After my last update, I received several emails and phone calls, which basically said "thank you so much for the explanation of why it is almost impossible to build just one engine at a time". No only would this be a disaster but can you imagine how difficult it would be to replace a defective or broken part, if each engine was built one at a time? Anyway, every day gets a little closer to completion of this run of engines. Although there is still a considerable amount of work and parts to finish, I can see that there is an end in sight.

I have been asked several times how do I get holes of different sizes in all the special pieces of the engine. A lot of people think and assume that I use special cutters or special boring bars. In actuality, I use what is called "Circular Interpolation". This CNC process allows me to use a small cutter to make a large hole. Simply stated, I tell the machine the diameter of cutter I am using, the center location (X Y), the starting position, direction of movement, and the finish position. A line of code would look something like this: G3X1.4Y0I0J0. Using this formula will let me make a hole of just about any size. The first set of pictures shows how I am able to machine a rather large hole using a .1875 diameter cutter. The machine will make the necessary calculations to make the diameter within .0001. This is one ten-thousands of an inch. As you can see from the pictures of the tooth pulley and using the method listed above, a ball end mill can be used to make the internal shape.

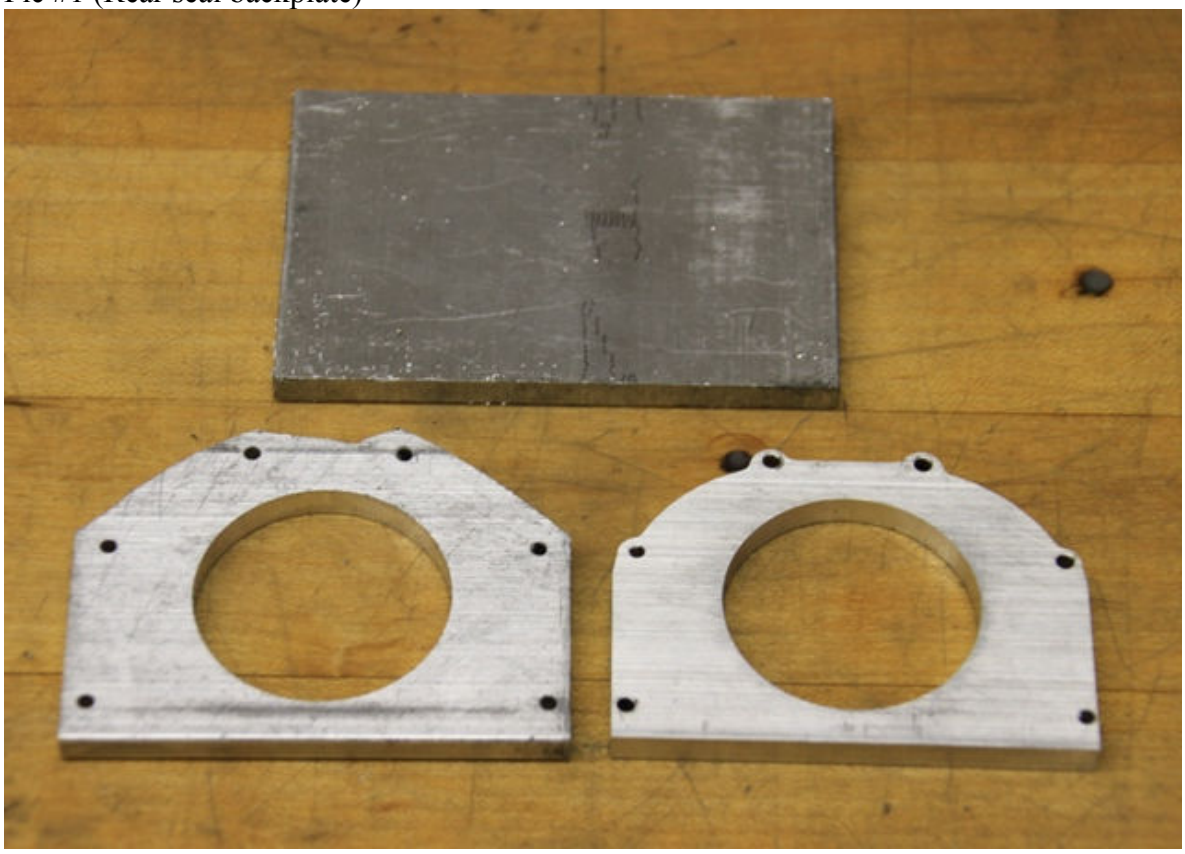
The new fuel pump requires that I make a special fuel line from brass tubing, Pic #8. Although this could have been done with a length of plastic tubing, it would not have been to the standard that everyone has come to expect. The trick is to make them all the same. This took a lot of time to make 7 different jigs to insure each bend was the same. The end result looks like a box of worms.

Picture #9 shows the choke linkage. Once again, each one must be exactly like the other. This reiterates what I said earlier about the interchangeability of parts. Although this may look like a simple part, nevertheless, they must all be the same.

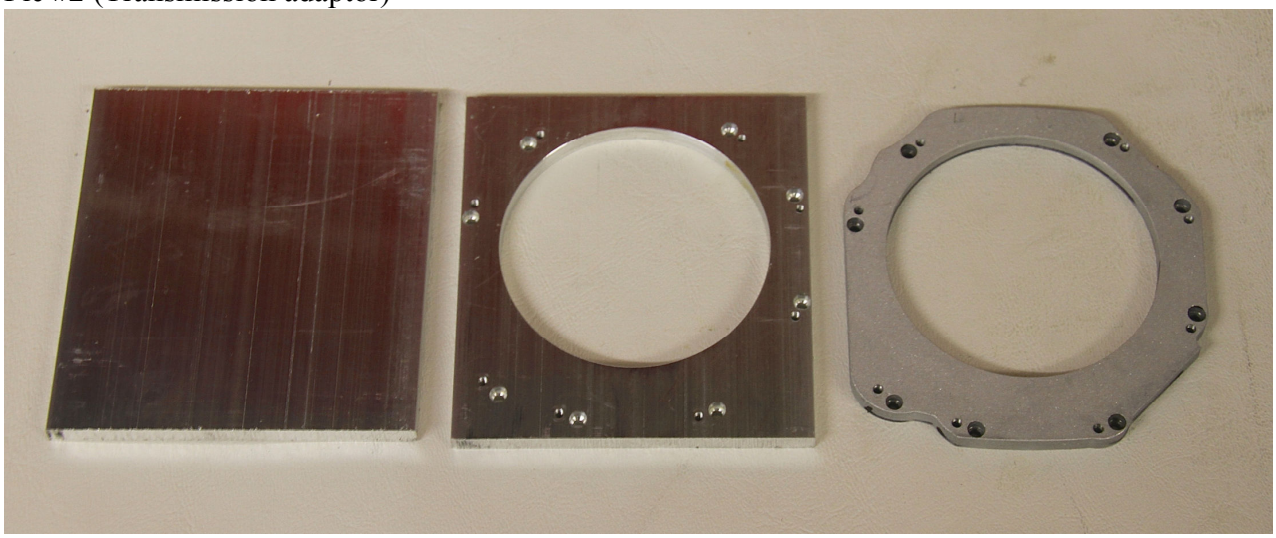
The last picture is of the complete distributor caps with the wire separators in place. The reason we do this is to make sure, in the unlikely event it would need to be replaced, that each wire goes to the exact spark plug. Can you imagine, trying to explain to a customer the proper firing order, direction of the distributor rotation, and where number one cylinder is located? Keep in mind; each distributor cap has 8 sub-miniature contacts, one spring loaded center carbon electrode, 8 wires of different length, 8 silicone spark plug boots, 8 crimped spark plug connectors, and one high voltage center wire. I should also say for simplicity, I am not using and actual wire going to each spark plug, but rather special magnetic suppression silicone insulated graphite connectors. This insulated connector was manufactured especially for me and came from Delphi Packard.

After working closely with John Holmes from Holmes Hobbies, I have found a great electric starter motor as a replacement for the starter motors which I can no longer get. In addition the starter motor gear cases are nearing completion. I will have pictures and more information on my next update.

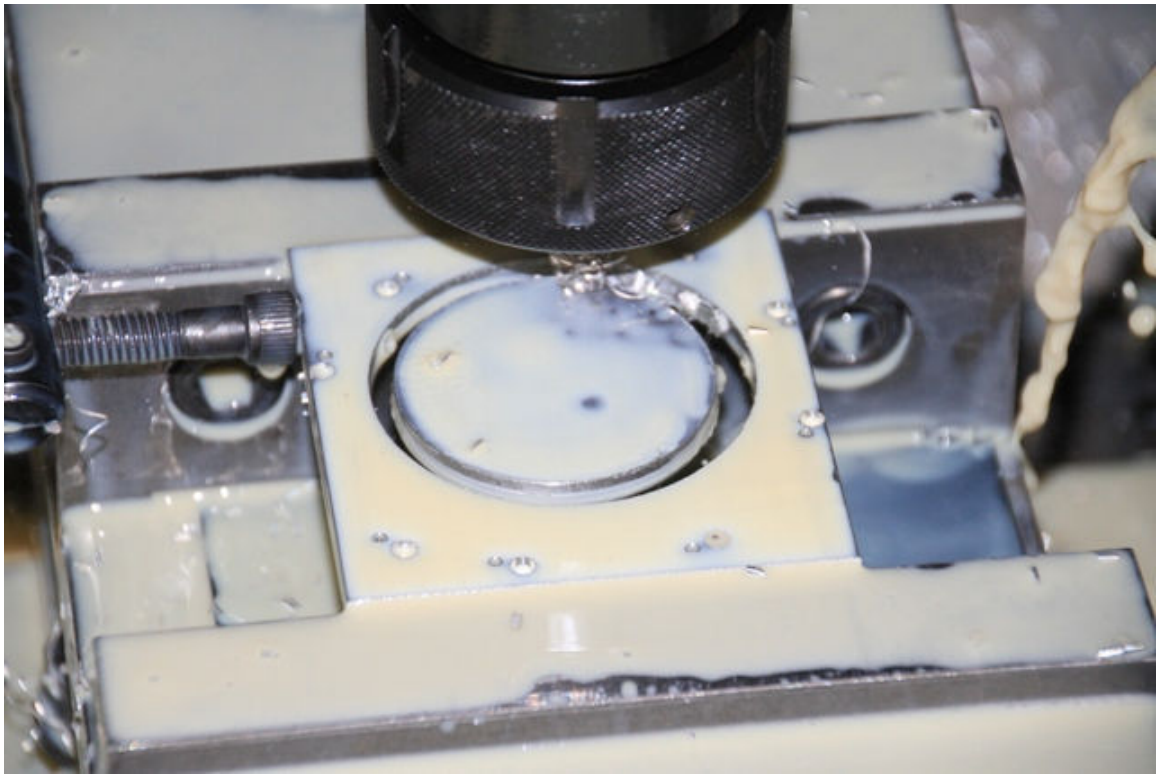
Pic #1 (Rear seal backplate)



Pic #2 (Transmission adaptor)



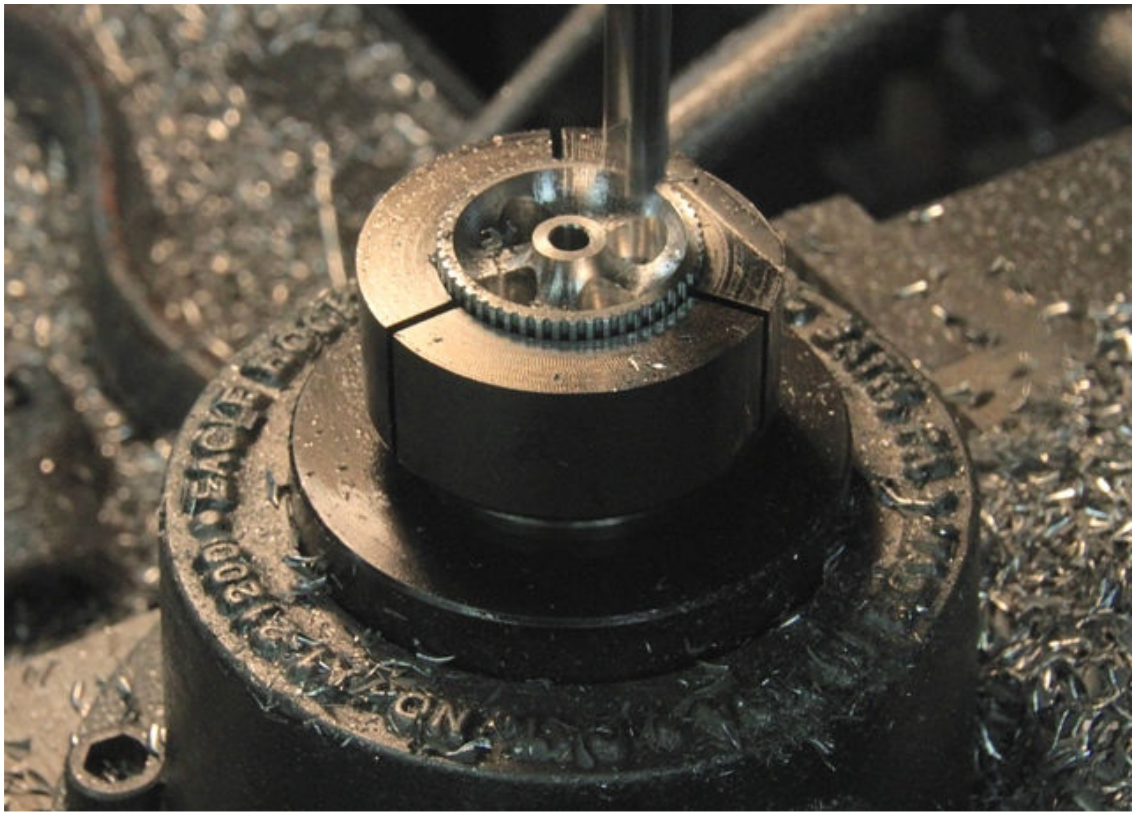
Pic #3 (Circular Interpolation of transmission adaptor)



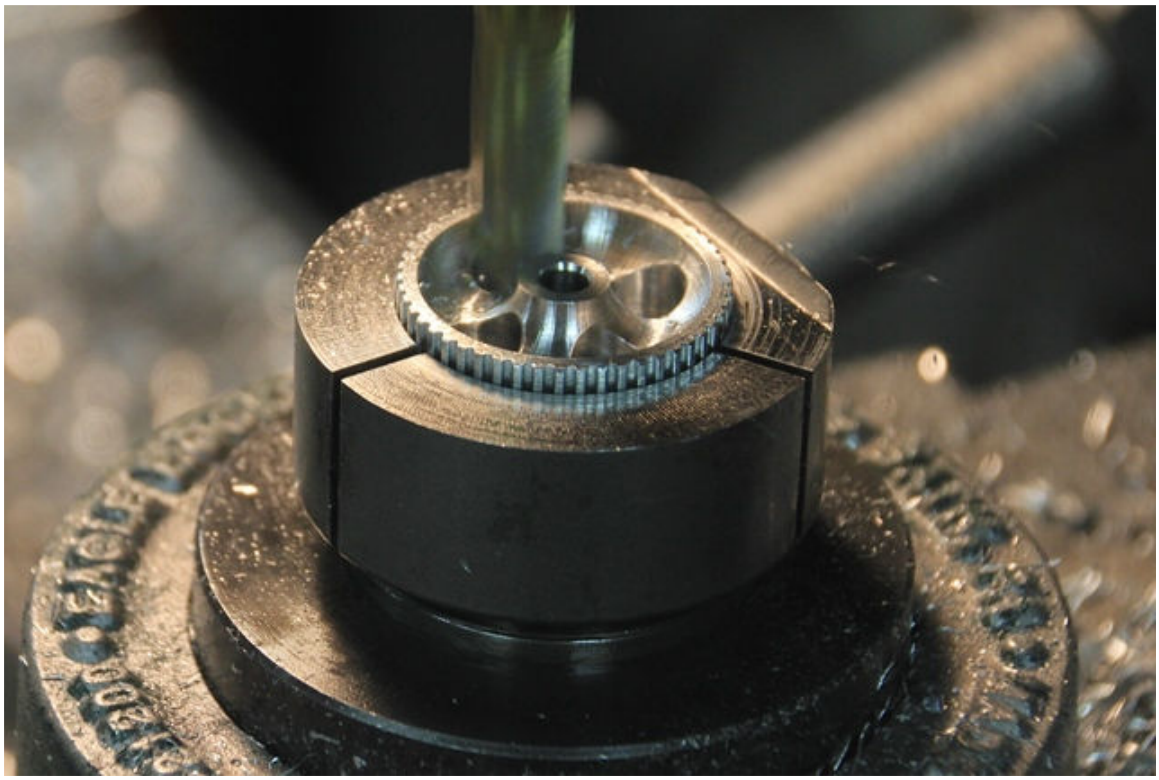
Pic #4 (Completely machined transmission adaptor plates)

Pic #5 (Alternator pulley initial machining process)

Pic #6



Pic #7



Pic #8 (Gas lines from fuel pump)

Pic #9 (Carburetor choke linkage)

Pic #10 (Completed distributor caps)