

There are a few things you can mod easily that increase rack travel in the pump through the AFC. One is the cupped washer on the side of the diaphragm near the spring. Another is the barrel of the afc foot that slides on the round shaft. The smoke screw sets pre boost fueling. The starwheel determines how fast the fueling comes on in relation to boost. Let's begin:

Remove the AFC housing from the injection pump. There are 4 bolts holding it to the pump. If the housing has never been off one will be a break-off/tamperproof screw. I use a long T-25 bit and smack it with a hammer to indent the torx bit in the head and take out the screw. Others use a chisel to make a groove for a flat screw driver or use the chisel to remove the cap screw.



Now you can remove the 4 screws on the back of the housing to reveal the AFC Diaphragm. One of these is a break off/Tamper proof cap screw as well.



AFC diaphragm and cupped washer:



Remove the 10mm nut holding the Diaphragm to the AFC shaft.  
There should be another slightly cupped washer under the  
diaphragm.



Remove the cupped washers and grind them flat OR replace them with fender washers from the local hardware. I have found a 1 ½" diameter outside and 5/16" hole washer fit fine and can be purchased for under a \$1 a piece.



Now that the washers are replaced you can put the diaphragm and cover back on.

Now we can mod the AFC foot:

Remove 10mm bolt holding the slide shaft in the housing. You may want to mark this area so you can put it back in the same spot as this can adjust the height/depth of the AFC foot in relation to the governor arm.



Take a flathead screwdriver or putty knife and slide out the shaft.



Remove the shaft and the AFC foot:





Measure the barrel of the foot and mark 1/16" to 1/8" and grind that off the REAR of the barrel. This will allow the AFC foot to travel past the plate when set FF so you can get full rack travel.



Now you can reassemble the AFC foot and shaft.

Now we can adjust the Smoke Screw. It is behind a small cover on the AFC diaphragm cover. There are 2 small cap screws and as usual one is a break off/tamper proof.



This screw controls the 0/No boost fueling. It pushes on the end of the AFC Diaphragm and pushes the foot forward for more rack travel at no boost conditions. This can be adjusted at anytime and you can set it to your liking. To adjust smoke screw; loosen the lock nut (10mm), use 3mm allen wrench to adjust screw in or out.

Smoke screw on inside of cover. All the way forward:



Smoke screw adjusted all the way out.



I start out with the screw just touching the diaphragm and then tighten it up from there. You should be able to feel the screw touch the Diaphragm as you will get some resistance from the AFC spring.

Now the Starwheel

Remove plug located on top of afc using 8mm allen wrench. Be careful to not drop the sealing washer under the plug.

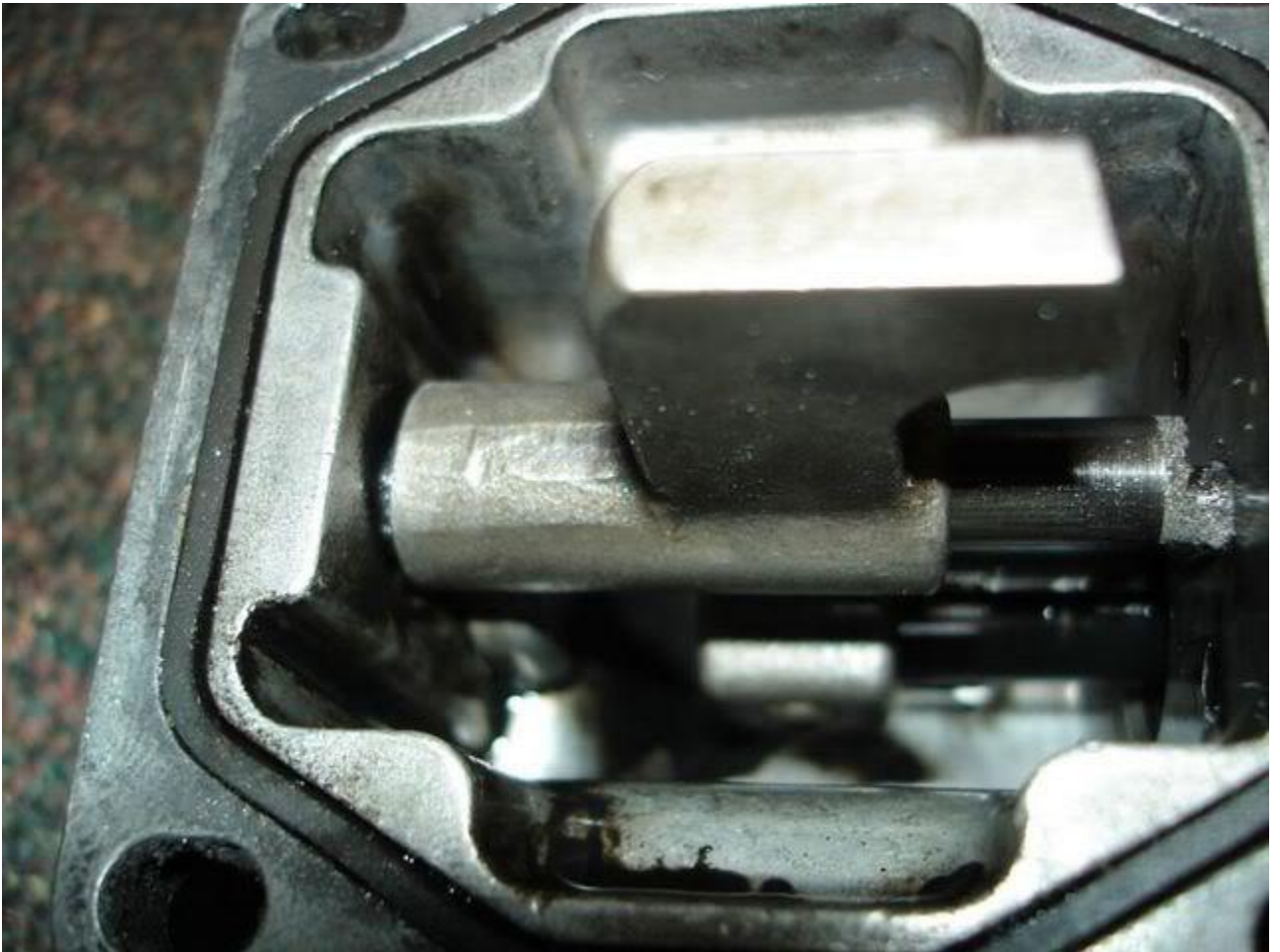


The best way I have found to get the initial adjustment for the starwheel is to use regulated compressed air. Get a blow gun with a rubber tip and put the tip where the boost reference line to the AFC comes in at.



Adjust the starwheel so the AFC foot can get full travel at 35psi. The tighter/more tension you have on the spring the more boost is needed to move the AFC foot out of the way for the governor arm to contact the fuel plate.. Too much tension on the spring will cause the spring to bind up and the foot will not move all the way forward.

With the starwheel adjusted for full fueling at 35 psi the foot should just touch the front of the housing. If it doesn't the washer under the diaphragm might be hitting the housing body. I have found this on a few I have tuned. You can take a small washer and place on the stud in front of the washer to space it back and allow the foot to travel all the way forward.



At 17 psi the foot should be in the middle:





And this is with no boost.



Install plug and sealing washer back on AFC housing

Install the modded AFC back on the IP. You can now push the housing full forward or in the stock location. I prefer to put it full forward but you'll have to adjust it to your liking. The smoke screw can also be adjusted at this time too. Just remember to put the small cover back over the smoke screw when the fueling is set to where you like. Go for a test drive and then fine tune things to your driving style.