

Project Decomposition:

Electric Wine Bottle Opener by DEIK

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3.6.2020

Exploded View:




Description: The DEIK Electric Wine Bottle opener provides a quick and effortless way to remove corks within seconds from wine bottles. The DEIK Electric Wine Bottle is equipped with a dome aluminium foil cutter to remove pesky aluminum tops. The DEIK can open up to 60 wine bottles in a single charge.




How it Works: The DEIK works by using a motor to spin a corkscrew into a cork until it reaches the top of the see-through bottom container, then it pulls the cork back up while maintaining the wine bottle down allowing for the cork to come out effortlessly.

Part List:




Part #	Part Name	# Required	Material	MFG Process	Image
1	Outer Casing	2	Some polyolefin	Cast injection molding	 
2	Inner clear case	1	Polythene	Injection molding	



3	Outer bottom case	1	Polythene	Injection molding	
4	Support bar	1	Some polyolefin	Injection molding	
5	Fixings	Screws: 21 Nuts: 4 Rivets: 1	low/ medium carbon steel wire	Screws: Thread rolling Nuts: Blanking & cutting Rivet: Drawing	

6	Washers	2	Some steel	Coined process	
7	Batteries	3	Cathode, anode, electrolyte	Electrochemical process	
8	Motor	1	Silicon steels	Simple assembly	
9	Battery holder, Wiring	Holder:1 Wires: 2	Polypropylen e	Battery Holder: Injection molding Wires: Extrusion	

10	Light board	Board: 1 Wires: 4	Paper reinforced w/ phenolic resin w/ bonded copper foil		
11	Cap	2	Polyolefin	Injection Molding	
12	Blades	2	Steel	Punch press	

13	Gears and surrounding cover	Gears: 8 Gear placeholders: 2 Surrounding cover: 1 Cover lid: 1	Some polyolefin	Molding	
14	Connector to cork screw	1	Some steel	Base: sand-casted Rod connected to base: extruded	
15	Battery support	1	Some polyolefin	Cast injection molding	

16	Support for cork screw and light board	1	Some polyolefin	Cast injection molding	
17	Cork screw	1	Some polyolefin and some metal	Injection molding and plastic coating	
18	Springs	2	Stainless steel	Coiling compression	

19	Switch	1	Stainless steel	Cast injection molding	
20	Switch Controller	1	Paper reinforced w/ phenolic resin w/ bonded copper foil		

Function Structure:

