

# UNUSUAL PRODUCTS

## Modern Technology CARBURETOR NEEDLE VALVE

*This column is designed to showcase a product which can make your restoration job a little better, a little faster, or just a little easier. Products shown here are not necessarily new, but they might fall into the less-than-common usage category. We are not necessarily endorsing the product or the manufacturer, but just passing the information along to you.*

As most of you know, or realize, I am rather conservative when it comes to restoration – or modernization – of antique and classic cars and trucks. I believe that if it was good enough when it came out of the factory, and often ‘good enough’ meant the best that was available, then it is satisfactory for our use today.

I frown at replacing breaker point ignitions with electronic ignitions, and the same holds true for mechanical versus electric fuel pumps. An Optima sealed battery versus a lead-acid wet cell? Well, I’m still on the fence about that one. Some of my vehicles still have wet-cell batteries, while others have Optimas.

But I have just been introduced to a ‘gimmick’ that seems to make sense. I’ll let you decide.

For as long as most of us can remember, our carburetors used a triangular-shaped rod with a pointed end as a float valve. They have worked pretty well for decades. But many, if not most of us have also experienced problems with the traditional needle valve. The biggest problem, I guess, is a sticking valve, but a leaking valve is just as bad. The results are a carburetor that is starving for fuel, or one that floods from an excess of fuel.

I just rebuilt a Carter BB-1 carburetor and ordered the rebuild kit from a company in Florida. The company is the Daytona Parts Company, and the rebuild kit was a very nice one. Everything needed for the rebuild was included. I do have one or two criticisms about the kit, but they are minor.

One of the most interesting features of the kit was the needle valve and seat. As I started checking parts, I readily found the screw-in seat, but not the old-style needle valve.

Let me back-track as to why I began the carburetor rebuild. I own two 1949 Plymouth convert-

ibles. The second one I purchased several years ago planning a full restoration. The first is a driver. The second car sat for years just waiting until I had the time and inclination to tackle that project. I finally decided that I’ve procrastinated long enough and began to get the car running. When I took the car out onto local streets it kept stalling whenever I release the gas pedal. And so, the carburetor rebuild. At first I just disassembled and cleaned everything. I replaced the fiber washers, but that was about it. I did notice that the needle valve didn’t release as freely as I thought it should. I cleaned it, but it still wasn’t right. I had several spare carburetors on the shelf (it’s a



common carburetor, and with two cars using them a spare is never a bad idea) for parts. I removed the seat and needle valve from the first spare. The needle was stuck solid in the seat. I still haven’t gotten it free. Another had what seemed to be a better needle/seat. I installed that in my now-clean carburetor, put it onto the car, connected the lines and started it up. The carburetor leaked. I half expected that, not having changed any of the gaskets.

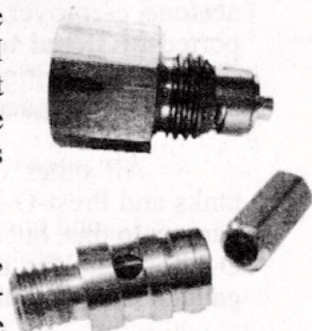
At that point I decided to get a rebuild kit. Problem was that this was the Monday of Thanksgiving week. Two of my sources were closed for the balance of the week. A friend recommended Daytona Parts Company. I called, they had the right kit and by Friday it was in my hands. Again I stripped down the carburetor, but this time I had plenty of time and did a couple of other things, one of which will be featured in a near-future article.

I was initially frustrated about not finding the needle valve. Then I began to read the papers which came with the kit. It seems that Daytona Parts have their own needle and seat. The seat looks like a



traditional seat, until it is examined carefully. First of all, there was a 'rattle' when the seat was shaken. And then I noticed a little piece of metal at the end of the seat. It's a one piece affair, with the 'needle' as part of the seat itself.

At the present time, most of their more popular carburetor kits do contain the



Daytona Float Valve. In addition, they also have a two-piece needle valve, but instead of the tapered needle, the aluminum needle has a special neoprene pad to completely shut off the flow of fuel. There are still a number of kits that use the tapered needle valve, but as demand warrants, they are being phased out and replaced with the new style.

Another feature of the Daytona kit was their affirmation, "ETHANOL RESISTANT PARTS." After the difficulties that we've experienced with rubber and the alcohol in gasoline, that commitment to safety is very refreshing.

The kit included a large assortment of gaskets designed to fit the many variations of the Carter BB-1 carburetor. It included the tiny ball bearings used as internal valves, and even a rivet plug to replace the old one which has to be removed to clean the pump jet.

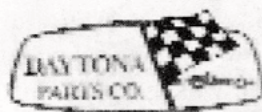
The car now runs smoothly; no stalling. And although I am not rushing the restoration, I'd like to have the car on the road come Spring's nice weather.

S.K.

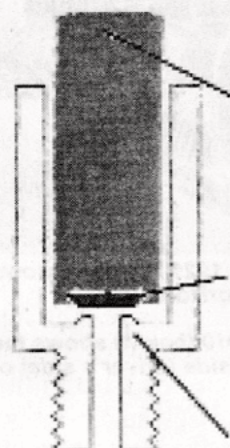
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Florida 32170  
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[www.daytonaparts.com](http://www.daytonaparts.com)

*A printed sheet, one side reproduced to the left, explains the concept of the Daytona Parts needle seat and valve.*

## DAYTONA FLOAT VALVES



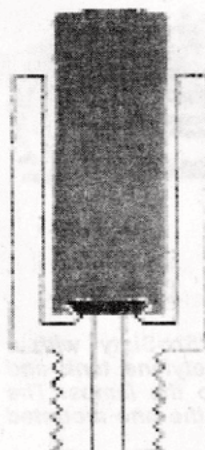
The DAYTONA FLOAT VALVE was designed to prevent flooding, caused by dirt, rust, excess fuel pressure, etc. As a result, it does maintain a constant fuel level. In addition, it will increase performance, give smoother idling, and increase fuel economy.



**PLUNGER OR NEEDLE...** The plunger in the DAYTONA FLOAT VALVE is aluminum and therefore non-magnetic. A flat alcohol resistant rubber disc fits in a concave opening at the end of the needle. This opening has a high point of center, which allows the disc to float and seat properly at all times.

**FLUOROCARBON ELASTOMER RUBBER DISC...** The flat rubber disc is a synthetic product, and is highly resistant to oxygenated fuel, swelling, and loss of resiliency, which in continual contact with modern alcohol laced gasoline.

**VALVE BODY...** The DAYTONA FLOAT VALVE body differs from the standard valve in one vital respect; one end of the orifice has an inverted flare design and this "raised shoulder" allows the flat fluorocarbon rubber disc to seat perfectly each time, increase fuel flow rate, and control excess fuel pump pressures.



The DAYTONA FLOAT VALVE "improves" the design of the tapered needle and its inability to seat properly. This malfunction is due to a wear groove, which forms around the tapered needle as a result of vibration from the engine, aging, and road shocks transmitted to the carburetor. This fault exists in both tapered Viton and steel needles. Due to the design of the DAYTONA FLOAT VALVE, the fluorocarbon disc seats on the inverted flare end of the orifice with no wearing points or surfaces, and overcomes the problems with tapered needles. It also eliminates the need for a large float drop, as a more perfect fuel level is maintained in the carburetor bowl from idle thru top speed. This improves fuel economy and performance. The life expectancy of the DAYTONA FLOAT VALVE is considerably greater than a conventional needle & seat.

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