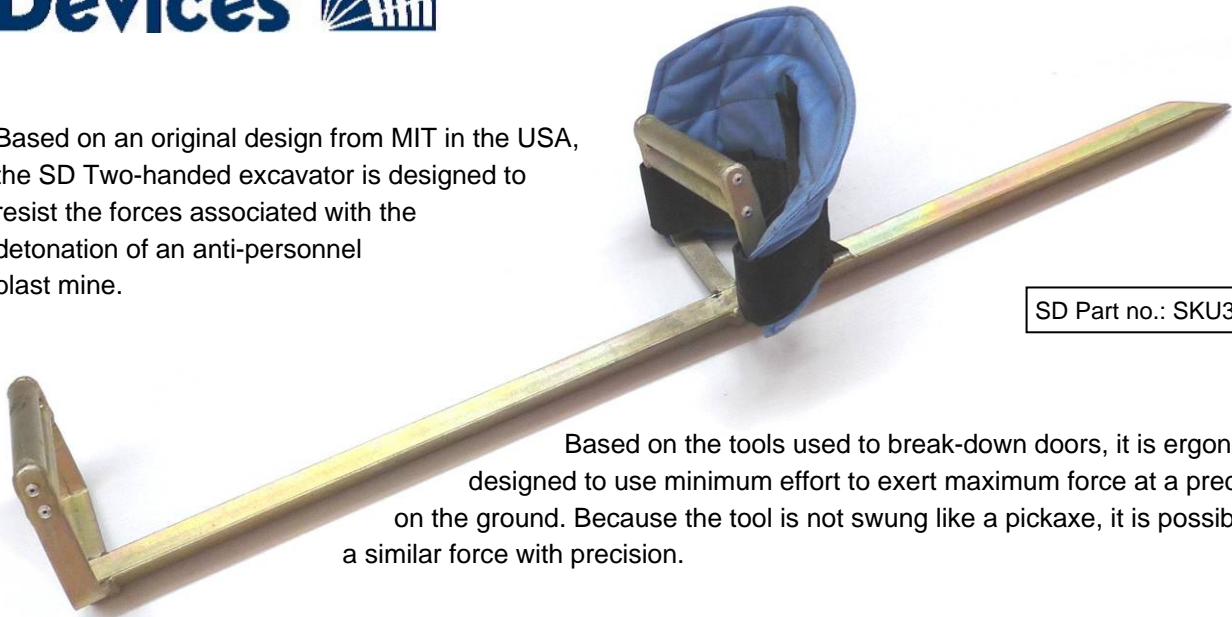




## Using the SD two-handed excavator

Based on an original design from MIT in the USA, the SD Two-handed excavator is designed to resist the forces associated with the detonation of an anti-personnel blast mine.

SD Part no.: SKU3017



Based on the tools used to break-down doors, it is ergonomically designed to use minimum effort to exert maximum force at a precise area on the ground. Because the tool is not swung like a pickaxe, it is possible to apply a similar force with precision.

The tool is nominally 45 cm between handles and has a 90 cm overall length. The handguard on the forward handle is designed to keep the leading hand safe in the event of a detonation.

The SD Two-handed excavator is designed to be used in hard ground where other tools make little impression. It is meant to replace the pick-axe and mattock, which are used - but with which there have been many accidents.

The deminer should mark a metal-detector indication and start digging at least 20cm away from it (further when large devices may be present). The deminer uses the excavator to break up the ground to the clearance depth without getting any closer to the metal-detector indication. The SD Two-handed excavator should then be put aside and the other SD blast resistant tools used to extend the excavation towards the metal-detector indication. If this is done properly, any device will be approached from the side with minimum risk of applying pressure to the top of it.

The photograph shows a deminer in Sri Lanka using the SD Two-handed excavator. In the very hard ground, he is digging well back from the red detector signal marker and can do so quickly and easily.



### **CAUTION!**

Do not use the tool to extend the excavation to the metal-detector indication. It is only intended to break the ground where an excavation starts.

*SD blast-resistant hand-tools for Humanitarian Demining are made using design rules developed during research funded by US Army CECOM NVESD by Andy Smith. See the design rules at <http://www.nolandmines.com/hand-tooledesigncriteria.htm>*

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