



Dear Valued Customer,

Cansec Systems Ltd., is the manufacturer of the SmartFob transmitters. Late last year we received the first report regarding a loose battery clip on the transmitter. This was the first time in the Smartfob's production history that we had received a report about the "Battery Clip" issue. In previous production runs of the product, we had no reports of any failure of the battery clip connection.

Immediately after receiving the first complaint, an investigation was done to determine why this was happening. In the investigation all possible causes were considered, including: mechanical operation of the Smartfob, possible improper customer operation, and our production procedure

While investigating the mechanical operation of the Smartfob, it was verified and found that there is no mechanical binding of the battery clip while it sits on the printed circuit board (PCB). This means that pressing the buttons will not cause the battery clip to detach from the circuit board .

While investigating the possibility of improper customer use, our only area of uncertainty was battery replacement. Depending on usage, the Smartfob batteries should last 1-2 years. To replace the Smartfob battery, the printed circuit board (PCB) has to be lifted out of the Smartfob case so that a new battery may be installed. Due to manufacturing tolerance of the PCB and the plastic case, some of the PCB's require *some force* to remove the PCB from the case. The proper way is to slip a paperclip or small screw driver under the PCB and pry it out of the case, putting force on the PCB only, and not on any components. If a customer lifts the PCB by pulling on the battery clip, it will weaken the connection between the PCB and the battery clip. Cansec strongly advises that customers do not pry up the PCB using the battery clip. It is very hard to ascertain whether the battery clip came loose because of improper replacement procedure unless a customer will admit it. Thus, we can only assume that improper battery replacement procedure *could* be a cause of the problem. We created a document to show the proper battery replacement procedure.

While investigating our production procedure, we discovered an issue revolving around the amount of solder that was placed on the battery clip. The battery clip is attached to the PCB in a *surface-mount soldering* process. The amount of solder between the battery clip and the PCB is the result of the *surface-mount soldering* process and is the responsibility of the company that

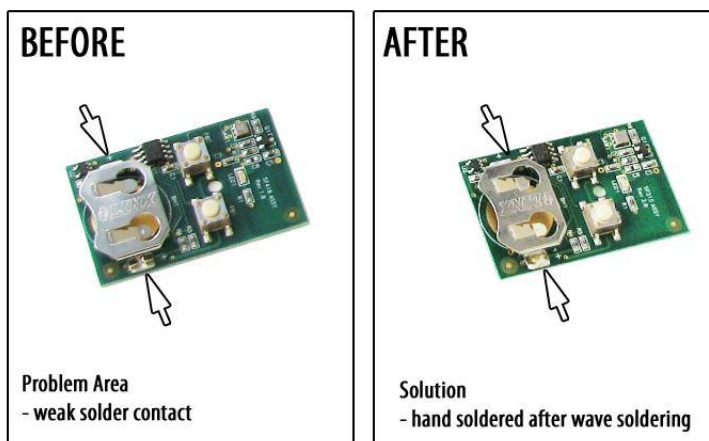
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produces our printed circuit boards. After discussing this matter with them, the conclusion was made that on some of the product, not enough solder was being placed on the connection area of the battery clip. Therefore, it was concluded that extra solder must be applied to the battery clip connection. In the *surface-mount soldering* process, however, the amount of solder cannot be increased in one area. To resolve this, our board production company places extra solder (hand soldered) on the battery clip following the *surface-mount soldering* process. This process is now a standard part of the production process and final inspection. Since the implementation of this new production method, we have not had a report of a battery clip coming loose.

Please view this picture



Lastly, an important consideration is that not all battery clips fail, as some clips have sufficient solder to maintain a solid connection. Because of that fact, our approach is to work with the customers who have had this problem, by repairing and returning the problem units. Our procedure is that the "client" contacts their Cansec Dealer for this repair procedure. After we receive the units, via the Cansec Dealer, they will be repaired, verified and returned to the dealer, who will forthwith return them to the customer.

Regards,

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