

Samsung Galaxy S7

25th April 2016

by Larry Zhang & Xiaoming Chen



TEARDOWN



PennEngineering®

Samsung Galaxy S7 Overview





Samsung Galaxy S7

Details & Findings

Pictures and Description of the Samsung Galaxy S7 and the Disassembly Process.

Samsung Galaxy S7 Teardown

Step1: Remove the back cover

The hot wind gun is set to 270 degree and blow the back cover about 30 s then use the vacuum absorb to remove the back cover.

We can see the camera is as below marked in purple, and the back cover is made by plastic material.





Samsung Galaxy S7 Teardown

Step2: Remove total 12pcs screws.



The screw details are as below

- Thread: M1.2
- QTY: 12pcs
- OAL: 3.5mm
- Head Thickness: 0.53mm
- Head Diameter: 2.5mm
- Plating: Bright Nickel

- Driver: Phillips
- Material: Carbon Steel
- Patch: Yes
- Color: White



All these screws are threaded into the internal thread boss in main Al-Mg body. © 2012

Samsung Galaxy S7 Teardown



After remove the 12pcs screws, we can remove the protect cover as left picture, then we can see the right picture with all other components of battery, speakers, fan, and integrated main PCB. The frame can be seen and known to be made by Al-Mg alloy.

Also there are three more screws marked in purple. One is used to fix ear plug, and two others are used to fix the power charge connector.

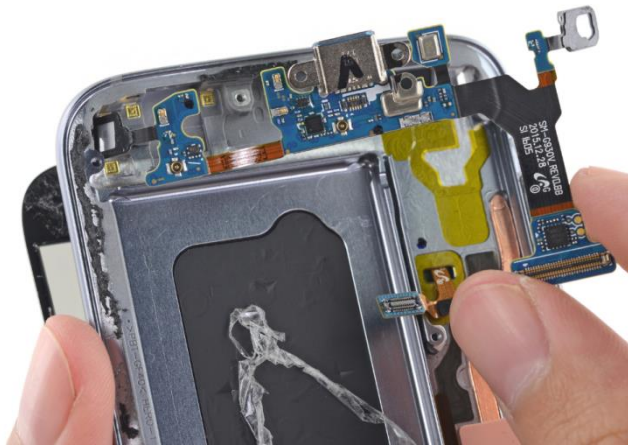
Samsung Galaxy S7 Teardown

Step3: Remove total 3pcs screws that are used to fix the ear plug & the power charge.



The screw details are as below

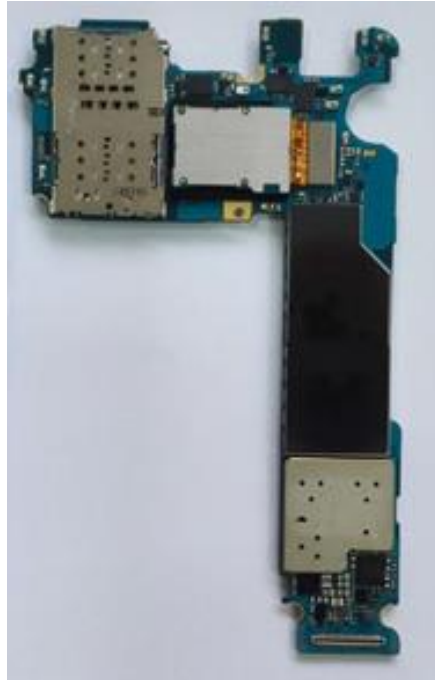
- Thread: M1.2
- QTY: 3pcs
- OAL: 3.0mm
- Head Thickness: 0.60mm
- Head Diameter: 2.5mm
- Plating: Bright Nickel
- Driver: Phillips
- Material: Carbon Steel
- Patch: Yes
- Color: White



All these screws are threaded into the internal thread boss in main Al-Mg body.

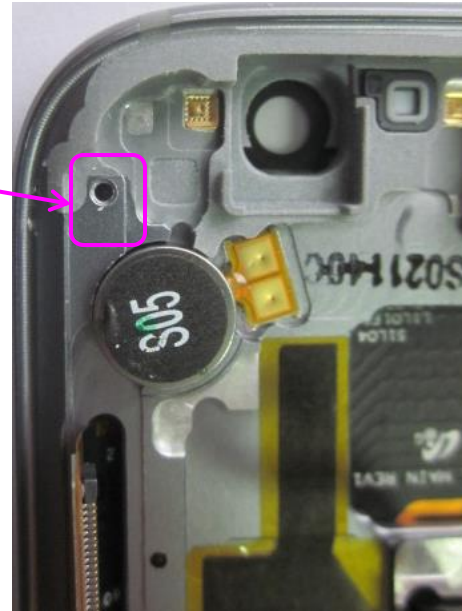
Samsung Galaxy S7 Teardown

Step4: Remove main PC board and battery.



The very strong adhesive material is used to connect the battery with main board.

Samsung Galaxy S7 Teardown



Per check the threaded hole in the main body, the M1.2 internal threads are tapped on 2nd operation.
All 15pcs threads are made with same method.



Samsung Galaxy S7 Teardown

Overview - All Components After Teardown



Fasteners Summary

Total 15 screw fasteners are used in the Samsung Galaxy S7.

The list is as below:

- Thread Size: M1.2*3.5, QTY: 12PCS (see slide #5)
- Thread Size: M1.2*3.0, QTY: 3PCS (see slide #7)

All threaded into tapped holes in the Al-Mg alloy body (see slide #9)

Alternate Solutions

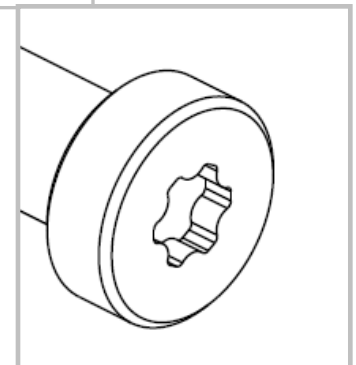
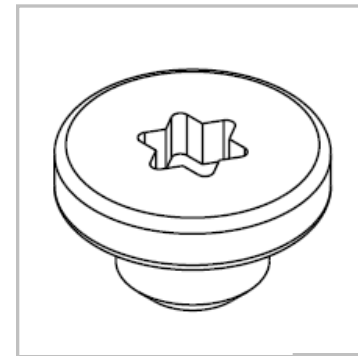
PennEngineering® recommendations of alternate hardware and cost savings opportunities.



Alternate Solutions

- Micro Screws alternate solution:

PEM can provide all off these screws with different design solutions. PEM has license with Torx and Torx Plus driver and self-tapping thread patent as like TAPTITE, FASTITE, REMFORM and REMFORM F.



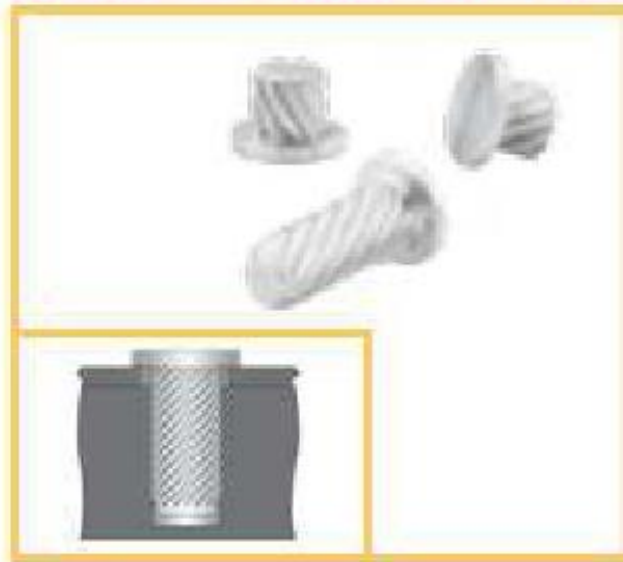
Alternate Solutions

PEM TackSert Parts:

In the Galaxy S7 disassembly process, the screws are used to fix & connect PC board, ear plug and power charge with main body.

In the case, PEM TackSert parts can be used in some locations, however, this is a permanent connection and can't be reworked. The installation will be more fast by press-in to replace turn-in.

microPEM[®] TackSert[™] Pins





Conclusions and Summary

The Samsung Galaxy S7 is a very interesting smart phone device with arc screen and arc mail body corner. The disassembling process is quite simple, something that translates into easy repairs if necessary. Throughout the teardown process we identified 15pcs M1.2 screws.