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Installing Audi Brakes on the Vanagon Syncro

Installing Audi brakes on a Syncro is amazingly simple, inexpensive and an amazingly effective brake upgrade for the Vanagon Syncro. I find these brakes superior to the South African big brake kits for a few reasons:

- Safety in numbers - off the shelf replacement parts are available almost anywhere in North America!
- Recycled Audi 5000S / Audi 100 / Audi 200 (1988 to 1994) parts are cheap and easy to find - this is a good source for the calipers and caliper carriers.
- The Audi dual piston calipers can provide more pushing force against the pads than the VW single piston calipers.
- Aftermarket performance brake rotors and pads are available from most VW / Audi tuning shops.

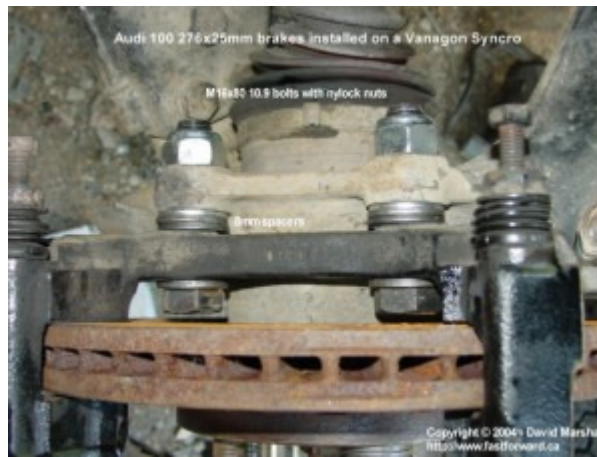
WARNING: I TAKE NO RESPONSIBILITY FOR THE ACCURACY OR COMPLETENESS OF THESE INSTRUCTIONS OR WEATHER THIS REALLY WORKS AT ALL. THESE ARE BRAKES AND THEY ARE VERY IMPORTANT, IT IS YOUR RESPONSIBILITY TO MAKE SURE IT ALL WORKS. DO THIS UPGRADE AT YOUR OWN RISK - YOU ARE YOUR OWN WARRANTY - DON'T COME CRYING TO ME IF SOMETHING GOES WRONG - I AM NOT LIABLE FOR ANYTHING!

These brakes are not a direct bolt on, but with some basic milling work the caliper carriers can be made to fit the Vanagon Syncro hub and everything else is a direct bolt on.

Materials needed:

QTY	Part #	Description
2	477 615 301 B	Audi 5000S / 100 / 200 276x25mm vented brake rotors
2	477 698 151 F	Audi 5000S / 100 / 200 brake pads
2	447 615 125	Audi 5000S / 100 / 200 caliper carrier assembly
1	447 615 123	Audi 5000S / 100 / 200 dual piston brake caliper
1	447 615 124	Audi 5000S / 100 / 200 dual piston brake caliper
4	M16 x 80	10.9 strength bolt
4	M16 washer	flat washer
4	M16 nylock	nut with nylon lock or use blue loc tight
4	M16 8mm spacers	8mm spacers for between the hub assembly and caliper carrier

If you inspect the caliper carrier of a Vanagon Syncro you will see that there are just two M16 bolts that hold it on to the hub assembly. If you inspect the Audi caliper carrier you will see that there are two M12 bolts that hold it in place. For obvious reasons a M16 bolt will not fit in an M12 hole, so the Audi caliper carriers must be taken to a machine shop to be enlarged to 16mm. You will also notice that the mounting hole centers of both calipers are not the same, so using a simple drill press to enlarge the holes will not work. You have to offset the M16 holes in the Audi caliper so that the edge of the 12mm hole will become part of the edge of the 16mm hole when you are finished - hence a milling machine is needed. The bottom section of the Audi caliper carrier that goes next to the Syncro hub will also need just a slight bit of material removed from it as it will just rub on the Syncro hub assembly causing things not to line up correctly. While you are at the machine shop get them to make four 8mm spacers with a M16 hole down the center of them to provide the correct spacing. For my brakes, I used the correct combination of washers, if I had more time, I would have had the spacers machined up.



Audi Caliper Carrier mounted on a Vanagon Syncro Hub

Once the disc and caliper carrier is installed you can install the caliper. This is about as simple as just bolting it in place. *Hint: you have to put the disc into the caliper carrier and slide it on the hub as a unit as there is not enough space to put the bolts in afterwards.* The Vanagon brake lines can be reused with the calipers. You have to remove the metal brake line and the brake line supporting bracket from the Syncro caliper and transfer it over to the Audi caliper - some reshaping of the metal line will be necessary to accomplish this.

Once the calipers and brake lines are in place, bleeding the system is necessary and then you're set! Well, almost, you'll need 15" or larger wheels to fit over the larger brakes. There are some wheels on the market that don't fit the South African brakes, I have not tested these wheels with the Audi brakes so do your wheel shopping carefully. I test fitted the 15" and 16" wheels that I sell at <http://www.fastforward.ca> and they all fit perfectly!



Audi 5000S / 100 / 200 brakes mounted on a Vanagon Syncro

We have installed these brakes on our TriStar Syncro. After 10.000km all is well and I am still very impressed with the braking!

I am investigating fitting Audi A8 322x25mm rotors on our heavier Westfalia Syncro - stay tuned!

Follow up: *Due to criticism from a mailing list member, I got this brake setup inspected by a provincial government inspector. He liked that they saw and he said he would have no problems officially passing these brakes in an official inspection. He suggest for ultimate strength, that he would like to see one solid piece used as the spacers, not washers or individual stand offs. Again, do this upgrade as your own risk!*

If you have any questions or comments or would like to contribute to the information found at <http://www.syncro.ca>, please contact me at info@syncro.ca