

TM018B Microline and ZX3 V Notch Blade Setup

ZX3/Microline/Flowline ZX3 V Notch Blade Setup This module guides the engineer on how to correctly set the V notch blades

 Difficulty **Hard**

 Duration **30 minute(s)**

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Comments

Introduction

The engineer will need a reasonable mechanical knowledge, and a working knowledge of the operation of the machine. You will need callipers ($\pm 0.05\text{mm}$) and an accurate rule

The setting of the V notch blades on a ZX3 Ring revolves around the setting of two groups of parameters:

- V and W axis positions
- Blade offsets for each blade

The rough position of V and W axes is set first, then the individual blade offsets are set, and finally a test is run to tweak the accuracy to gain perfection.

There are two “tweaking” parameters for each blade. The two parameters are:

- Depth offset – how deep into the bar
- X axis offset – position of point of blade relative to the spindle centreline

Items

 150mm Caliper

 150mm Rule

Step 1 - Before You Start

1. Make sure the Datum is correct first.
2. V notch blades are not buckled.
3. Check that the profile width is correct for the profile you are testing.

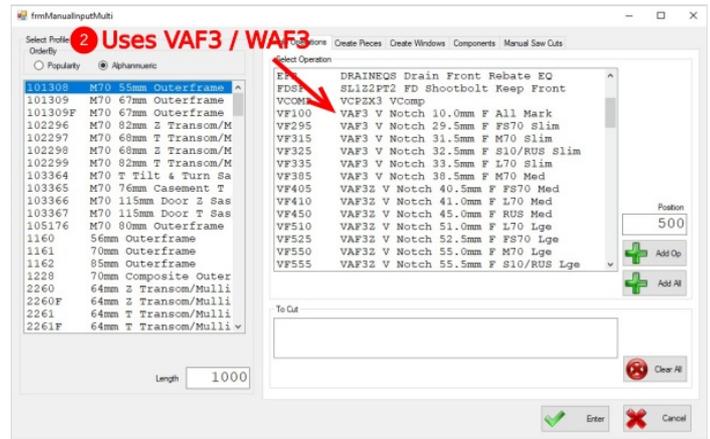
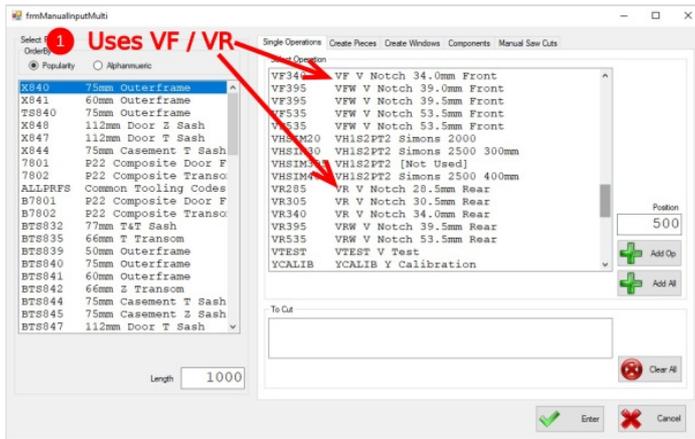
Find out which V Notch files the machine is using by checking the operation setup. A simple way of doing this is shown in the pictures by starting a "Manual Input".

Picture 1 - shows this machine uses VF / VR codes

Picture 2 - shows a different machine using VAF3 codes

Note this "mnd type" for later

i ...The VF... codes are the original method of setting up the machines, the VAF3 codes are seen as an improvement because it makes the naming of the variables for the offsets a little clearer and groups them together. It also improves the machine cycle time by allowing the use of startOffset - the x axis needs to move only once to the start of the V notch

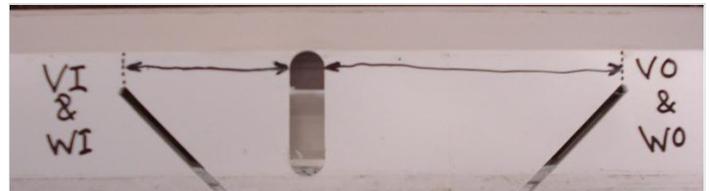


Step 2 - Run a VTest

A calibration mnd file has been written to help line up the x offsets called VTEST. This program creates the following pattern on the bottom of the profile using a 10mm spindle and the notching blades themselves:

Run the VTest operation on a length of large outer frame of at least 1m long. Put the operation at a position of 500mm.

The pattern allows you to measure the offsets required with calipers.



i ...Profile is viewed from the bottom face, Basically turn it over when it comes of the transfer table.

Step 3 - Measure Results for x Offsets

1. Measure between the VI blade and the edge of the 10mm slot - This value is the xoffsetVI (and also the xoffsetWI). (We need to add 5mm to the measured Value). **50.33mm**
2. Measure between the VO blade and the edge of the 10mm slot - This value is the xoffsetVO (and also the xoffsetWO). (We need to add 5mm to the measured Value) **87.59mm**

i ...The 5mm is added because this is half the 10mm slot width - thus measuring to the centreline of the slot



Step 4 - Update the Parameters for xOffsets

1. Set the xOffsetVI and WI to the new value settings. THIS VALUE IS ALWAYS POSITIVE
2. Set the xOffsetVO and WO to the new value in settings. THIS VALUE IS ALWAYS NEGATIVE

Depending on the software version, there are 4 places where these settings are stored / edited
