

How to Change the bearings on a Denso Alternator.

Apart from refurbishing the diode pack and rectifier and brush set on the Denso alternator, I have just had to change the front and rear bearings on one, I have done a small write up for anybody to follow if they fancy having a go.

You do need a special tool for the removal of clutch pulley but these are now cheap and ready available from Ebay. You also need an 8mm socket, Philips screw driver and a two legged puller. I know its not everyone that would attempt this but hopefully it will save somebody a few quid.

First off you need to follow the steps in my write up on Didoes pack replacement in the board wiki section

http://media.disco3.co.uk/gallery/albums/userpics/11480/Replacing2_the_Diode_Pack_on_A_Denso_Alternator.pdf

Once you're at this stage your alternator should look like this, now remove the four 8mm headed screws that hold the two halves together.



The next step is to split the alternator casing, start with the rear of the casing. Before you do anything mark the two halves with an indelible ink pen with a line right through both halves so you know how to line it all up when you come to rebuild it.

Start by using a soft copper or bronze drift and hammer to tap the rear part of the casing off, keep rotating the rear part of the casing and tapping and it will start to come apart, take your time and it will come off just like in the picture below..



Now before removing the front part of the casing you need to remove the clutch pulley on the front shaft, do this by inserting the correct tool/socket and using an impact gun remove the clutch pulley, I used a rubber strap to hold the pulley while I undid it with the gun



Now the front half of the casing needs to be pressed out, I just used a two legged puller to push the main shaft back through the casing, its not that tight and they push out fairly easy, do not use a hammer on the shaft as they are quite soft and easily damaged. And also take care with the rear end of the shaft with the two copper pickups.

Once you have the two casings halves off your left with the stator shaft and the rear bearing is still on the shaft and this now needs to be removed



The best way to remove the rear bearing is to place the bearing in to the jaws of a vice and cover with a rag, and then squash the bearing in the vice and it will break apart, leaving just the inner race of the bearing to remove from the shaft.



Again the easiest way to remove this part is to use a grinder and grind a flat on the inner bearing part till you just come to the stator shaft, then once at the shaft use a good sharp chisel and the inner bearing race will split and become loose. You can now use two big screw drivers and prise off the old inner race taking care not to damage the two copper pickups. Make sure to clean up the shaft with some abrasive paper and coat with oil to aid with fitting the new bearing.

Now fitting the new rear bearing is quite simple just place the bearing on the shaft and using a suitable size socket that fits the bearing size just tap it back down the shaft, it should go on very easily.



Now the front bearing is very simple you just remove the four Philips screws from the plate shown and then using a suitable size socket tap the front bearing out. Again clean up the shaft and oil it, fit the new bearing by tapping in to place and replace the cover and the 4 screws.



The next step is put the stator shaft back in to the front part of the casing, just line it up with hole and then tap gently down with a rubber mallet to get it to start to engage in the front bearing, once its started to enter the front bearing you should be able to shove it down all the way now by hand.

Now it comes to joining up the two halves of the casing, first check that the rear bearing spring shim is in place, use some grease to hold it in place.

Then using your line that you marked on the casing, align the two halves up and then push together. Insert the four 8mm headed screws in to the casing and use these to press the two halves together doing it in sequence so it tightens down evenly.

That's it all back together once the new diode pack and brush and rectifier have been fitted apart from the casing its like a new alternator for a fraction of the price. The total coast for the bearings is £5.00 and took me about an hour from start to finish for a complete refurbish.

Flack