

Figure 24 - Scraper Blade Removal

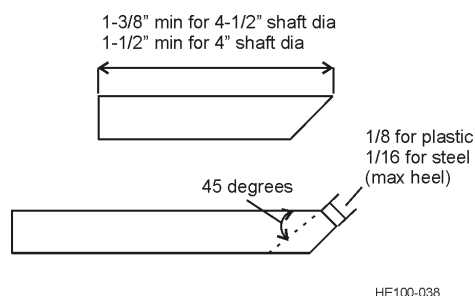


Figure 25 - Blade Wear and Sharpening

Scraper Blade Removal & Replacement

1. Remove the scraper blades by lifting up and pulling them from the pins.
2. PEEK and Celcon plastic blades have a locking groove. After lifting, push them to the right before pulling them from the pins.

NOTE: Keep the blades in the same position on the mutator shaft throughout the life of the blade. Make sure the blades are removed and reinstalled in the same location on the shaft.

Reverse this procedure for installation. Make sure the beveled edge is installed toward the shaft.

Scraper Blade Wear

Worn blades reduce heat transfer efficiency and can cause excessive wear on the product tube wall.

As the scraper blades scrape across the interior of the heat exchanger tube, they wear into the contour of the tube. A flat surface called the heel, and a burr or feathered edge develops at the contact area on the side of the blade that is against the tube wall. See Figure 25.

The blades must be maintained to achieve maximum performance. When the heel of the blade reaches a maximum of 1/16" (1.6 mm) on metal blades or 1/8" (3.2 mm) on plastic blades, they must be replaced or re-sharpened.

Blade Sharpening

Scraper blades can be sharpened by several methods, depending on the blade material.

The best method utilizes a high speed 45° cutter and fixture that keeps the back side of the blade perpendicular to the cutting edge. The cutting edge of the blade should be parallel to the back surface of the blade within 1/64".

A new universal blade is 2 inches wide by 6 inches long.

For mutator shafts that are 4-1/2 inches in diameter or larger, the blade should not be sharpened to a blade width of less than 1-3/8 inches.

For mutator shafts that are 4 inches in diameter, the blade should not be sharpened to a blade width of less than 1-1/2 inches.

Stainless steel blades for the 5-1/4 inch mutator shafts are 1-9/16 x 23-29/32. The minimum width after sharpening is 1-3/8 inches and the sharpening edge is at a 15-degree angle.



The Williams - Carver Co., Inc.

4001 Mission Road
Kansas City, Kansas 66103
(913) 236-4949 FAX (913) 236-9331
www.williamscarver.com