

3D Printed Diagnostics

Finishing Standard Work Instructions (SWI)

Process: Buffing and finishing the trimlines on a 3D printed Diagnostic socket

Purpose: To define the standard method for finishing 3D printed diagnostic sockets to ensure consistent trimlines, safe edges, and high-quality appearance while preserving design intent.

Scope: Applies to **Transtibial (TT)** 3D printed diagnostic sockets requiring shuttle lock or lanyard suspension.

Tools & Equipment

- Trautman
- Trautman Sanding wheel (Part # 225240)
- Medium sanding cone (Part # 427-24)
- Small sanding cone (Part # 426-24)
- Silicone polishing cones
- Compressed air
- Torch (for edge finishing)

Quality & Process Standards

- **Maximum material removal:**
2–3 mm (1/6"–1/8") from trimlines

Standard Work Steps



SAFETY & PPE REQUIREMENTS

- **SAFETY GLASSES**
- Dust mask (as required)
- Hearing protection (as required)

1. Work Order Verification

- Confirm **patient name** at the bottom of the socket matches the work order
- Verify correct **suspension type** and **affected side**

2. Prepare for Grinding

- Transport the printed diagnostic socket to the designated grinding area.

3. Grind Trimlines

- Use the **sanding wheel on the Trautman** arm or the **medium sanding cone**
- Use the **small sanding cone** for sharp corners
- Grind both the **inner and outer edges** of the trimlines evenly



4. Buff Trimlines

- Reduce Trautman speed to **50%**
- Use **silicone cones** to buff trimlines
- Focus on critical anatomical areas:
 - **Transtibial:** Posterior shelf
- Buff and remove all sharp edges on the **inside** of the socket

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5. Clean the Socket

- Use **compressed air** to remove all shavings and dust from inside the socket

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6. Finish Edges

- Lightly pass a **torch** around the trimlines to produce a smooth, shiny finish



FINAL INSPECTION CHECKLIST

- **IDENTIFICATION VERIFIED**
(name, suspension, side)
- Trimlines within material removal limits
- All edges smooth (inside and out)
- No residual dust or debris
- Finish consistent and clean