



3D PRINTED MULTIPURPOSE DOOR OPENER TOOL FOR COVID 19

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Introduction: Defence Research and Development Organization (DRDO) is actively involved in development of many products for combating COVID-19. This COVID-19 virus is primarily transmitted through direct contact with infected people and also through indirect contact with surfaces in the immediate environment or with objects used by the infected person. In day to day life, the usage of objects such as door handles, cupboard handles, key pads of lifts, ATM kiosk key pads, computer keyboards etc. are inevitable. These objects are being used by more people and it is very difficult to ensure continuous sanitization of these common objects. Hence, DRDO has designed a multipurpose door opener tool and the prototype developed at Defence Research and Development Laboratory (DRDL), Hyderabad through 3D printing process using thermoplastic material.

Description: Multipurpose Door Opening tool is an ergonomically designed compact handy tool that provides a touch free operation of most of the commonly used objects such as door handles and key pads etc. Thus this tool aids in controlling the spreading of virus by indirect method through the objects used by infected person. With the help of this tool, finger touching of surfaces that are commonly used such as key pads of lifts, ATMs, door and cupboard handles etc can be avoided. This tool is made of two parts (1) Hook and (2) Cover. The hook is designed ergonomically considering the common sizes of door handles. The hook is also provide with tips to operate the key pads at ATMs, Lifts and Keyboards. The cover is designed to accommodate thin layer of felt or tissue to sanitize the tool when closed. Hence, it will be safe to handle the tool for frequent use.



Fig 1 : Multipurpose Door Opener tool

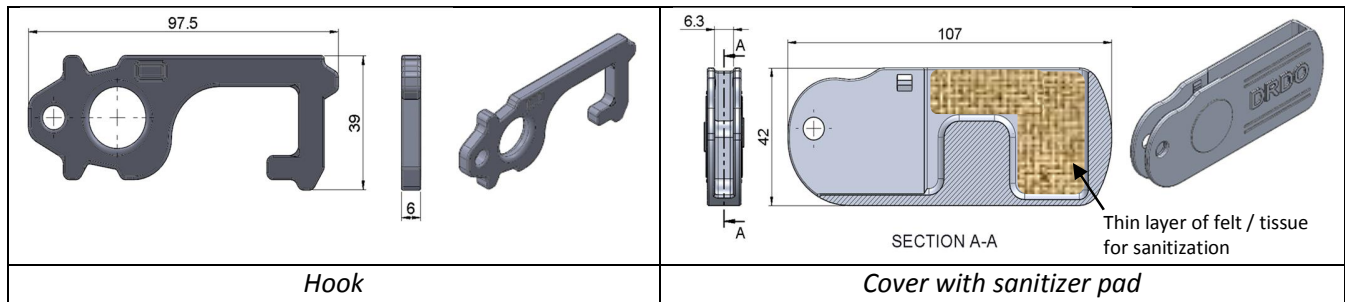


Fig.2: Schematic Sketch of Multipurpose Door Opener Tool

Application: This multipurpose door opening tool finds very wide applications in the following circumstances and beyond

1. Opening of door by pulling of door handle
2. Opening of cup boards and drawers by pulling of handle
3. Touching of touch screens in ATM / Airport self check-in kiosks
4. Pressing of buttons on lifts / key pads on ATMs
5. Pressing of keys on computer key boards etc..

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Fig.3: Prototype developed at DRDL

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