



ASSA ABLOY



TRIDENT™
Multi-Point Exit Lock

Trident™ Troubleshooting Guide

TEL-100, TEL-200 Series & Alarm Options

Questions? Please call tech support

800-622-5625



TABLE OF CONTENTS

Main Cover	1
Table of Contents	2
Symptoms, Causes and Solutions	3-15
Trident Installation Checklist	16
Trident Alarm User Instructions	17
TEL-SSO Trident Alarm Cable Installation	18
TEL-SSO Alarm Cable Removal Instructions	19

**CAUSES
1-11**
Symptom

- 1) The Trident lock will not deadbolt automatically.
- 2) The deadbolts jump out after releasing emergency paddle.

CAUSE

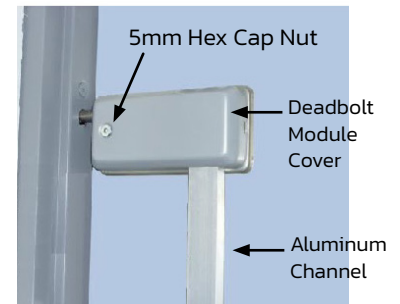
- 1** The door is sagging.
- 2** The frame has shifted due to new construction settling.
- 3** The upper and/or lower bolt modules are not level.
- 4** The upper and/or lower bolt modules are not level.
- 5** The aluminum channels were installed upside down causing the braided cables to snag.

SOLUTION

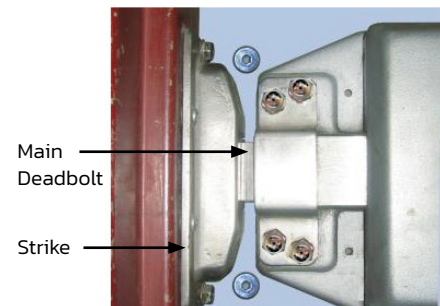
Check if the upper or lower portion of the door is rubbing against the frame. If so, tighten the hinge to level the door in the frame

Make adjustments to the frame so that the corners are at 90 degrees.

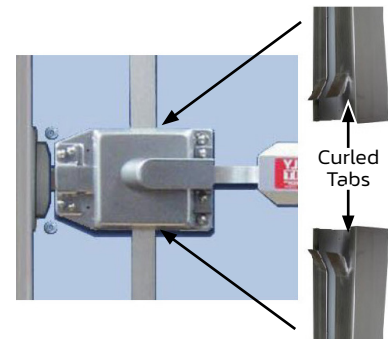
Remove the hex cap nut that secure the cover of the upper and or lower bolt module. Loosen the thru bolts and adjust the module so that it is level



Make sure that the surface mounted strike is centered by the main mechanism. When the main deadbolt is extended, it must be centered inside the strike



Refer to page 10 of TEL-100 or TEL-200 model Trident installation instructions for the proper installation of aluminum channels. Only one end of each aluminum channel has two curled aluminum tabs. This end must be pointing in the direction of the main lock body. Flip the channel if not pointing towards the main lock body.



CAUSE**6**

The thru-bolts are too tight causing a bind in the mechanism

7

Exterior lever trim (if installed) is not level causing the spindle to bind in the mechanism.

8

Weather stripping pushes the door outward.

9

The round dead bolts cannot extend or release due to an obstruction inside the frame.

10

The self locking trigger needs to be adjusted so that the deadbolts release.

SOLUTION

When mounting the lock on the door using the carriage thru bolts to the exterior anti-pry plate, make sure the door is not compressed. The door may appear to bow inward due to over tightening the carriage thru bolts. Loosen the carriage bolts by turning them one full turn counter-clockwise

If exterior lever trim is installed, make sure that it is level. If the trim is not level, then the spindle is not level. Adjust the trim so that the spindle that enters the Trident lock is level.

Weather stripping can stop the door from resting flush against the doorstop. This can cause all latching bolts to be out of alignment. Remove weather stripping from areas that will not allow the door to rest flush against the doorstop.

Refer to page 10 of TEL-100 or TEL-200 model Trident installation instructions for proper marking and drilling of bolt holes. Make sure that the round upper and lower bolt holes that were drilled into the frame are deep enough for the bolts to fully extend. Drilling 1-1/2" deep should be sufficient. Make sure that the diameter of the holes are larger than 5/8".

Compression on the door can affect the function of the trigger that releases the deadbolts. Backing out the thru-bolts can help relieve the compression of the Trident lock. Refer to page 8 of the TEL-200 model for instructions

Exterior lever trim with anti-pry plate



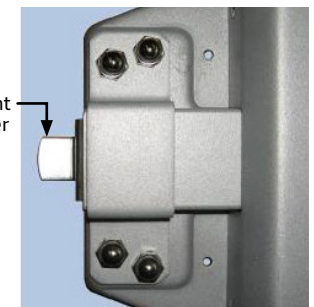
Weather Stripping



Lower Deadbolt Module



Trident Trigger



CAUSE

11 Deadbolts are bent.

SOLUTION

The deadbolts can bend if the door is swung closed while they are extended in the locked position causing them to hit the frame. The deadbolts can also bend when they are bound inside the frame and the emergency paddle is pushed with considerable force to try to release them. In most cases when the deadbolts are bent, the lock needs to be replaced because the internal main lock mechanism could be damaged.

There are visible signs that can determine if the main lock mechanism is damaged due to bent deadbolts.

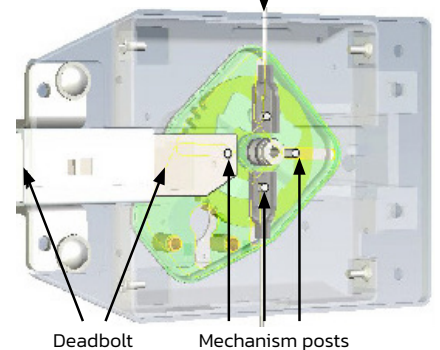
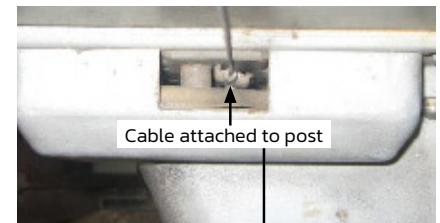
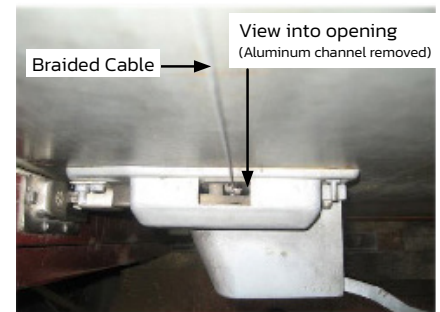
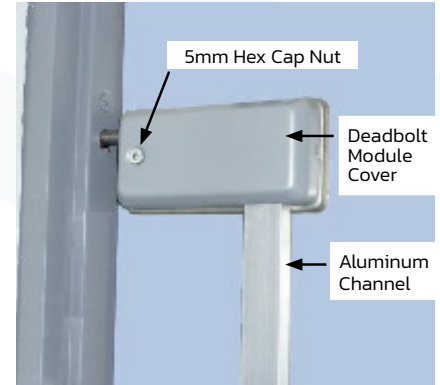
You can verify this by following these 4 steps:

- A.** Remove the 5 mm hex cap nut that secures the top and bottom round deadbolt module covers.
- B.** Remove the covers and place them aside.
- C.** Remove the upper and lower vertical aluminum channels.
- D.** View into the opening where the aluminum channel sat on the edge of the main lock body.

The upper and lower round deadbolts are actuated by braided cables. These cables are attached to posts that extend from the main body of the lock. If the deadbolts are bound and considerable force is used to push the emergency paddle, the posts that attach to the braided cables can bend outward. In other words, the post that attaches to the upper cable will bend upward towards the top of the door. This can be verified by viewing into the lock body opening.

If the main deadbolt is bound in the strike and considerable force is used push the emergency paddle to unlock the door, the post that connects to the deadbolt can bend toward the strike causing the deadbolt to come out of the lock body.

If the posts are verified to be bent, then the lock must be replaced. The posts that drive the deadbolts cannot be repaired in the field.



**CAUSE
12**
Symptom

- 1) The dead bolts on the lock do not stay retracted when the paddle is released.
- 2) The dead bolts do not extend when the door closes.

CAUSE

- 12** Self locking trigger may need to be adjusted

SOLUTION

Remove the cap nuts (4) from the bracket holding bolt channel.

Push in slightly, lift and then slide the channel out from the bolt and housing.

- This will allow you to lift the bolt up with ease .

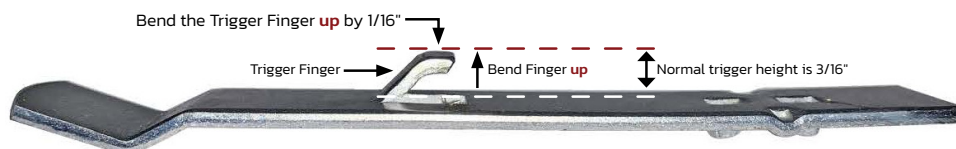
Grab the front of the trigger, lift it away from the door and then pull it straight out.

- The back end of the trigger the trigger (from the bend to the opposite end) is 3 ½" long and should be both straight and flat.
- The hook on the top surface of the trigger (which begins 1 ½" back from the end of it) is approximately 3/16 " high.
- If the hook is flattened down, it will not get caught in the detent in the underside of the bolt and the bolts will not stay retracted or if the hook is too high, then the bolts will not release when the trigger hits the strike plate.
- Lift the hook slightly (if bolts do not stay retracted) so that it is no more than 3/16" high if necessary OR flatten the hook slightly (if bolts stay retracted when the door closes).

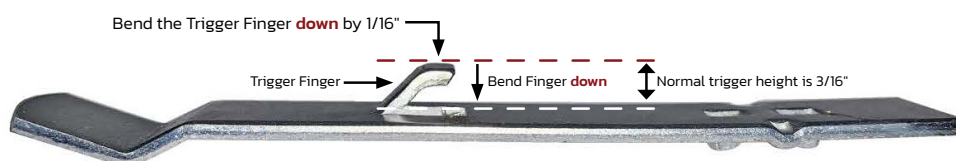
Do not attempt to remove the bolt at any point throughout the procedure above.

- You may reinstall the trigger simply by reversing the above procedure, making sure that when you insert the trigger into the chassis plate, the back end of the trigger fits between the spring and the plate under it.

If the deadbolts **do not stay retracted** when the **paddle is released**, perform the following trigger adjustment .



If the deadbolts **do not extend** when the **door closes**, perform the following trigger adjustment .



**CAUSE
13**
Symptom

Thumb lever trim does not lock or unlock Trident.

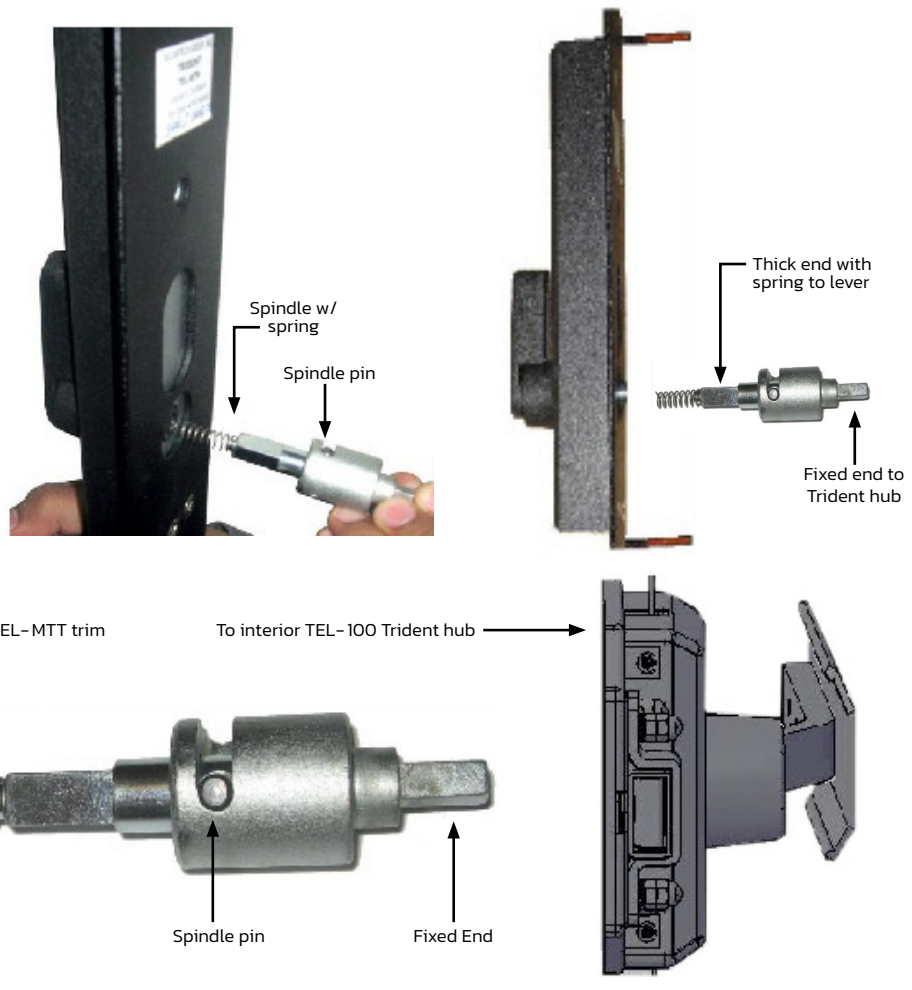
CAUSE

- 13** The spindle was not set correctly when the lever trim was mounted.

SOLUTION

Follow these steps to set the spindle correctly:

- 1) Lock the door.
- 2) Hold the spindle with spring facing trim and insert spindle into trim.
- 3) Make sure the spindle pin is to the extreme right end of the groove when inserting the fixed end into the Trident lock.
- 4) Secure trim to door.



CAUSE

14**Symptom**

Thumb lever trim does not lock or unlock Trident.

CAUSE

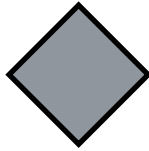
- 14** The spindle was not set correctly when the lever trim was mounted.

SOLUTION

Spindle must be on the square so that it can enter the hub of the Trident lock. Rotate spindle clockwise.



Correct



Incorrect

LHR



RHR



- 1) Hold the trim back plate so the spindle faces you. Manually turn the spindle with your hand clockwise all the way until it stops. This works with both LHR or RHR lever trim. Make sure spindle is on the square, (not on the diamond). You may have to turn the spindle back counter-clockwise to set it on the square.
- 2) The Trident lock bolts must be extended prior to installing the trim; in other words, in the locked position. Insert the spindle into the hub on the Trident lock.
- 3) Secure trim to the door with cap screws, and check for correct operation.

CAUSE
15
Symptom

Store alarm does not sound when pushing emergency paddle.

CAUSE

- 15** The alarm cable may have a shorted wire or the magnet inside the lock body is not moving away from the reed contact in the gray snap connector on the alarm cable when the emergency paddle is pushed.

SOLUTION

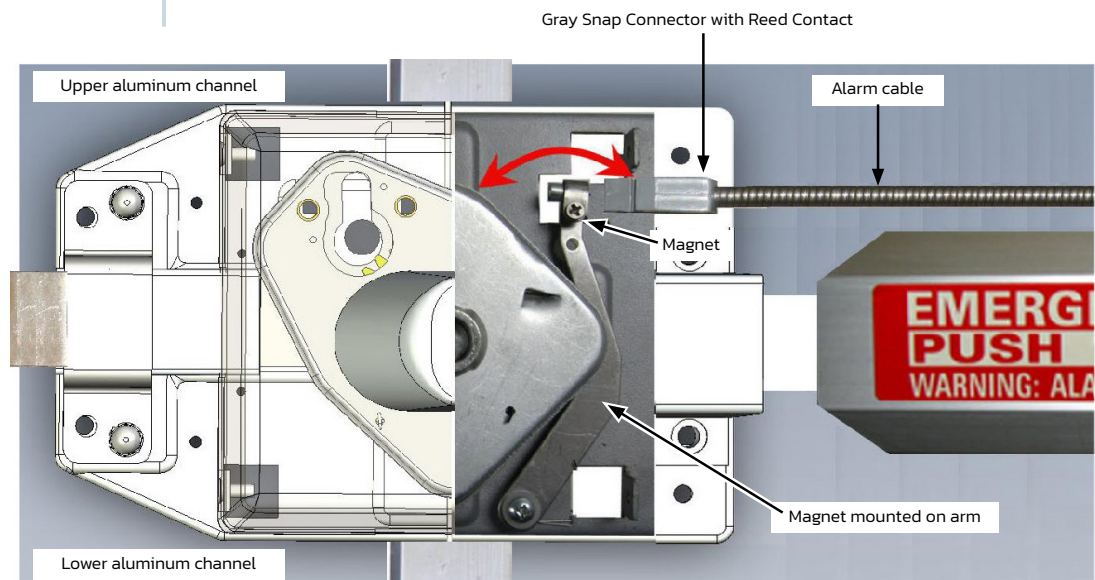
If the store alarm does not sound when pushing the paddle, the cause may be that the magnet arm is not moving away from the reed contact in the gray snap connector on the alarm cable when the emergency paddle is pushed. The double ended arrow in the picture below shows the path of the magnet arm.

A) Using a digital or analog multi-meter, set it to the Ohm (Ω) setting and test the wires at the end of the alarm cable for continuity while pushing the emergency paddle to unlock the door. To relock the door, activate the self locking trigger at the tip of the main deadbolt by pushing it towards the door.

B) You can observe the magnet as it moves by removing the vertical aluminum channel, then look into the opening of the lock where the channel originally sat at the main lock body.

- If the alarm cable is attached above the emergency paddle, remove the **upper** vertical channel.

- If the alarm cable is attached below the emergency paddle, remove the **lower** vertical channel.



CAUSES

16-18

Symptom

Store alarm sounds continuously when door is locked and alarm is armed.

CAUSE

- 16** The magnet inside the lock body is not moving toward the reed contact in the gray snap connector on the alarm cable.

SOLUTION

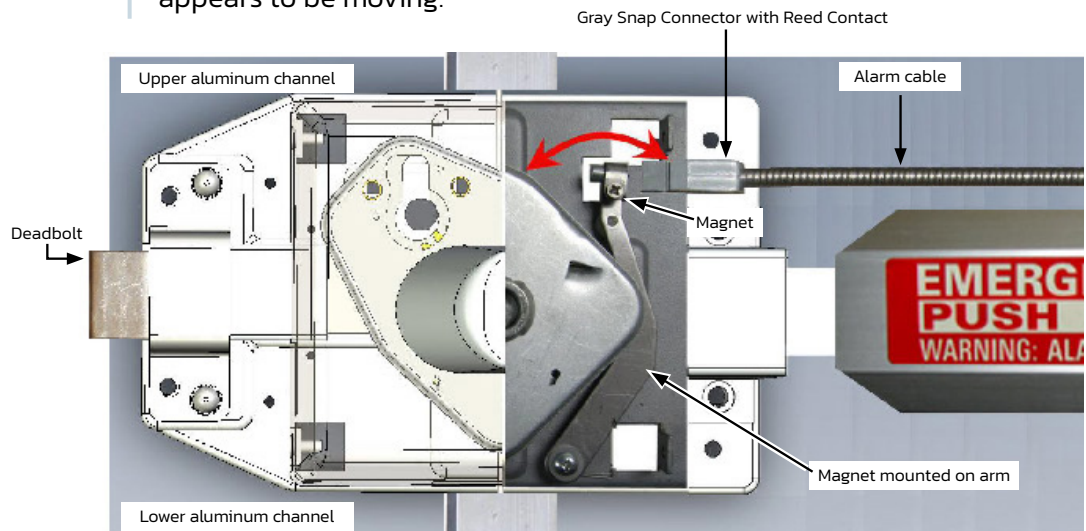
If the store alarm sounds continuously when the door is locked and the alarm is armed, the cause may be that the magnet arm is not engaging the reed contact in the gray snap connector on the alarm cable.

You can observe the magnet as it moves by removing the vertical aluminum channel, then look into the opening of the lock where the channel originally sat at the main lock body.

- If the alarm cable is attached above the emergency paddle, remove the **upper** vertical channel.
- If the alarm cable is attached below the emergency paddle, remove the **lower** vertical channel.

When the door is locked, the magnet leans toward the reed contact as shown below. This sends a reading to the alarm that the deadbolts are extended. When the door is pushed open, the deadbolts retract and the magnet moves away from the reed contact. The double ended arrow in the picture below shows the path of the magnet arm. The deadbolts extend and retract by 1" while the magnet moves back and forth by 1".

Refer to **Cause 15** to check the continuity on the alarm cable if the magnet appears to be moving.



CAUSE

- 17** The tamper screw is missing.

– OR –

Tamper screw is not aligned with micro switch on inside lid of alarm box.

- 18** The Trident deadbolts are bound due to an obstruction in the frame, *i.e.*: grout, concrete, insulation.

– OR –

The deadbolts are misaligned causing them to bind in the frame or strike.

SOLUTION

Make sure the screw that secures the cover of the key switch alarm box is seated properly and aligned with the small metal arm on the micro switch.

This screw depresses a switch inside the cover of the box. If the screw does not press the switch, then the alarm will sound when the door is locked and the alarm is armed.



Alarm Cover Screw
(For Tamper Switch)
8-32 x 3/8"

- A)** Push emergency paddle, open door.

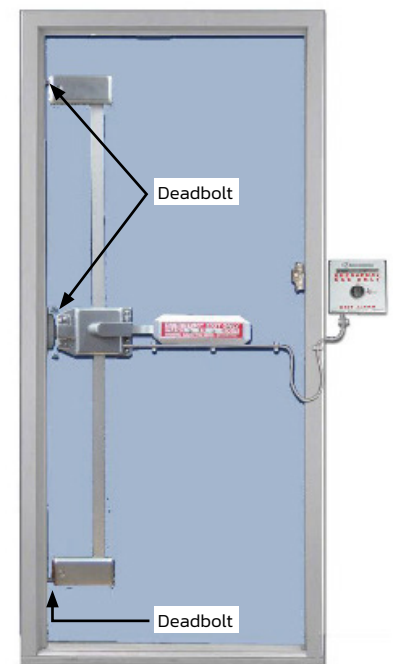
- B)** Keep the door open.

TEL-100: Pull the paddle to extend the dead bolts.

TEL-200: Press the automatic trigger behind the main bolt to extend the dead bolts.

- C)** Arm the alarm by turning the key counter-clockwise, (two chirps will be heard) then push the emergency paddle. If the alarm sounds, this indicates that the lock is working properly.

- D)** Clear the holes in the frame for top and bottom latching bolts then re-test alarm.



CAUSE

19

Symptom

Alarm sounds when key is removed and door is locked.

CAUSE

- 19** The printed circuit board in the keyed alarm box and / or tamper switch may be malfunctioning.

SOLUTION

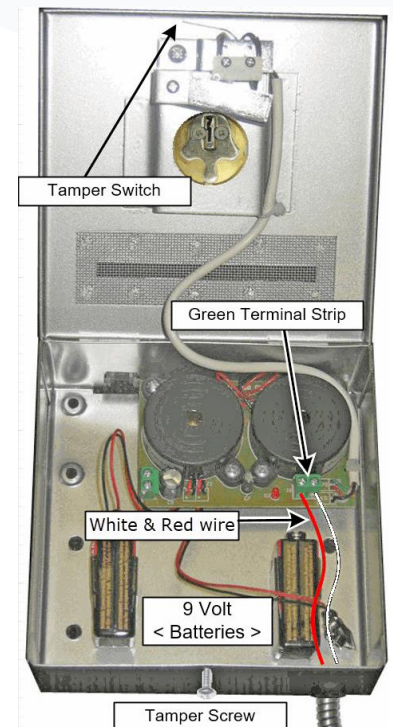
Check the functions of the key switch alarm box as follows:

- A)** Remove or loosen the tamper screw that secures the cover. Then lift the cover open.
- B)** Disconnect the black & red wires (pre-2015) or white & red wires & blue varistor (2015-2021) from the terminal on the right side of the circuit board.
- C)** Make sure that the batteries are connected.
- D)** If the alarm has a power supply, make sure that the power is on; the red L.E.D is lit on power supply and connected to the left terminal strip.
- E)** Make sure you have the key.
- F)** While holding the cover of the alarm box open, keep the key turned clockwise completely until the key stops. This is the disarmed position.
- G)** Manually hold down the tamper switch and turn the key counter-clockwise to the armed position.

The alarm should not sound (pre-2015) or you should hear two chirps (post-2015).

If it sounds continually, check to make sure all the exit device deadbolts are fully extended.

If they are fully extended, there could be an issue with the alarm cable. (Call 800-622-5625 for technical assistance).



CAUSE

20

Symptom

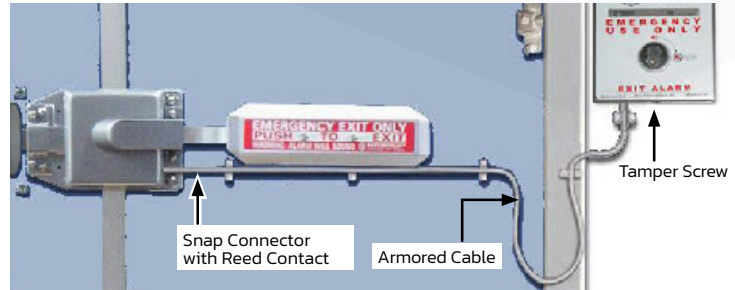
Alarm sounds when key is removed and door is locked.

CAUSE

20

There is a short in the armored cable between the lock and the key switch alarm box.

SOLUTION



Test the armored cable between the key switch alarm box and the lock as follows:

- A)** Remove the tamper screw that secures the cover of the key switch alarm box and place it aside. Then lift the cover open.
- B)** Disconnect the black and red wire leads from the right terminal strip inside the key switch alarm box.
- C)** Connect a continuity tester or OHM Meter to the black and red wire leads that connect to the right terminal strip.
- D)** While viewing the meter, push the emergency paddle to retract the bolts and open the door. There should be a change of state indicated on the meter which verifies that the magnet inside the lock body is moving and the cable and alarm contact is functioning properly. (If there is no change of state, then the cable needs to be replaced).

NOTE: Alarms installed prior to November 2006 do not use a magnet reed switch. The snap connector attached to the lock body has the appearance of a headphone jack. There is no magnet within the lock body. Instead, there is a normally open contact switch. Call Securitech Technical support if this type of connection is encountered.

- E)** Keep the door opened.
- F)** If a manual locking Trident is installed, pull the paddle back to extend the bolts. If a self-locking Trident is installed, actuate the automatic trigger behind the main bolt to extend the bolts. There should a change of state indicated on the meter which verifies that the magnet inside the lock body is moving and the cable and alarm contact is functioning properly. (If there is no change of state then the cable needs to be replaced). **(Continued >)**

CAUSE
21
Symptom

Alarm sounds when key is removed and door is locked.

CAUSE
21

The magnet inside the lock body is not moving toward the reed contact in the gray snap connector on the alarm cable.

SOLUTION

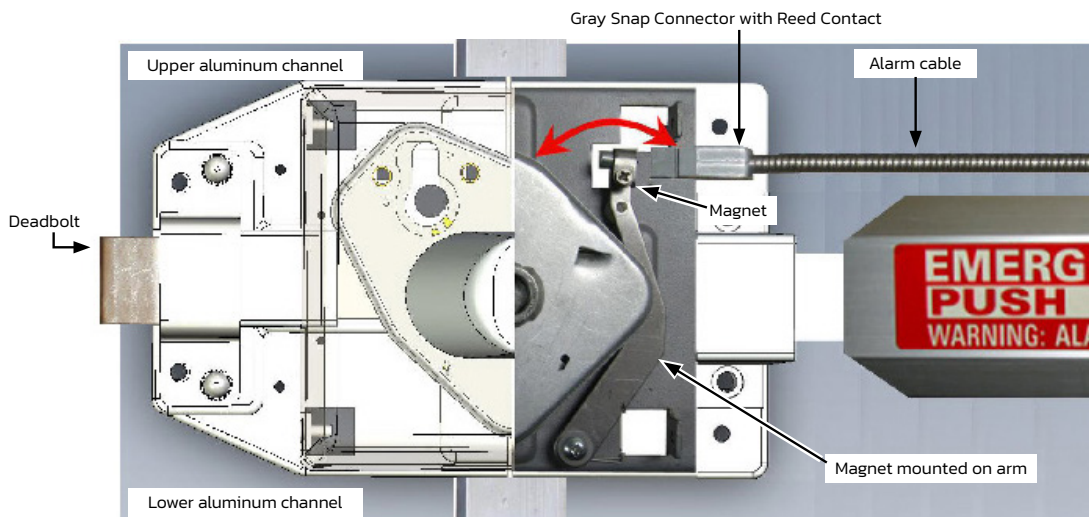
If the alarm sounds continuously when the door is locked and the alarm is armed, the cause may be that the magnet arm is not engaging the reed contact in the gray snap connector on the alarm cable.

You can observe the magnet as it moves by removing the vertical aluminum channel, then look into the opening of the lock where the channel originally sat at the main lock body.

- If the alarm cable is attached above the emergency paddle, remove the **upper** vertical channel.
- If the alarm cable is attached below the emergency paddle, remove the **lower** vertical channel.

When the door is locked, the magnet leans toward the reed contact as shown below. This sends a reading to the alarm that the deadbolts are extended. When the door is pushed open, the deadbolts retract and the magnet moves away from the reed contact. The double ended arrow in the picture below shows the path of the magnet arm. The deadbolts extend and retract by 1" while the magnet moves back and forth by 1".

Refer to **Cause 15** on page 9 to check the continuity on the alarm cable if the magnet appears to be moving.



CAUSE
22
Symptom

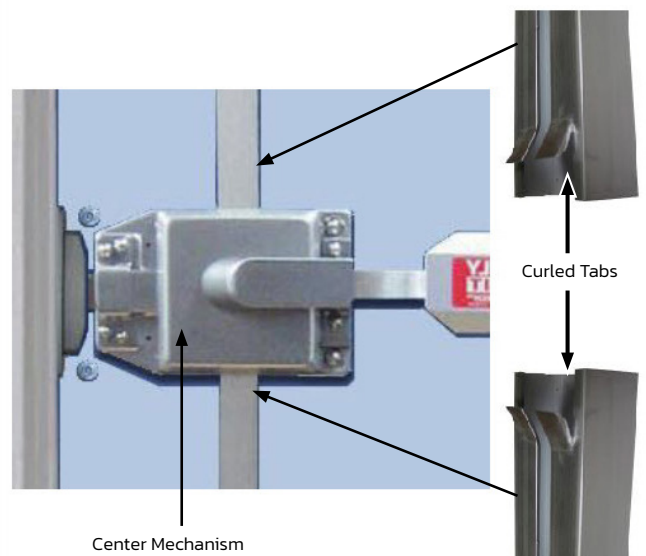
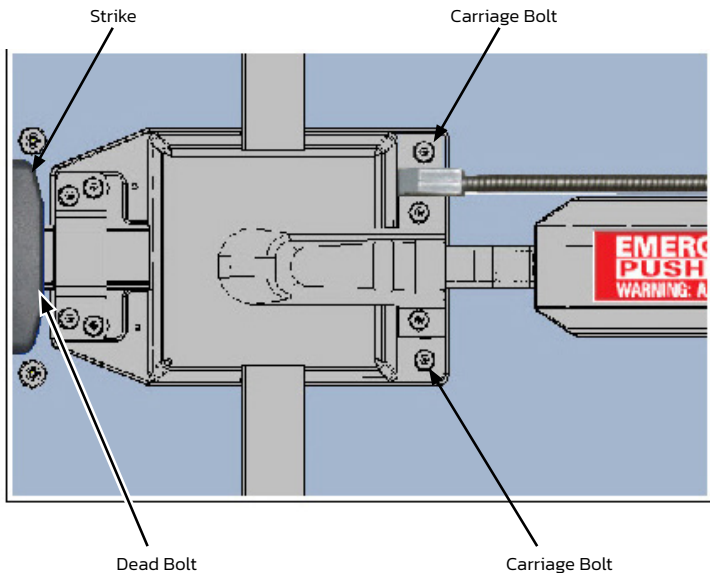
Alarm sounds when key is removed and door is locked.

CAUSE
22

- The Trident carriage thru-bolts may be too tight causing the internal magnet arm to bind.
- Top and bottom deadbolts are out of alignment.
- Aluminum channels are incorrectly installed.

SOLUTION

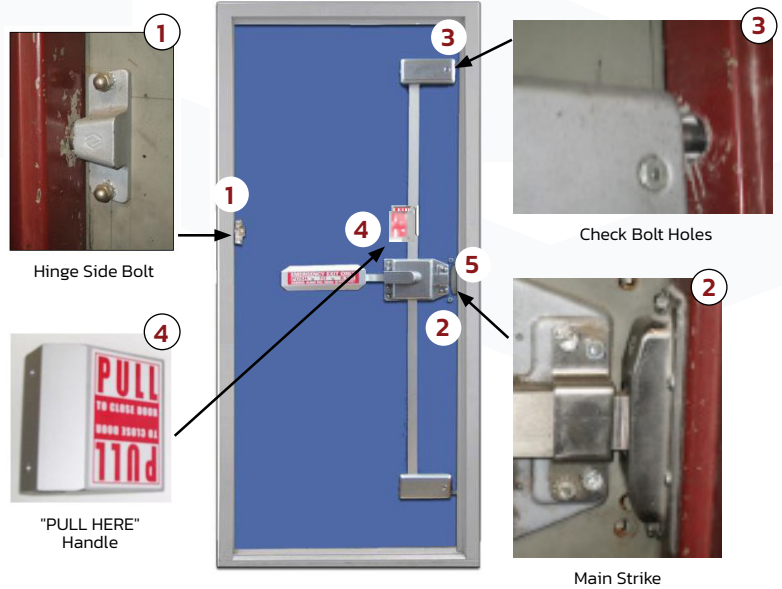
- A)** Over-tightening the carriage bolts can cause the Trident back plate to warp and bind the mechanism. Loosen the carriage thru-bolts by twisting them counter clockwise by a full turn to relieve pressure between the Trident back plate on the interior and the anti-pry plate on the exterior. Re-test the lock.
- B)** Check if main / center bolt is centered in the surface mounted strike plate. If top and bottom bolts are not aligned with the drilled holes, loosen the thru bolts and tap the bolt module to align the bolts with the drilled holes. If main/center bolt is not centered in strike, adjust strike so the bolt is centered. Make sure the door is square in the frame. Tightening hinges would help re-align the door in the frame.
- C)** Curled tabs on each aluminum channel must be pointing toward center mechanism. If pointing away, flip aluminum channels.



TRIDENT MODELS TEL-100 AND TEL-200

	Yes	No	
1	☐	☐	Is the hinge side bolt installed?
2	☐	☐	Is there a 1/8" space between the strike and mechanism edge?
3	☐	☐	Are the bolts rubbing on the frame? Holes should be large and smooth.
4	☐	☐	Manual locking TEL-100 models Is the "PULL HERE" handle installed on upper aluminum channel.
5	☐	☐	Self-locking TEL-200 models Does the door relock automatically when the door closes?

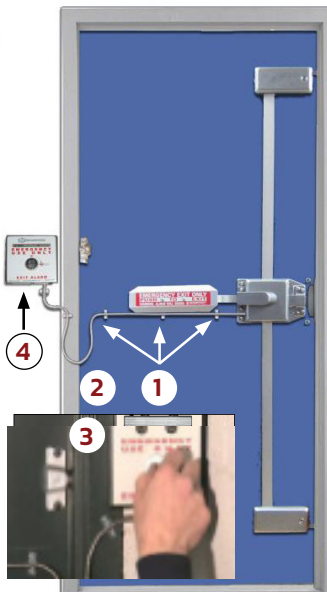
NOTE: A door closer is required for the door to relock automatically.



BATTERY ALARM MODEL TEL-A10

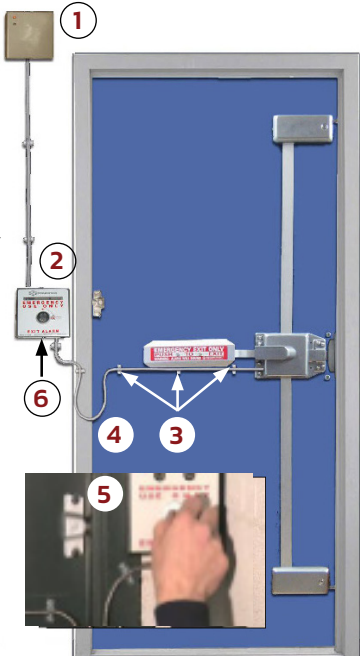
	Yes	No	
1	☐	☐	Are there at least 3 cable clips securing the cable to the door and 1 to the frame?
2	☐	☐	Is there at least a 10" cable loop at hinge side of door to alarm?
3	☐	☐	Does the alarm sound when the door is opened? To arm alarm, lock door, rotate key 90° clockwise then 90° counter-clockwise and remove key. Two chirps will be heard indicating alarm is armed.
4	☐	☐	Is the tamper screw that secures alarm box cover screwed in? This screw pushes a tamper switch inside the alarm.

If the alarm is armed and the tamper screw is removed, the alarm will sound




DIRECT POWER ALARM MODEL TEL-A20

	Yes	No	
1	☐	☐	Is the power supply connected to 110 volt AC? Observe red light lit on face of power supply?
2	☐	☐	Is the cable from the power supply connected to the alarm?
3	☐	☐	Are there at least 3 cable clips securing the cable to the door and 1 cable to the frame?
4	☐	☐	Is there at least a 10" cable loop at hinge side of door to alarm?
5	☐	☐	Does the alarm sound when the door is opened? To arm alarm, lock door, rotate key 90° clockwise then 90° counter-clockwise and remove key. Two chirps will be heard indicating alarm is armed.
6	☐	☐	Is the tamper screw that secures alarm box cover screwed in? This screw pushes a tamper switch inside the alarm.




NOTE TO INSTALLER:
Please leave with end user or
enclose with alarm

TO DISARM THE ALARM

Insert key and rotate clockwise until it stops.

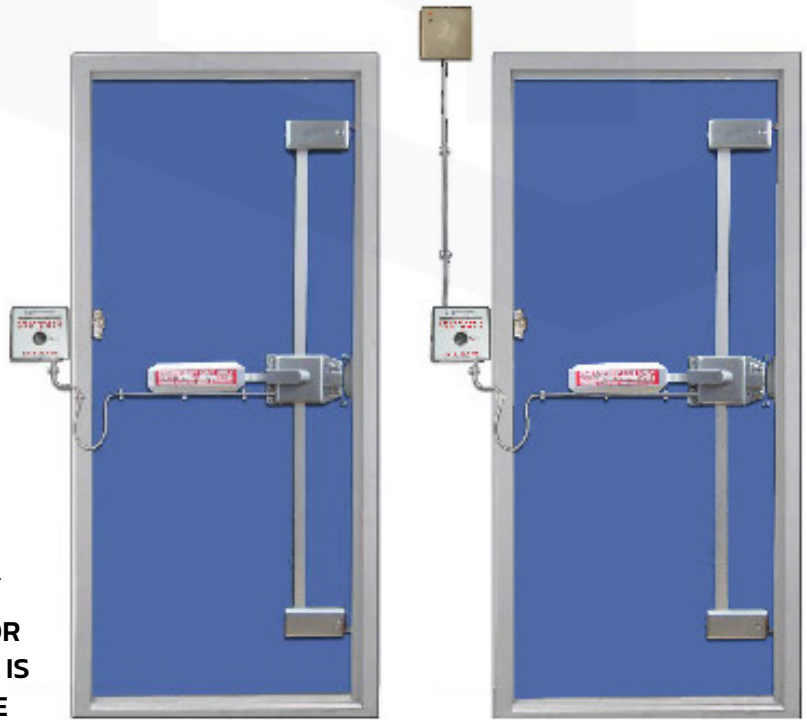
NOTE: Key must remain inserted in this position
while the alarm is disarmed.

TO ARM THE ALARM

Turn the key counter clockwise and remove. Two
chirps will be heard indicating the alarm is armed.

**THE ALARM CANNOT BE ARMED WHILE THE DOOR
IS OPEN AND UNLOCKED. MAKE SURE THE DOOR IS
CLOSED AND THE BOLTS ARE EXTENDED BEFORE
ARMING THE ALARM.**

Changing the batteries: Phillips head screwdriver
required to remove cover screw. Insert key and rotate
clockwise to disarm the alarm. Lift cover and replace
batteries. Use the same screw to secure the alarm
box cover. If screw is not replaced, alarm will sound
when attempting to arm the alarm.



TEL-110, TEL-210
Battery Alarm

TEL-120, TEL-220
Direct Power Alarm

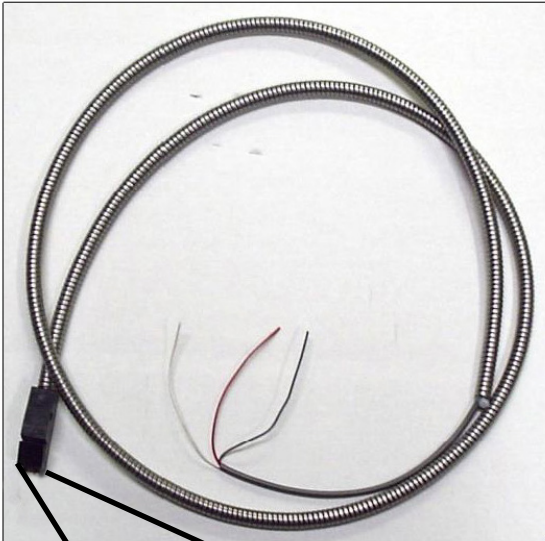


Alarm Cover Screw
(for tamper switch) 8-32x3/8"



LOW BATTERY ALERT

Alarm will beep intermittently (like smoke alarm).
Change **two** 9-Volt alkaline batteries.

**TEL-ASO****Parts:**

- 1)** TEL-ASO armored cable with reed switch connector and leads

Red=Common

White=N.O.

Black=N.C.

Black wire not used unless with alarms by others.

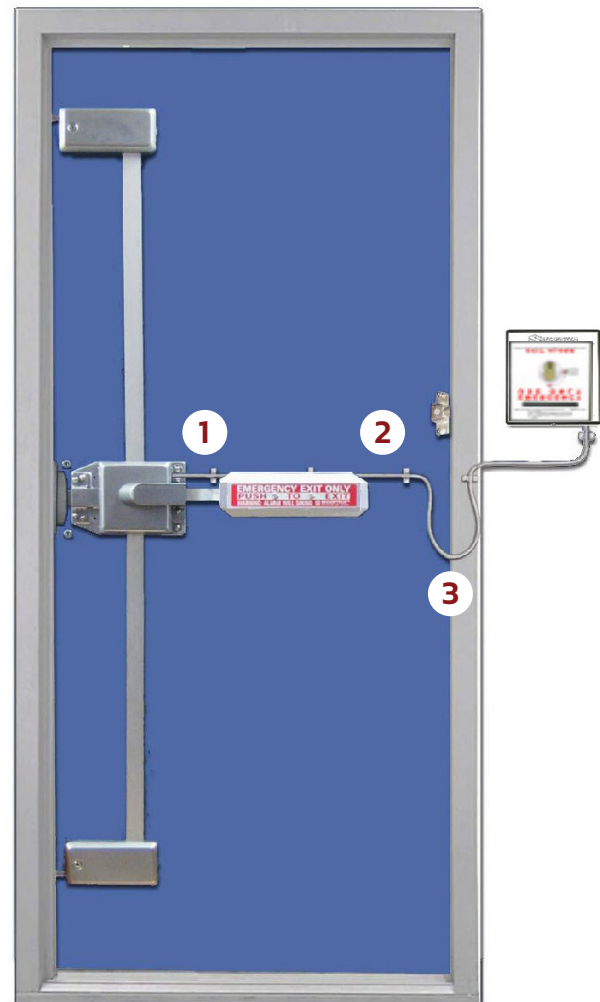
- 5)** Armored cable clips

- 10)** Self drilling screws

The armored cable can be run along the door and connected to any access control system. Depressing the paddle will activate the alarm.

Installation:

- 1)** Plug connector into side of mechanism (behind paddle).
- 2)** Run cable across door and fasten with clips using the self drilling screws provided.
- 3)** Leave a 10" loop at the hinge edge of the door to allow the door to open freely.



STEP 1

Remove
5mm Hex nut
and remove
cover

Cover

COMPRESSION
CLIP

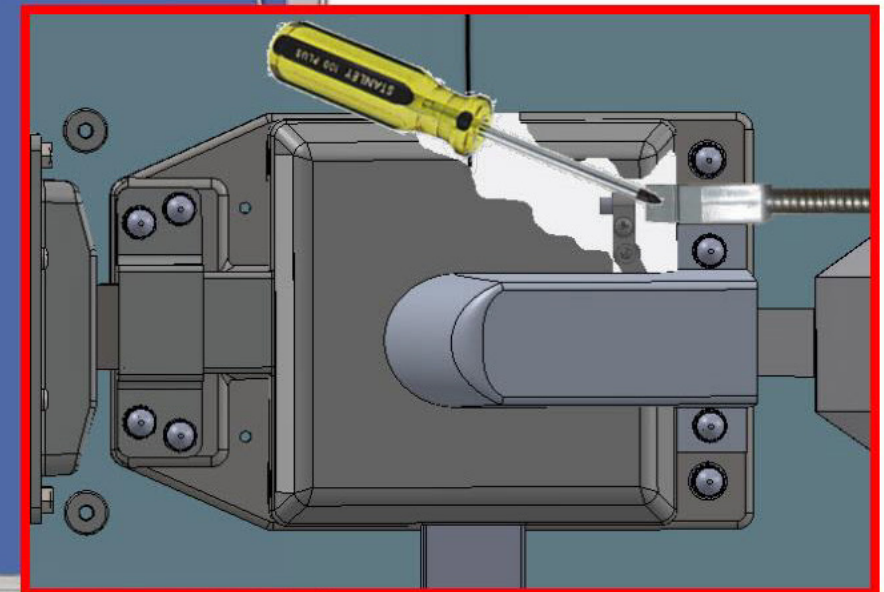
STEP 2

Remove
Aluminum
channel

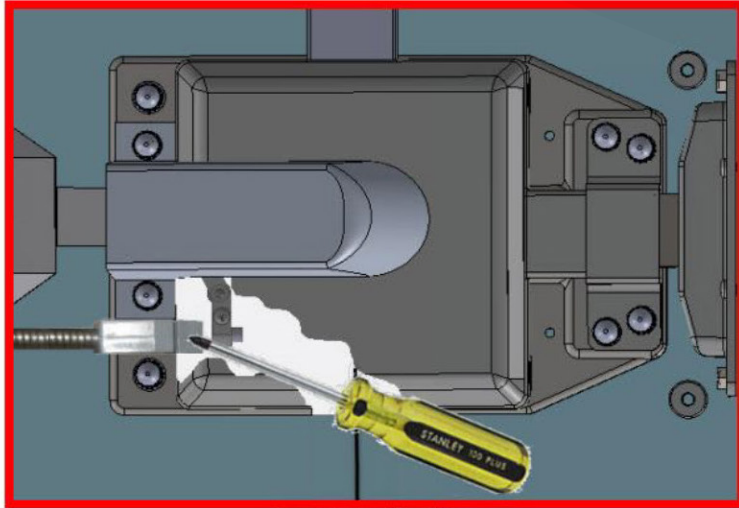
TEL-ASO

STEP 3

Insert a slotted
head screw driver
into this opening
and compress the
plastic clip on the
gray alarm
connector



TEL-ASO Alarm Cable Removal Instructions RHR

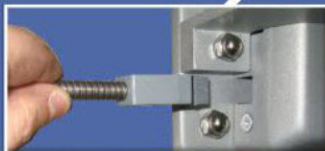


STEP 3

Insert a slotted
Head screw
driver into this
opening and
compress the
plastic clip on the
gray alarm
connector

STEP 2

Remove
Aluminum
channel



**COMPRESSION
CLIP**



STEP 1

Remove 5mm
Hex Nut and
remove cover

Cover



The ASSA ABLOY Group is the global leader in access solutions. Every day, we help billions of people experience a more open world.

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