Operations Manual
Bead Trimmer III Series
Bead Trimmer III introduction

The Bead Trimmer III brings game...! After 10 years R&L Manufacturing brings in our new player that's ready to unleash into action..!

The Bead Trimmer III is our new workhorse of bead removal tooling

So what’s new..? **How about this....!!!**

- Tri-index wheel design
- Internal gravity activation switch
- Quick and exact tri-cam adjustment
- Independent powered sliding cutter arm
- Stationary finger hook bead extraction system
- Fast setup, easy operation, lighter weight
Operational Theory

The Bead Trimmer III is designed to remove the fusion bead from the inside of HDPE pipe during installing, and can remove fusion beads in old existing systems too...!

Reasons for bead removal:

✓ Flow Restriction
✓ Stimulated Blockage
✓ Biofilm & Bacteria Entrapment
✓ Turbulence Wear
✓ Flow Reduction

Each Bead Trimmer III head is designed to IPS diameters from 3” up to 24” pipe. The Bead Trimmer III Head has an adjustable range to match SDR 7.3 up to SDR 32.5 with every called out pipe diameter. The heads are powered by a manual Tee-Handle Package system which has a reach up to 51 feet, and by adding more torque tubes, fusion beads as far as 500’ in smaller pipe diameters can be removed. All the Bead Trimmer heads are interchangeable with our Handle Packages.

51’ Torque Tube Assembly

This is the standard tee-handle set which is designed to be assemble into multiple lengths up to 51 feet. Additional sets can be added for extended reach.

<table>
<thead>
<tr>
<th>Item Description</th>
<th>Quantity</th>
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<tbody>
<tr>
<td>7’9” Anodized Aluminum Torque Tubes</td>
<td>6 each</td>
</tr>
<tr>
<td>4’6” Anodized Aluminum Torque Tubes</td>
<td>1 each</td>
</tr>
<tr>
<td>3’ Anodized Aluminum Torque Tubes</td>
<td>1 each</td>
</tr>
<tr>
<td>18” Anodized Aluminum Torque Tubes</td>
<td>1 each</td>
</tr>
<tr>
<td>Torque Tube Unions w/locking Pins</td>
<td>7 each</td>
</tr>
<tr>
<td>Tee-Handle Head</td>
<td>1 each</td>
</tr>
<tr>
<td>Shipping/Storage Canister</td>
<td>1 each</td>
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</tbody>
</table>
Restricted space applications..? We have the answer..!

52’ Manhole Torque Tube Assembly

• 14 each  3’6” Anodized Aluminum T-handle Tube
• 1 each    3’ Anodized Aluminum T-handle Tube
• 1 each    18” Anodized Aluminum T-handle Tube
• 1 each    T-handle Head
• 14 each   Torque Tube Unions W/Locking Pins
• 1 each    Shipping/Storage Canister

Large diameter pipes with high torque requirements..?
We offer our Coupler Support Sleeve for Handle Packages

This accessory quickly attaches to the Bead Trimmer Handle Package to add strength to the torque tubes, preventing over stressing and destruction of the connectors, locking pins and torque tubes. Recommended pipe size usage from 18” up to 24”
With every Bead Trimmer III Head also included is a Centralizing Disk...

Note: Centralizer Disks are not needed for 5” Bead Trimmer III Heads or smaller...

Centralizing Disk

The torque tube centralizing disk is slipped over the torque tubes approximately 10 feet from the Bead Trimmer head. Its purpose is to keep the cutter head in a vertical alignment with the bead that is being removed.
✓ **Tri-index wheel design**

By incorporating a 3 point contact to the pipe wall and the fusion bead, the Tri-Index Wheel design keeps the cutter on track of the bead during the bead removal.
✓ **Internal Gravity Activation Switch**

✓ **Independent Powered Slide Cutting Arm**

Both these innovations work together to create reliable cutter activation and to maintain constant cutter pressure against the fusion bead during bead removal.
When the Bead Trimmer III head is rotated to the down position, the Internal Gravity Activation Switch releases the cutter blade against the fusion bead.

CAUTION: The Cutter Blade is very sharp! Be aware when working with this tooling.
Quick and exact tri-cam adjustment

This new feature makes the Bead Trimmer III a technician’s friend. With easy rotation of the tri-cam plate the 3 index wheels are quickly and evenly set up for the job at hand.
Note:

The proper set up for the index wheels would be light pipe wall contacts on 2 indexing wheels with the 3rd index wheel maintain a 1/8” gap between index wheel and pipe wall.

Tri-Cam Lock

With a ½” wrench and a nail the Tri-Cam adjustment plate is locked in to place.

Note: Very little locking force is needed to keep the Tri-Cam plate in place. Lock all 3 Tri-Cam locks when proper index wheel adjustment is reached.
✓ **Stationary finger hook bead extraction**

This new design allows the finger hooks to stay stationary while performing the bead removal cut. This helps keep the terminated bead captured in the finger hooks for extraction. Because of various pipe wall sizes adjustment of the finger hooks may be required. Simply bend the finger hooks so that all 3 finger hooks are touching the inside pipe wall when inserting the Bead Trimmer head into the pipe.

Adjust finger hooks so that all 3 hooks are touching the pipe wall when the Bead Trimmer III head is inserted into the pipe.
**Important:**

Additional size adjustment feature. In addition to the Tri-Cam adjustment plate the Bead Trimmer III also has an index wheel adjustment. This helps sizing in the extreme ranges of the Bead Trimmer III head.

Note: All 3 index wheel should be used in position 1 or in position 2 when size adjustment feature is used. Never mix the positions in operational set up.
**Proper Bead Trimmer III Head Set Up**

The following picture is how a correct set up should look like, including the proper position of the index wheels and blade cutter, just prior to attaching the Handle Package and sliding the head down the pipe.

Note: Removing the fusion bead during the cooling stage of a pipe line assembly is recommended for greatest efficiency.
**Bead Trimmer III Operation**

1. As the pipe lies in the fusion machine and before making the fusion weld slide the Bead Trimmer III head into the pipe stopping 6” away from the pipe end so that you could see that the head is properly positioned.
2. Make sure that the indexing wheels and the cutter blade are in their proper positions as shown on page 13.
3. Clear away any debris that may have accumulated in front of the Bead Trimmer Head.
4. After completion of the fusion joint and allowing enough time for the fusion bead to set up and harden, slide the Bead Trimmer III head the remaining distance to the fusion joint. The index wheels will stop the head in position on the fusion joint.
5. After the Bead Trimmer III has stopped on the fusion joint, slowly rotate the tee-handle head ½ turn counter clockwise. This will activate the internal gravity switch, and release the cutter blade.
6. After the cutter is activated, change direction of the tee-handle rotation to clockwise you should feel the resistance of the cutter blade in action, continue for one full revolution. At this time you should feel the fusion bead cut free. The terminated fusion bead will be trapped by the finger hooks and will pull out along with the Bead Trimmer III Head.

**Important:** While the cutter is being engaged with the bead, there must not be any movement of pushing the handle system inward or outward of the pipe during the cutting rotation. Doing this may cause the cutter blade to travel out of the fusion bead and loose bead location.
Do not cut the bead when the fusion weld is still soft. The bead will not have enough body to guide alignment needed for the cutter blade to track the bead, in addition a soft bead may not cut properly. It is recommended waiting till the bead has set up and is harden prior to removal. **However, cutting off the bead while the bead is warm will make the bead removal operation much easier, especially in the larger diameter piping.**

Contact:

*R&L Manufacturing Inc.*
19215 S.E. 34th Street #106 PMB #374
Camas, WA 98607

Call or Fax us at:
1-360-833-9194

Visit our website;
[www.rlmfg.com](http://www.rlmfg.com)

*Copy written January 2013*