**Purpose:**

The purpose of this procedure is to describe the process to properly mount Flex-Beam crystals for Rotary Surface Grinding and Drilling.

**Responsibilities:**

Crystal Department engineering / management is responsible for maintaining this procedure. Crystal Department machinists are responsible for carrying out this procedure.

**Associated Documents: ISO 9001, QAM, QSM, AS9100, CR1041**

**Procedure:**

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## General Description and Practice

This procedure describes the process used to mount Flex-Beam crystals for Rotary Surface Grinding and Drilling

## Safety Precautions

Only trained crystal machinists may mount Flex-Beam crystals. Use appropriate caution when operating the hot plate and waxing pot, surfaces and waxes will be hot and will cause burns.

## Equipment and Materials

Hot Plate

Cold Plate

Waxing Pot

Acid Brush

100-8376-20 - STRONGHOLD WAX, 7036.10

100-8630-30 - WAX YELLOW BITE

Mounting Plates Per Router Notes

Glass

59759-01 Blocking Plate

Trim Plate

100-16970-10 - SPEC CONTROL DRAWING FLEX BEAM ROBO DUDS

## Waxing for Initial Grinding

* 1. Turn on the hot plate to the desired temperature, 75°C to 150°C.
  2. Set mounting plates specified on router onto the hot plate and let them warm up to temperature.
  3. Spread a thin layer of wax, 100-8630-30 – WAX YELLOW BITE, onto the mounting plate and then place a maximum of 9 crystals on each plate.
  4. Press down on the crystals to remove any bubbles and to ensure a consistent thickness of wax below the crystals.
  5. Slide mounting plate to cold plate and let cool.

## Waxing for Drilling

* 1. Turn on the hot plate to the desired temperature, 110°C to 120°C.
  2. Turn on Wax pot to temperature, 160°C to 190°C. Allow wax to melt.
  3. Set 59759-01 blocking plates, glass, mounting plates specified on router, and crystals onto the hot plate and let them warm up to temperature.

**NOTE: DO NOT LET CRYSTALS EXCEED 120°C**

* 1. Using the acid brush, transfer a thin layer of 100-8376-20 - STRONGHOLD WAX, 7036.10, onto the blocking plate and place the glass on top. Push down on the glass to evenly spread the wax between the surfaces.
  2. Using the acid brush, transfer a thin layer of 100-8376-20 – STRINGHOLD WAX, 7036.10, onto the glass. Place a maximum of 9 crystals on each plate.
  3. Press down on the crystals to remove any bubbles and to ensure a consistent thickness of wax, moving the crystals to the top left portion of the fixture.
  4. Repeat step 5.5 for 3 more layers, stacking the parts for a total of 4 layers high.
  5. Using the acid brush, transfer a thin layer of 100-8376-20 – STRINGHOLD WAX, 7036.10, onto the glass. Place a maximum of 9 duds 100-16970-10 – SPEC CONTROL DRAWING FLEX BEAM ROBO DUDS onto the top layer of crystals

NOTE: Final stack should consist of 4 layers of parts, and 1 layer of duds.

* 1. Press down on the crystals to remove any bubbles and to ensure a consistent thickness of wax moving the crystals to the top left of the fixture
  2. Slide mounting plate to cold plate and let cool.

## Waxing for Final Grinding

* 1. Turn on the hot plate to the desired temperature, 75°C to 100°C.
  2. Set mounting plates specified on router onto the hot plate and let them warm up to temperature.
  3. Spread a thin layer of wax, 100-8630-30 – WAX YELLOW BITE, onto the mounting plate and then place a maximum of 12 crystals on each plate.

**NOTE: DO NOT LET CRYSTALS EXCEED 120°C**

* 1. Press down on the crystals to remove any bubbles and to ensure a consistent thickness of wax below the crystals.
  2. Slide mounting plate to cold plate and let cool.