Aerospace Tooling

Drill Press Swaging Tool Instruction Manual
GLOBAL MASTER DISTRIBUTOR:

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Part List

Figure 1 - Tri-Roller Swaging Tool

Figure 2 - Primary Anvil

Figure 3 - Secondary Anvil
## Tool Component Breakdown

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<th>Number</th>
<th>Tool Component</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Tri-Roller Swaging Tool</td>
</tr>
<tr>
<td>2</td>
<td>Rollers</td>
</tr>
<tr>
<td>3</td>
<td>Pilot</td>
</tr>
<tr>
<td>4</td>
<td>Primary Anvil</td>
</tr>
<tr>
<td>5</td>
<td>Secondary Anvil</td>
</tr>
</tbody>
</table>

*Figure 4 - Tool component breakdown*

## Bearing Terminology

*Figure 5 - Bearing terminology*
Precautions Prior to Use

- The bearing must be properly installed and centred in the housing using an install/remove tool before swaging.
- Ensure the housing has suitable clearance for tool operation to be performed.
- Make sure all contact surfaces are clean and free of debris.
- Application of a light machine oil is advised.

Set-Up Instructions

**NOTE: DO NOT START SPINDLE DURING SETUP**

- Apply a light machine oil to the rollers (2).
- Install tri-roller swaging tool (1) into the chuck of a drill press or vertical milling machine.
- Set workpiece on primary anvil (4) so the pilot (3) goes through the bearing bore.
- Bring down tri-roller swaging tool (1) in order to align workpiece so that the pilot locates within the bearing bore and the rollers (2) touch down on the bearing v-groove.
- Set spindle to recommended speed.

**NOTE: RECOMMENDED SPEED IS INITIALLY 50 RPM. THIS CAN BE LATER INCREASED TO 150-250RPM DEPENDING ON OPERATOR PROFICIENCY AND EXPERIENCE.**
Operating Instructions

Primary Swage

Step 1 – Begin Swage

- Start spindle and slowly apply gentle pressure so the rollers (2) centre in the bearing v-groove and begin swaging.

**NOTE: GENTLE PRESSURE IS DEFINED BY TWO FINGERS ON FEED LEVER.**

Step 2 – Repeat Step 1

- Repeat Step 1 one or two times by applying slight pressure and maintain swaging tool engagement for approximately 5 seconds.

Step 3 – Stop Swage

- Release pressure and withdraw tool from workpiece.

Step 4 – Inspect Swage

- Inspect swage per the requirements of the drawing or swaging specification.

Step 5 – Repeat until Complete

- Repeat Steps 1-4 until swage is complete.

**NOTE: A COMPLETE SWAGE IS DEFINED BY NO GAP LARGER THAN 0.002”-0.005” OR THE GIVEN MANUFACTURER SPECIFICATION.**

- Once the swage is complete, release pressure and withdraw tool from chuck.
Operating Instructions

Secondary Swage

- Flip over workpiece to begin work on opposite side of bearing.
- Set workpiece on secondary anvil (5) and follow setup instructions to ensure the tool spindle is properly aligned.
- Follow Steps 1-5 until secondary swage is complete.

NOTE: YOUR BEARING IS NOW FULLY INSTALLED AND READY FOR INSPECTION TESTS WITH THE USE OF UNASIS PORTABLE PROOF LOAD TOOL AND UNASIS BREAKAWAY TORQUE TOOL.
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