



## Technical

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**Topic: New Mod. A Nozzle Shoe**



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Back in September 04 i posted a " how to " on trim nozzles on SJ's, I have now come up with a new mod called a Nozzle Shoe. When used with a trim system it increases the effect of the trim system. Since i fitted my nozzle shoe i have done the biggest jumps and got the biggest air yet.

01) Remove your ride plate

02) From a peice of card 65mm wide x 72mm long cut a template that fits on the back edge of your nozzle and lies inside your nozzle. The 65mm wide is important as this will give you a cord with of 15mm





You can get the approximate shape of the template off the pics. Once you are happy its a good fit stick selotape into your nozzle. i used 20mm wide tape as it stretches and being thin doesn't leave any voids. Using the template cut this shape out of some aluminum plate ( mine was about 1mm thick ) and mark it top and bottom. Using a dremol or file chamfer the bottom edges where it touches the nozzle edges. Once you are happy its the best fit you can get rough up the underside of the aluminum with glass paper ( it gives a better key for the P40 ). Put a big blob of P40 onto the selotape inside your nozzle and push the plate onto it so the P40 ouses out from all the edges. Dont bother trying to remove any surplus just leave it to go off ( time for a cup of tea and a fag ).



Once its gone off carefully prise out the shoe ( if you forgot the selotape you are now bu\*\*ered ) and remove the selotape.



Used a dremel, flapwheel on a drill, a file or glass paper remove all the surplus P40 flush with the top of the alloy plate and flush with the back of the plate and the edge of the nozzle. If there are any gaps on the edges it will pay you to try again, however you can use the shoe you have made to improve your template shape



I fixed mine with 2 no M4 countersunk bolts 25mm long and 2 no M4 19mm dia washers ( all from Homebase 99p per pack ).

Drill a 4.5mm hole ( from underneath ) thru your nozzle BUT be 10mm back



from the ridge around the edge of your nozzle ( or you cant get the washer on ) and then another hole further in ( there is aprox 30mm between my holes ). Place the shoe in position, spend a little time ensuring it is level on the back edge and when you are happy use a pencil and mark thru the holes onto the underside of the shoe.

Remove the shoe and put it top side down on some timber and drill your 4.5mm holes vertically down ( this will ensure the bolts will be counter sunk flush with the top face of the aluminum. Use a big drill to cut the counter sink into the aluminum.



Make sure that the pump casting doesn't land on top of the shoe and reduce the amount of trim you have. Put the washers and nut on the bolts ( dont forget to use some thread lock or nyloc nuts)



As you can see my first hole wasn't far enough in to use a big washer ( bu\*\*er ). Refit your ride plate ensuring that the bolt ends dont rub ( cut them back as nessary )

I have run 10 tanks of fuel through the ski with the shoe on and not had any problems.

What will it do ?

My chord height is 15mm ie from the very bottom of the outside edge of the nozzle to the top of the aluminum. When you ride it lifts the nose a little but wont cause porposing at high speed but when you pull your trim on it will lift the nose higher than before. I noticed it was harder to pull the trim on ( its deflecting the water at a higher angle )and i have to drop the power to pull it on. When i use the trim for setting up a wake it generates a bigger wake.

If your chord height is much more than 15mm your nose is permanently pointing at the sky. If you dont like the results it can be removed in minuits and only leaves 2 little holes in your nozzle.

I can now do fountains for 15 seconds + and still ride out backwards on the hood ( using the trim ).

I still have a few ideas for mods that im working on, watch this space. Any feedback would be appericiated, let me know how you get on !

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Go BIG or go home !

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