

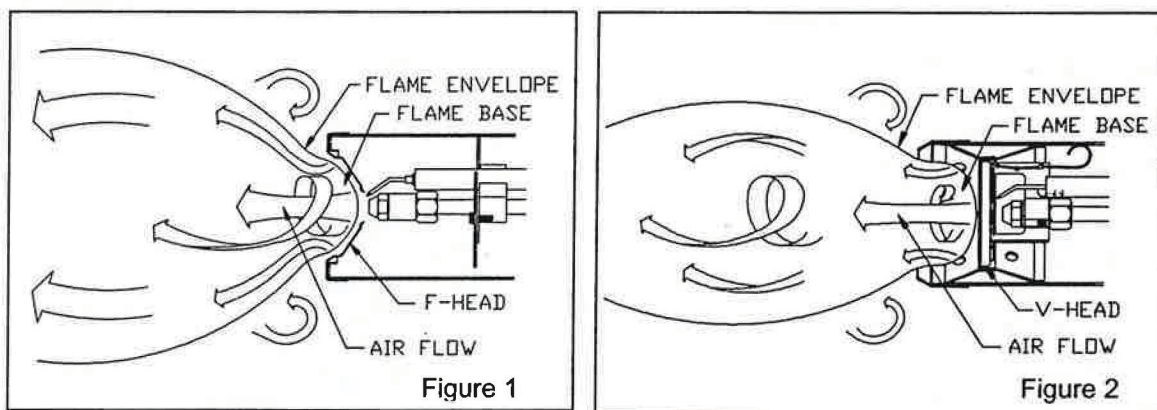
FROM *Beckett*

Sales Support Program

DATE: November 2005

ADJUSTING THE M-SERIES AIR TUBE COMBINATIONS

The key to the M-Series high performance air tube combinations is in their recessed head designs. Notice how the V head in Figure 2 is further back from the end of the air tube than the F head is in Figure 1. This protects the flame base and gives cleaner, more stable combustion in certain applications.



The M-Series designs use two styles of retention heads. The first style has two types available; L1 and L2 head (for "locked" or "low"), which are locked in place and are used on appliances with low firing rates (0.40 to 1.10 GPH). The second style is the V1 head (for "variable"). This head has variable positioning, and is used for higher firing rates (0.75 to 2.75 GPH).

The M-Series can handle many different situations, but they must be adjusted correctly in order to provide the high performance of which they are capable. Proper adjustment is very important. To make set-up easier and right the first time, follow these step-by-step instructions regarding how to adjust the L1 or L2 ("locked") head and the V1 ("variable") head.

R.W. BECKETT CORPORATION

P.O. Box 1289 • Elyria, Ohio 44036 • (440) 327-1060 • (800) 645-2876

R.W. BECKETT CANADA, LTD.

Unit 3-430 Laird Road • Guelph, Ontario, Canada N1G 3X7 • (519) 763-5495

WARNING: Burn Hazard. Shut off all power to the burner before servicing.

ADJUSTING THE L HEAD

Step 1. If it is not already accessible, remove the burner from the appliance (or open the boiler door) so that you can access the end of the air tube.

Step 2. Loosen the splined nut and the 5/16" hex head screw that holds the escutcheon plate in place. (See Figure 3.)

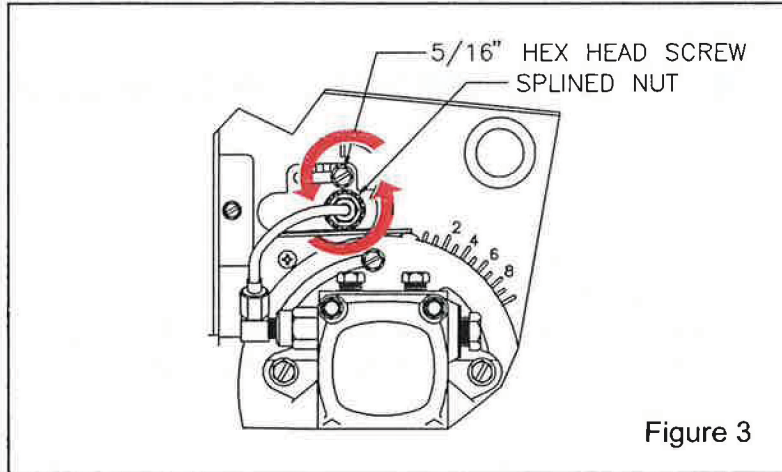


Figure 3

Step 3. Using a Beckett T-501 gauge, hold it so that you can read the inch markings. Line up the edge of the gauge with the leading edge of the L1 or L2 head, and move the nozzle line assembly until the end of the air tube is at the 1-3/8" mark (S), if the tube has a straight shroud (Figure 4A) or to the 1-3/4" (C) mark, if the air tube has a conic shroud (Figure 4B).

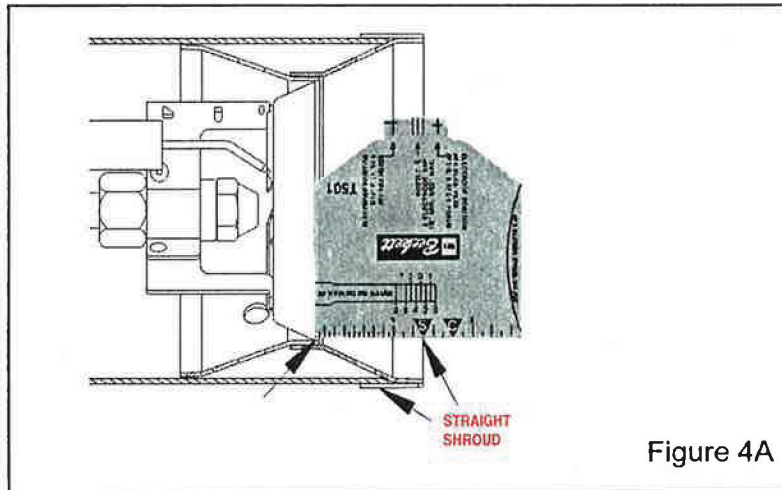


Figure 4A

Step 4. Tighten the 5/16" hex head screw and the splined nut. The "Z" dimension of your L1 or L2 head is now properly adjusted. (See Figure 3.)

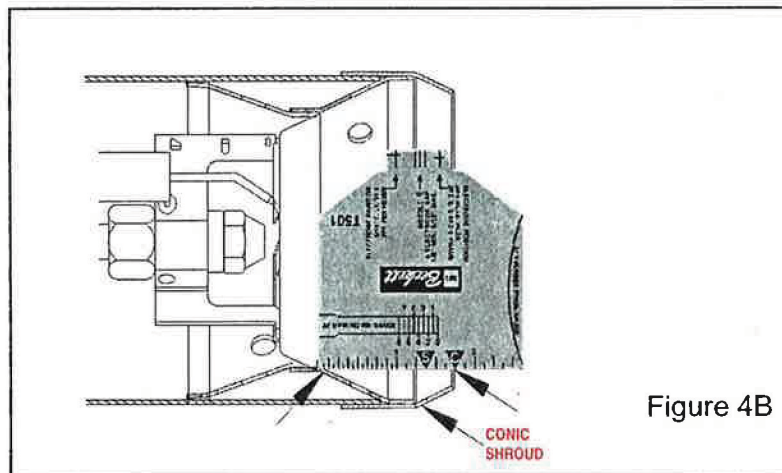


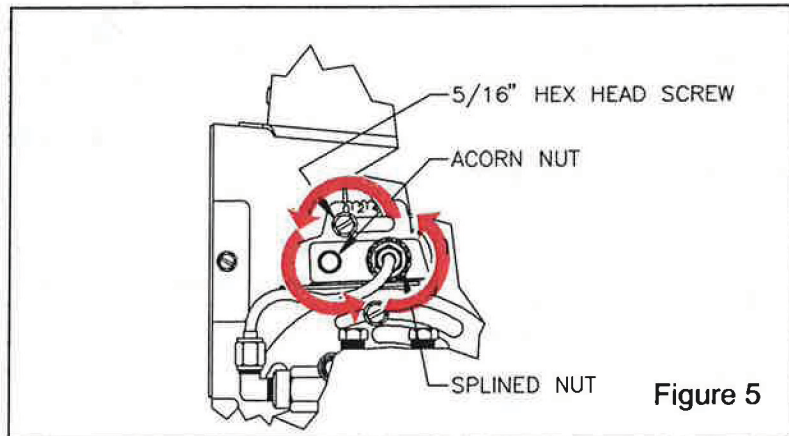
Figure 4B

WARNING: Burn Hazard. Shut off all power to the burner before servicing.

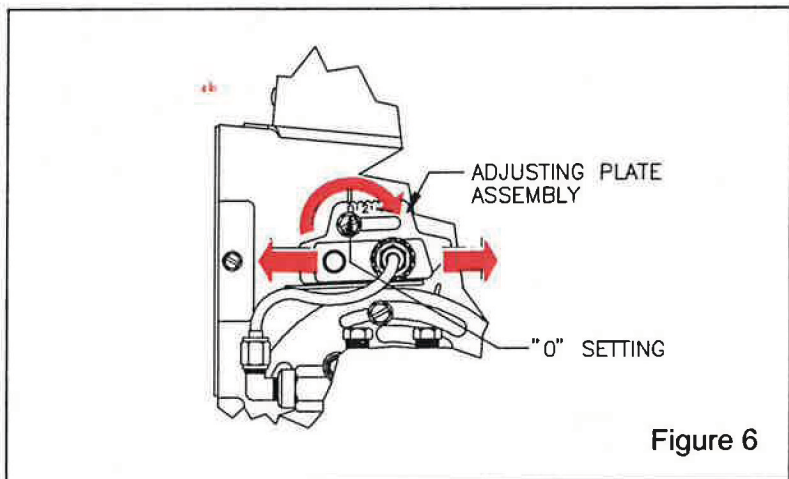
ADJUSTING THE V HEAD

Step 1. If it is not already accessible, remove the burner from the appliance (or open the boiler door) so that you can access the end of the air tube.

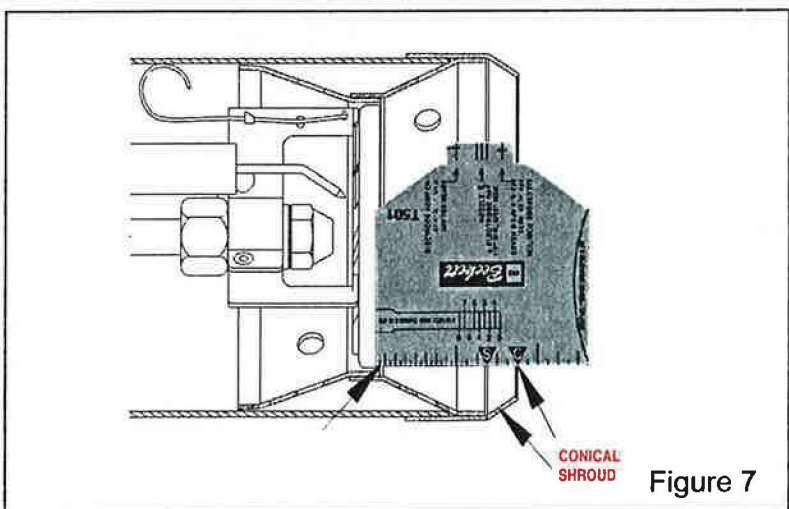
Step 2. Loosen the splined nut, acorn nut, and 5/16" hex head screw. See Figure 5.



Step 3. Move the adjusting plate assembly so that the "0" on the plate aligns with the mark on the housing, and tighten the 5/16" hex head screw. See Figure 6.



Step 4. Using the Beckett T-501 gauge, hold it so that you can read the inch markings. Move the nozzle line assembly until the end of the air tube is at the 1-3/4" mark (C) Conic Shroud, while the leading edge of the V head is lined up with the edge of the T-gauge. See Figure 7.



Step 5. Tighten the acorn nut and splined nut. This fixes the “0” head setting position of the adjusting plate. The “Z” dimension of your V head is now properly adjusted at the “0” head setting. See Figure 8.

Note: DO NOT loosen the acorn nut when setting the head position.

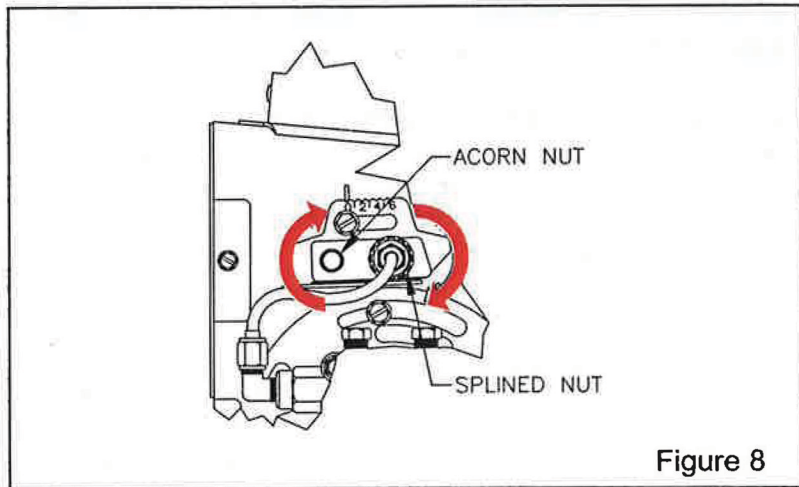


Figure 8

Step 6. To change the head setting for different firing rates, simply loosen the splined nut and 5/16” hex head screw only. See Figure 9. Adjust the nozzle line assembly by pulling the adjusting plate forward and positioning it to the desired numerical setting. Refer to the appliance manufacturer’s instructions or the Beckett OEM Specification Guide for OEM settings. See Figure 10.

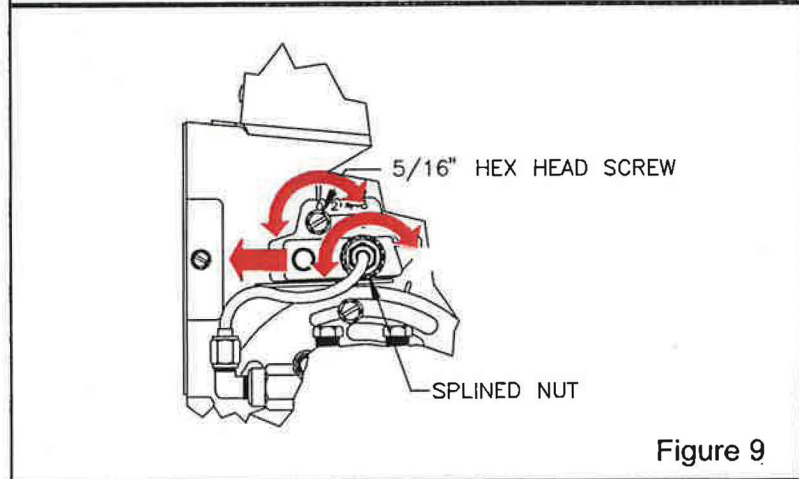


Figure 9

Step 7. Retighten the splined nut and 5/16” hex head nut at the new setting.

Firing Rate (GPH)	Adjustment plate setting	Firing Rate (GPH)	Adjustment plate setting
0.75 - 1.00	0	2.00 - 2.25	4
1.00 - 1.50	1	2.25 - 2.50	5
1.50 - 1.75	2	2.50 - 2.75	6
1.75 - 2.00	3		

Figure 10

PRO TIP

Many experienced servicemen have found it useful to mark their “Z” dimension location on the burner itself when using the F-type or L1 or L2 heads. After adjusting the nozzle line assembly, simply mark the escutcheon plate’s location on the burner housing with a marking pen, sharp screwdriver, or any other marking or etching device. The next time you need to move or remove the nozzle line assembly, you will not have to remove the burner to reset the “Z” dimension. Recheck the ‘Z’ dimension periodically when servicing to insure the escutcheon plate has not been moved. Note that if you replace the air tube or nozzle line assembly the ‘Z’ dimension will need to be reset.