August 2012

"V5 REVIEW"

by John Dyer

V5 vs V2

An informal outline of the differences between the two models of faceting machines that Ultra Tec offers and their respective strengths.

ULTRA TEC HAS INTRODUCED A NEW MODEL

Faceting machine and I was able to test a pre market version. What follows is an informal overview of my observations.

In January, 2012, Ultra Tec announced a new model – the V5. For over 40 years, the designation of the Ultra Tec faceting machine was V2 – and the company has explained its intention to continue offering the V2. The V2 has been subject to various changes over the years – all of them introduced gradually and incrementally - but since all of these could be installed on existing equipment, usually by a do-it-yourself kit, the V2 designation was kept. The V5 changes, however, were "major" - still possible to retrofit to existing equipment, but necessarily done at the factory. The upgrade was deemed to be of such significance that a new designation was called for – so, the birth of the V5.

Ultra Tec wanted "field testing" of the V5, to assure that the product to be released did not have any flaws – any "glitches". And so, I was sent an early production unit, back in July of 2011. They explained that my input would be valuable, because I am a professional faceter and also because much of the V5 upgrade was attributable to the "push" that I had provided.

Now, I will try to take you step by step through the differences that I have noticed and then give my opinion about whether or not the change is a positive one and why.

For any further clarification please contact me.

The new V5 Mast
A sturdy new offering. (Model pictures includes the Digital Angle Dial "DAD" which my test model did not have.)

V5 MAST vs V2 MAST

The new "V5" mast offers some distinct differences which are far more than cosmetic.

1

Thicker mast: While in theory this is a positive change I have never noticed any problem of flex in the V2 mast so I think this change is not a significant change in practice.

Leadscrew: The new V5 mast comes standard with a faster leadscrew. This means that for each turn of the height adjustment crank the head rises twice as far as it does on the V2. This is a great change and speeds up the process of changing angles and height during cutting. For hobbyists this may not be that important, but for professionals, time is money and this is a big help.

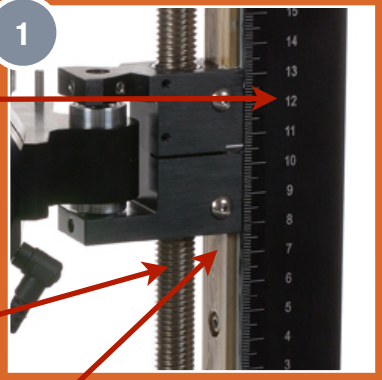
Dovetail: Also visible in this image is the addition of a dovetail which the riser block slides along as height is raised or lowered. The V2 head rides only on the threaded leadscrew and so while the mast itself does not have flex this screw does have some due to its smaller diameter.

On the V5 the riser block is connected directly to the mast via the dovetail and this results in greater lateral stability. This is a very important change for those who often cut large gems (say 20cts plus) which put greater torque on the equipment. It is even more important for those who plan to use the mast for concave faceting or fantasy cutting where side to side movement is far more detrimental than in flat faceting. This is a hugely positive change in my opinion.

2

Larger top dial: The V5 has a larger top dial on the height adjustment. Per Ultra Tec's advertising it seems that this was done to increase the readability of the numbers that are on it. Personally I almost never use these numbers and find this larger dial to be slightly more cumbersome. This was not a useful change for me. Maybe for others it will be.

1



1

If you use a V2 head make sure that these two set screws are always properly tightened (they tighten the plastic collar which grips the leadscrew). Too tight and it will restrict the vertical movement as you raise and lower the carriage with the vertical height adjustment. Too loose and it will introduce play between the threaded rod that the head rides on and the head itself. Tighten them and then test how stiff the head is to crank up or down to find the right tension. If you ever detect looseness in this joint this is the best solution short of buying a V5.

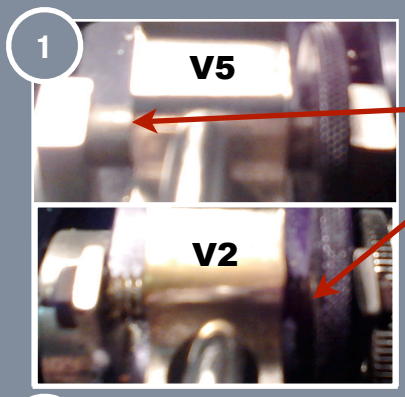
2

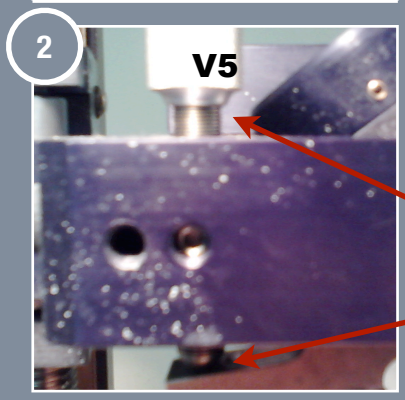
2

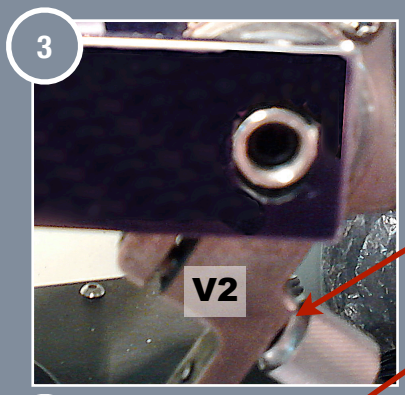
To aid speed in changing the height adjustment I like to cup the knob in the palm of my open hand and turn it this way. With some practice this is much faster than gripping in with your fingers. The new large dial gets in the way of this a little due to its greater diameter. I plan to add a spacer below the knob so it sits a little higher off the dial and I believe that this will remedy this slight inconvenience.

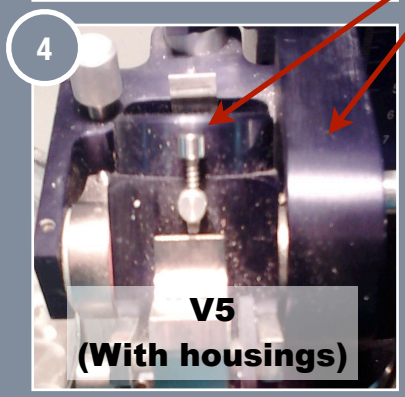
The larger top dial also seems to be more subject to rotating by itself due to vibration than the small one on the V2. On the V5 this is solved by tightening the same two set screws as when reducing the play in the leadscrew with the V2, except that they are now on the back of the mast instead of the front.

CHANGES









Many of the changes I have mentioned so far are already talked about in Ultra Tec's advertising...

However, there are other changes which I believe to be significant that are not mentioned at all. Please forgive the image quality as these pictures were taken with my cel phone.

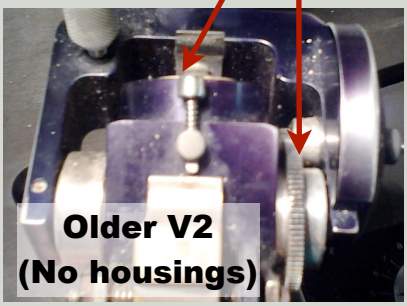
Cheater: The first and most significant of these the "cheater." The threaded rod that is used is much thicker on the V5 and the lateral supports are also much more robust thus making everything sturdier. In addition, the thread of the screw seems to be much finer. Overall this was a great idea as it takes one of the weaker points of the V2 and strengthens it a lot.

However, I found that I don't really like the finer thread on the "cheater" screw. With the V5 I have you must turn the cheater much further than before. The old thread ratio already allowed for adjustments that were as fine or finer than I have needed in cutting many, many gems. So the "cheater" changes seem to have both positive and negative aspects. (NOTE: In talking with Ultra Tec I have been informed that they are considering changing to a less fine thread to correct this problem [while maintaining the thicker screw] so this would be great for those who get newer models!)

Fine height adjustment: This has also received a reworking. The screw is now much thicker, has a finer thread, and the end is rounded. The finer thread on this has not bothered me like the cheater has, probably because you usually only use this knob to move a half a degree or so and it seems to be smoother so I think it is a positive change. Being thicker at least in theory is good, although I have never noticed the size of the one on the V2 being a problem. The rounded end is also a great idea as the one on my V2 over time digs into the angle stop a little. This has not been a serious problem since it hasn't effected how it works, but the change is a good one.

Angle stop screw: There seems to also have been a washer added to this screw on the V5, I don't think anything else has changed but it feels smoother and easier to tighten securely than my V2 mast (which is pictured).

Protective housing: The V5 comes with a protective housing around the gears that are used by the angle dial and another one covering the bearing on back end of the quill. This change is not exclusive to the V5. The newer V2s have it also. But since many people might be considering upgrading from an older V2, it is worth mentioning. These housings keep polishing powders, gemstone grit, and other debris from falling into some of the vital parts of the machine and increases machine life. It is a very positive change, especially for those who cut a lot.



These are the primary differences that I have noticed while using my new V5 mast. I do not have a new base so I cannot say wether there have been changes to that also.

BEAUTIFUL GEMS

Can be produced with any Ultra Tec faceting machine. The V5 will do it more easily.

105 carat Amethyst

This review will probably be updated as I use the new mast more and discover more of its unique characteristics. Also, modifications and improvements may be made by the manufacturer since they are always seeking to improve their already excellent machine.

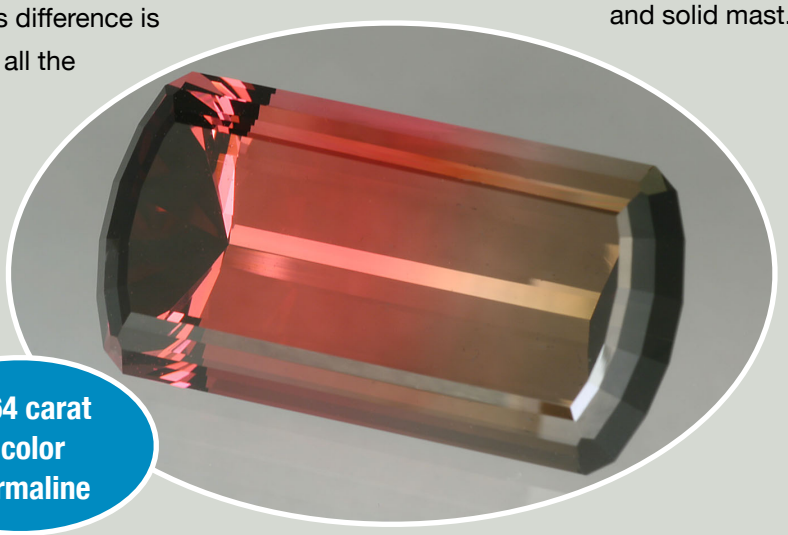
My conclusion

is that the V5 would definitely be my choice if I were to buy a machine today. The price difference between it and the V2 is currently only about $300-$400 (depending on whether you go for the digital or analog angle gauge). This difference is small when all the factors are taken into account.

When compared to many other brands of machines on the market

Ultra Tec has the following advantages (and more):

- Strong customer support.
- Greater rigidity than the vast majority of other machines.
- Superior design (in my opinion).
- A rubber splash pan and other components to avoid accidental stone breakage.
- A continuous height adjustment and solid mast.



49.64 carat Bicolor Tourmaline

- 8 inch wheels (to cut bigger gems and spend less on laps)
- Constant angle readout even when not using the stop.
- Digital Angle Dial available.
- A large and happy user base.
- Design improvements engineered to allow upgrading older models.
- Long history in the market and financial stability
- It is a larger company with other products and so is more likely to remain in business over the long haul.

Happy faceting!

John Dyer

John Dyer is a professional gem cutter who has won **37** gem cutting awards. He has used an Ultra Tec since the first gem he ever cut and, although he has tried many other brands of faceting machines, he has never found one he likes as well.

John is also a dealer in Ultra Tec faceting machines and would be happy to give you specific advice if you are making a decision on which machine to buy.

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