Anti-Rotation Ring Kit

Accessories for
ULTRASONIC PRESS SYSTEMS

User's Manual
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This user’s manual documents product features, hardware, and controls software available at the time this user’s manual was published.

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Dukane ultrasonic equipment is manufactured under one or more of the following U.S. Patents:

3,780,926  3,825,481  4,131,505  4,277,710  5,798,599  5,880,580  6,984,921,  7,225,965, 7,475,801, and  8,052,816

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## Revision History

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Overview

This User's Manual will provide detailed information about the accessory Anti-Rotation Ring Kit designed for use with Dukane ultrasonic acoustic stacks.

The anti-rotation ring permits repeatable, precise horn positioning during stack reinstallation in a thruster. The assembly permits a full 360 degrees of horn rotation and is depicted in Figure 1 below.

Contents of the Kit

• Anti-rotation ring,
• A modified lower booster ring, and
• Fasteners with washers.

More Information - Please refer to the appropriate welder user’s manual for welder operating instructions.

NOTE

The Anti-Rotation Ring Kit can be used with many boosters. Because product improvements are ongoing, Dukane recommends that you discuss sizing, and other issues with Dukane’s Intelligent Assembly Solutions Application Department personnel.

Contacting Dukane - Use our website: www.dukane.com/us/UltraContacts.htm

Figure 1 Assembled Ring on Booster (Booster shown is 1.0; May Vary)

NOTE

The transducer is not shown in the Figures.
Tools Typically Needed

- Spanner wrenches,
- 9/64” hex key, and a
- 3 mm hex key.

In rare cases: (only if replacing the existing booster rest block in the thruster)

- 75 in-lb torque wrench with 5 mm hex key bit.

Step-by-Step Procedure
(The transducer is not shown in the Figures.)

1. Remove the horn from the stack. (If the booster and anti-rotation rings can slide over the horn, the horn need not be removed). Remove the lower clamp ring from the horn as shown in Figure 2 using the 9/64” hex key.

Figure 2 Lower Clamp Ring Removal
2. Assemble the new lower clamp ring with tapped holes in place of the previously removed clamp ring using the same screws and the 9/64” hex key. Ensure that the pin grooves line up as shown in Figure 3. An extra O-ring is supplied in case the original O-ring is damaged or misplaced.

NOTE
Prevent the O-ring from being pinched. When properly placed in its groove, the O-ring will be free of pinching.

Figure 3 New Lower Clamp Ring with Tapped Holes
3. Next, place the anti-rotation ring onto the booster with the orientation shown in Figure 4 (the anti-rotation ring will be loose). Then reassemble the horn onto the end of the booster. Tighten the horn to normal specification. Horn shown is just an example.

Refer to our website for this article:
www.dukane.com/us/se_stackarticle.htm

Figure 4  Slide Anti-Rotation Ring on Booster and Assembled Horn
4. Estimate the correct orientation of the anti-rotation ring on the booster. Fasten with (3) supplied screws and (3) supplied washers using the 3 mm hex key, as shown in Figure 5 but do not tighten the screws. This allows the stack to rotate when inserted into the press.

Figure 5  Fastener Installation
5. Insert the stack into the thruster so that the cavity will capture the block as shown in Figure 6. Once it is captured on the block in the thruster, rotate the tooling stack to line up the horn correctly. After the correct orientation is achieved, tighten the M4 screws with a 3 mm hex key to lock the position of the stack in the press.

Figure 6  Stack Installation
Block Replacement
(Rare Cases)

6. In rare cases the booster locating block may need to be replaced on the thruster to have a tighter fit with the anti-rotation ring. To replace the block, the thruster must be extended and the lower rail screw (which mounts the block) must be accessible. Remove the screw with the 5 mm hex key or hex key bit. Remove the block and replace with the block supplied in the kit. Retorque the block to 75 in-lb as shown in Figure 7.

Figure 7   Replacement Block Installation
Dukane ISO

ISO CERTIFICATION
Dukane chose to become ISO 9001 certified in order to demonstrate to our customers our continuing commitment to being a quality vendor. By passing its audit, Dukane can assure you that we have in place a well-defined and systematic approach to quality design, manufacturing, delivery and service. This certificate reinforces Dukane’s status as a quality vendor of technology and products.

To achieve ISO 9001 certification, you must prove to one of the quality system registrar groups that you meet three requirements:

1. Leadership
2. Involvement

The ISO 9001 standard establishes a minimum requirement for these requirements and starts transitioning the company from a traditional inspection-oriented quality system to one based on partnership for continuous improvement. This concept is key in that Dukane no longer focuses on inspection, but on individual processes.

Dukane’s quality management system is based on the following three objectives:

1. Customer oriented quality. The aim is to improve customer satisfaction.
2. Quality is determined by people. The aim is to improve the internal organization and cooperation between staff members.
3. Quality is a continuous improvement. The aim is to continuously improve the internal organization and the competitive position.

Dukane ISO

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