

# EHE Internal Tube Scarfing Towrods & Impeders

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*EHE's internal scarfing system comprises a mounting plate with  $\pm 15^\circ$  of angular adjustment, a cooling manifold for either through flow or return flow impeder operation, and replaceable impeder/tow rod assemblies. At the present time, EHE does not manufacture internal scarfing or bead planishing heads, however these are available from several sources.*

## Mounting Plate

The steel mounting plate is normally custom machined to suit the tube mill stands upon which it will be mounted. Slotted holes with jacking screws provide adjustment of centerline height for different sizes of tubing.

The mounting plate includes a gear driven angular adjustment which provides up to 15 degrees displacement of the cutting head to either side of top dead center. Adjustment is made using a 1/2" socket wrench to rotate the pinion which drives the gear to which the manifold is attached.

## Installation

The mounting plate should be attached to the entry side of the first fin pass stands, using the cap screws provided, and the height should be set so the the centerline of the manifold is positioned in the center of the tube being produced.

The tow rod/impeder tube should be threaded into the manifold, ensuring that a minimum of 3/8" of threads are engaged. The tow rod is then locked into position using the brass jam nut provided. After installing the tow rod/impeder tube, the cutting or flash rolling head may be attached

It is important to ensure that the small screw securing the impeder cover is at the 12 o'clock position in order to properly locate the ferrite within the impeder.

## Ferrite & impeder cover replacement

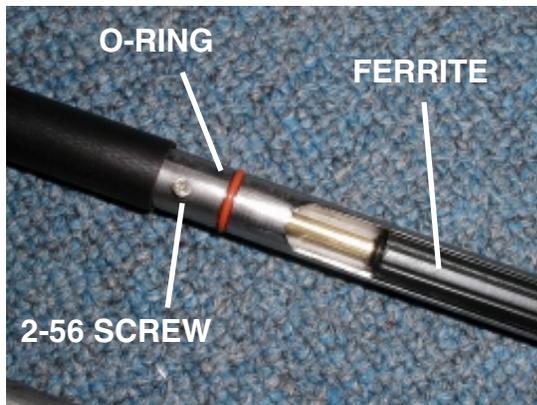
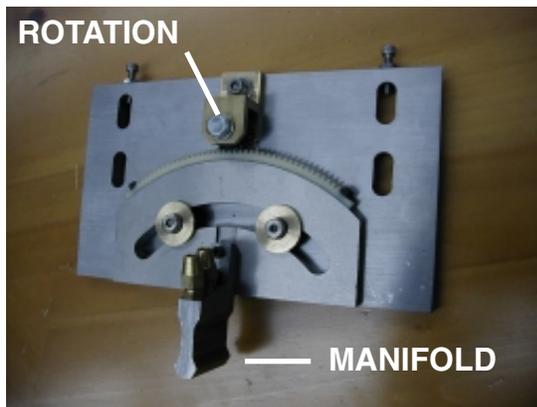
Both the ferrite & the impeder cover will need to be replaced from time to time. We also recommend replacing the silicone rubber o-rings any time the impeder cover is removed. All components are available from Electronic Heating Equipment.

To replace the ferrite and/or the impeder cover, the 2-56 screw which holds the cover in place should be removed. The cover should then be slid back toward the manifold. **Do not try to slide the cover towards the cutting head. This will damage the o-rings.** The ferrite has a 5/32" I.D. o-ring attached to one end by means of cyanoacrylate adhesive, to form a seal with the brass coolant inlet tube.

## Impeder Cooling

These impeders may be cooled using either throughflow or return flow systems. Due to the extremely small size of these impeders, through flow operation is recommended, as this will provide more than twice the coolant flow. For through flow operation, both connections on the manifold are used for coolant inlet & the exhausted coolant is discharged into the inside of the tube through small downward facing holes in the coupler between the EHE tow rod/impeder & the cutting/rolling head. For return flow operation, a solid coupler is used, forcing the coolant to return through the coaxial tow rod. In this configuration, the flare fitting on the manifold closest to the mill entry end is used for coolant inlet, & the flare fitting closest to the fin pass is used for return.

We do not recommend using mill coolant for these very small systems unless it is adequately filtered (50 micron or less) & cooled to below 60 degrees Fahrenheit. For return flow systems, a small refrigerative chiller works best. For through flow systems, city water may be used. In either case, a pressure boost pump capable of providing up to 2 GPM at 100 PSI is recommended.



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