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A SOULTION WITH STEALTH FASTENER FOR COSMETIC ENHANCEMENT

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A SOLUTION WITH STEALTH FASTENER FOR COSMETIC ENHANCEMENT

Prior Design

Prior solutions most of parts fastened by screw, detail as below picture.

Make the screw hole in parts right location, either molding, stamping process make screw hole by tooling, either CNC process. Then to select right screw, operation fix the screw by screw driver, then get the finished good parts. This is original way to fix the parts



We usually use screw for parts fastening, and screw is a famous fastener for our industry, this patent is new fastened solution made use of liquid metal special physical.

This solution could get amazing cosmetic and w/o any screw hole and screw in cosmetic surface, also this solution is very easy for rework

New Design and Drawing

We should get the Part A, B, and Liquid Metal Pin Part C as Picture 1

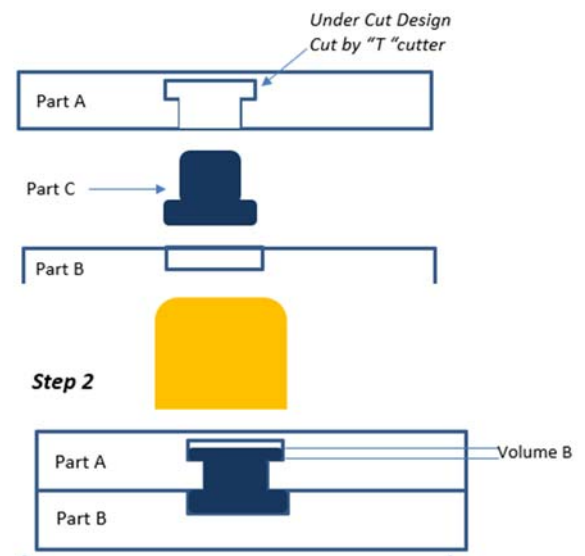
Remark: Volume A area should be larger than Volume B since we need undercut feature to fix the parts once it is be re-solid, Total Part A hole volume > liquid metal volume, since we need all liquid metal more down to Part A and w/o undercut feature for rework

we need to use heat pipe to heat the liquid metal as Picture 2. remark: The Temp. is high than Liquid Metal melting

Liquid metal will move down and full in the space as Picture 3

within Part A & Part B once the Temp. high then that melting Liquid metal will change to solid status once the heat pipe be removed and Temp. low than that melting

For Rework process, we only upturned combination part, and re-heat Parts, and Liquid metal will return to part A space part A and part B will be spit again since w/o under cut.



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