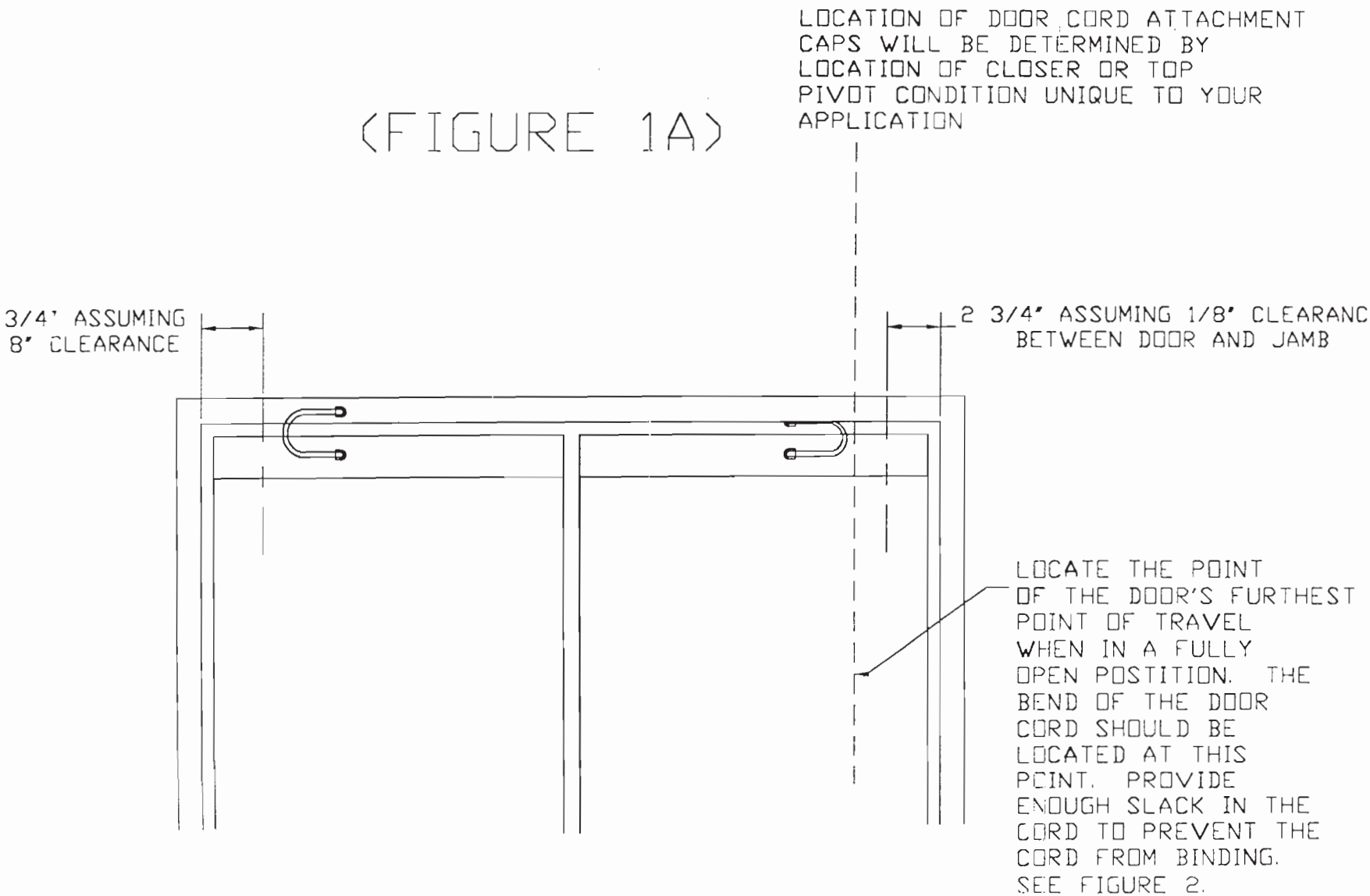
Certain large electronic noise sources can "swamp" the sensor although this is rare. Examples would include large radio or radar transmitters in the building or a high voltage neon sign mounted within a few feet of the door. Call the factory if you suspect noise-induced problems.





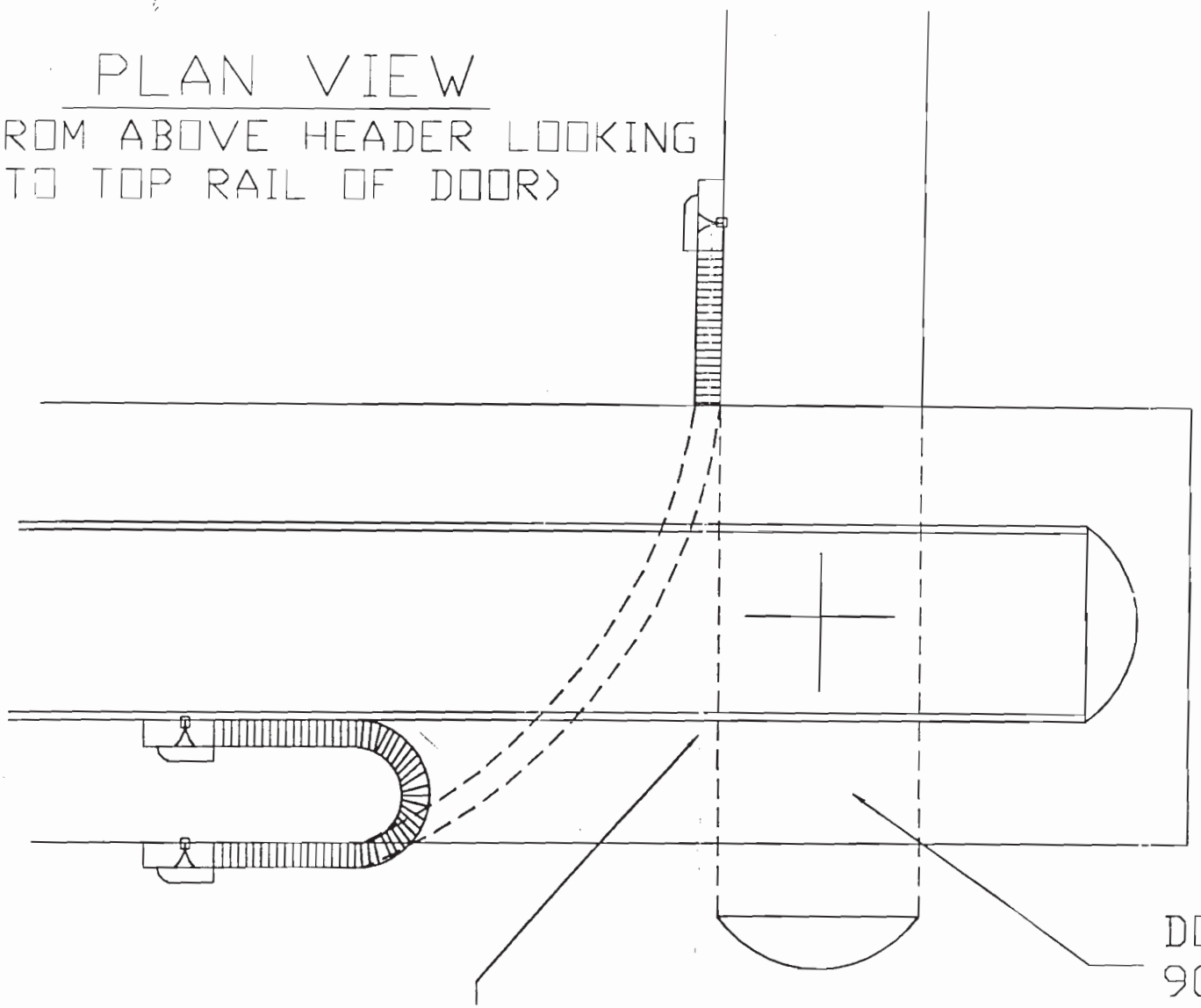


(FIGURE 1A)


LOCATION OF DOOR CORD ATTACHMENT CAPS WILL BE DETERMINED BY LOCATION OF CLOSER OR TOP PIVOT CONDITION UNIQUE TO YOUR APPLICATION
3/4" ASSUMING 8" CLEARANCE
2 3/4" ASSUMING 1/8" CLEARANCE BETWEEN DOOR AND JAMB
LOCATE THE POINT OF THE DOOR'S FURTHEST POINT OF TRAVEL WHEN IN A FULLY OPEN POSTITION. THE BEND OF THE DOOR CORD SHOULD BE LOCATED AT THIS PCINT. PROVIDE ENOUGH SLACK IN THE CORD TO PREVENT THE CORD FROM BINDING. SEE FIGURE 2.

PLAN VIEW

(FROM ABOVE HEADER LOOKING INTO TOP RAIL OF DOOR)



LOCATE THE POINT OF THE DOOR'S FURTHEST POINT OF TRAVEL WHEN FULLY OPENED. THE BEND OF THE DOOR CORD SHOULD BE LOCATED HERE. PROVIDE ENOUGH SLACK IN THE CORD TO PREVENT BINDING.