

**Type of Incident: Loss of top joints of fingers**



**Description**

While tightening the chuck of the bench drill with a chuck key the drill rotated under power. A wire loop on the chuck key trapped the crewman's fingers, immediately severing the distal phalanx of the middle and ring fingers. The bench drill has a foot operated switch, the function of which breaks contact when a foot is placed on it and activates when released. The crewman had his foot on the foot switch while fitting the bit, and had removed his foot while still turning the chuck key.



The phalanges of the fingers were severed by the wire tied to the chuck key which had wrapped around the drill bit when the drill rotated.

The power had not been disconnected from the unit.

**Causes (Immediate and Root Cause)**

**Immediate cause:**

Failure to maintain pressure on the foot switch. power not isolated

**Root causes:**

The foot switch was incorrectly wired, the situation had existed for some time and not been corrected although it had reportedly been recognized by the Engineers. The situation was manifestly unsafe, and yet no positive action had been taken to rectify it, it had simply become "normal".

**Actions / recommendations:**

- A fleetwide notification to be promulgated confirming the correct operation of foot switches and verification that independent emergency stops are in place
- Wire loops to be removed from chuck keys
- A note to be placed close to the drilling machine requiring power to be isolated before changing drill bits

**Questions for discussion**

1. Would an emergency stop switch have prevented this?
2. How can we prevent the entrapment of limbs and clothing in rotating machinery when adjusting it?

Please discuss in the general safety meeting and with relevant teams.