Fabrication& Analysis of the Drill Chuck for Marking a Squire Hole

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ABSTRACT

This paper describes the design, analysis, and manufacturing of chuck drills for square hole drills. This is also known as a free drill cock. There are several ways to open a square hole. The REALEAUX drill style is one way to drill square holes. The REALEAUX drill tool / tool has three pages. The center of the drill rotates, rotates around the spindle axis, and rotates in a known plane perpendicular / perpendicular to the spindle axis. For chuck drill, taper Morse / cylinder, chuck shell drill, plug partition chuck, universal coupling, attachment, chuck / hub front drill, sample drill / model drill, guide plate, screw drilling modeling, correction, and monitoring Create and test the NX8 .0 software drill hack used in Medium steel is used to manufacture various parts of drill chucks.

Keywords: Free Floating, Drill Chuck, Squire Hole Drill, and REALEAUX Triangle

INTRODUCTION

Drilling a square hole in a solid metal material like a circular stack is not easy. Create a previous circular hole on the side of the square geometry and use a triangle file to remove material from the four corners of the circle. This process does not require a drill chuck to hold the machine or hold the tool. This is because a toll gate is needed to hold the cutting machine / tool [1]–[3].

Square Hole Drill Chuck [4], [5]

Square perforations / holes are created straight using a square drill hole. This special drill mechanism includes elegant / mild steel plate, morse taper cylinder / shank, steel round bar / shaft, universal pair / coupling, drill bit holder, REALEAUX triangle drill bit, outer shell, bolts and so on. There are no components. Above the collection component shown in Figure 2. This is quite different from a typical chuck. This is because the square holes and triangles of the REALEAUX drill do not match each other at the center. Near the center of the square hole. This type of chuck is called a free flow chuck [6]–[9].

FABRICATION

The final fabricated parts of the paper is represented in the *Figure 1*.

Figure 1. Final assembly

TESTED ON WORK PIECES

Test results on the work piece is displayed in *Figure 2*.

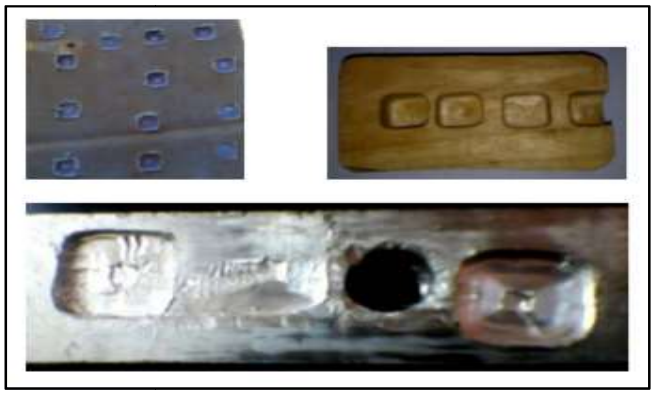

Figure 2. Square holes made on plates

RESULTS

The result for the calculation of the design is shown in *Figure 3*.

Part Name	Dimensions of the part
Drill bit holder	Step 1: diameter=14mm Step 2: diameter=25mm
Links	Link1: diameter=7mm Link2: side= 5mm Link3: diameter=10mm
Morse taper shank	Bigger diameter=14mm
Chuck partion plates	Inner diameter=18.825mm External diameter=54mm Thickness=7mm

Figure 3. Results of the calculations

CONCLUSION

- A square drill cuck was designed and manufactured.
- All survey/analysis findings are within the limits/parameters allowed.
- A square hole can be made of a kind of REALEAUX of a drill. The drills of REALEAUX are more efficient compared to other operations.
- The time limit for making a square hole is very less. It may be equivalent to reactive work in the drill press. It is quicker and faster than a slot and shaper tool.
- The working time for changing time the tool is entirely zero as compared to another process likeslotting and shaper machines.

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