OLSON CORNEA
CALIBRATED
TREPHINE SYSTEM
OLSON TREPHINE

• A precise, reproducible way to trephinate both donor and recipient tissue
• Can be used for full penetrating and partial depth keratoplasty
• Significantly reduces induced astigmatism
OLSON TREPHINE

- Perpendicular cuts for exact match of donor and recipient tissue
- System allows complete visualization of the cornea during the procedure
- Same size blade can be used for donor and recipient tissue. Available in 7.0mm-8.5mm
COMPLETE SYSTEM

- Suction Ring
- Blade Holder
- Blade
- Micrometer
- Anterior Chamber Maintainer
BLADE SYSTEM
PREPARING THE BLADE SYSTEM

• To attach the blades, loosen the trephine set screw and unscrew the micrometer at the top of the trephine

• Align the notch on the blade with the pin on the blade holder. The blade should snap into place
PREPARING THE BLADE SYSTEM

• Replace the micrometer into the blade holder and set micrometer to 0.0mm setting by aligning both the horizontal marks on the blade holder with the vertical marks on the micrometer
PREPARING THE BLADE SYSTEM

• If you are planning a full penetrating keratoplasty, leave the set screw loose, so that the blade will cut continually deeper into the cornea.

• If you are planning a partial depth incision, select the desired depth by turning the micrometer, and tighten the set screw so the depth is preset.
PREPARING THE BLADE SYSTEM

• One revolution of the micrometer is equivalent to 500 microns (0.50mm)
• After locking the set screw to a specific depth, the trephine should be fully rotated at least three times to achieve a complete cut for partial depth incisions
• For full penetrating, the trephine should be rotated until aqueous comes from the chamber
## BLADE SIZES

<table>
<thead>
<tr>
<th>Blade Size</th>
<th>Item Number</th>
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<tbody>
<tr>
<td>7.00MM</td>
<td>AE-8239</td>
</tr>
<tr>
<td>7.25MM</td>
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<td>7.50MM</td>
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<td>7.75MM</td>
<td>AE-8242</td>
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<tr>
<td>8.00MM</td>
<td>AE-8243</td>
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<tr>
<td>8.25MM</td>
<td>AE-8244</td>
</tr>
<tr>
<td>8.50MM</td>
<td>AE-8245</td>
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</tbody>
</table>
PREPARING THE OLSON SYSTEM

- Connect the anterior chamber maintainer to the tubing provided
- The hub of the tubing should be connected to an empty syringe. Air will be used inflate the chamber
PREPARING THE OLSON SYSTEM

• Connect the tubing and spring-loaded syringe to the suction ring of the trephine
PREPARING THE OLSON SYSTEM

• Remove the screws on the top of AC maintainer and lift the cover
• Place a small drop of viscoelastic into the dimple of the AC maintainer
PREPARING THE OLSON SYSTEM

- Center the tissue onto the AC maintainer (epithelium-side up)
- Replace the cover of the anterior chamber maintainer and tighten the screws
CUTTING DONOR TISSUE

- Depress the syringe connected to the AC maintainer to create the anterior chamber. Turn connector tubing to off position to maintain pressure.
- Place the blade holder (with blade) into the suction ring to the first stop.
CUTTING DONOR TISSUE

- Place the suction ring onto the donor tissue. Activate suction by depressing and releasing syringe connected to suction ring. Press the lever on the suction ring to lower the blade onto the tissue.

- While holding the suction ring, turn the top of the trephine to complete the cut.
CUTTING RECIPIENT TISSUE

• The same blade can be used for the recipient tissue, or a new size can be selected
• Connect the tubing and spring-loaded syringe to the suction ring
• Place the blade holder (with blade) into the suction ring to the first stop
CUTTING RECIPIENT TISSUE

• Depress the syringe, center the trephine on the patient’s cornea, and activate the suction by releasing the syringe
• Press the lever on the suction ring to lower the blade onto the tissue
• Trephinate the cornea
CUTTING RECIPIENT TISSUE

• The trephine should be fully rotated at least three times to achieve a complete cut for partial depth incisions
• For full penetrating, the trephine should be rotated until aqueous comes from the chamber
OLSON DIAMOND
WOUND SEPARATOR
DIAMOND WOUND SEPARATOR

• Used to cut any tissue remaining after trephination
• Features a specially designed blade with side cutting edges
• Blunt metal protector keeps underlying tissue protected, especially important for partial depth incisions and for iris protection during full penetrating incisions

ASICO
PRICE PUNCH

AMERICAN SURGICAL INSTRUMENTS CORPORATION
PRICE PUNCH

- An accurate, reproducible means of cutting donor cornea and matching the tissue to the recipient, minimizing post-op astigmatism
- Dual posts and screw mechanism with underlying suction precisely cut donor tissue
PRICE PUNCH

• System consists of Price Punch and a set of 3 radial markers (sold separately)

• Price Punch set includes
  – Punch
  – 8 chuck handles in 7.0, 7.25, 7.5, 7.7, 8.0, 8.2, 8.5, and 9.0mm
  – Cutting block
Price Radial Markers feature central circular portion with 8 radial marks extending from circle.
These are colored with gentian violet and marked on cornea.
PRICE PUNCH

- A gentian violet marker is used to saturate the cutting blocks center hold and eight radial holes
- Suction is applied through a base to the centered holes in the cutting block
• When marked with gentian violet, the suction holes in the cutting block provide reference marks on the donor cornea which can be lined up with previously placed radial marks on the recipient cornea
Caldwell Suction Trephine

• Used for recipient cornea, the advantage of the Caldwell trephine is that it operates with a piston inside the trephine
Caldwell Suction Trephine

- Trephine cuts cornea with perpendicular edges, unlike other trephines
- Available in 7.0mm (AE-8260), 7.5mm (AE-8262), & 8.0mm (AE-8264)