

First thing, I hope you're ready to bend some brake lines, so you should check that the lines in your engine bay are in an OK shape, otherwise it would be a good idea to have a line plier.

Here are the parts required for the operation:

- Brake booster from an Audi 100 (4A0 612 107 A)
- Gasket for the booster (431 612 193)
- Clevis (893 721 213)
- One nut for the clevis (N 011 162 9)
- One pin for the clevis (443 721 371 A)
- One check valve (191 611 933 E)
- 2 nuts to fix the master cylinder to the booster (part number unknown)

ALL the parts are requires, these are the parts that CANNOT be reused from the old setup. You can get all the parts from 034motorsport, if you tell them it's for a conversion on an Audi S4/S6 they should know they sold this kit to one guy in the past, I got the kit for the same price as their T89 conversion they sell (350\$), otherwise you can get everything at the scrap yard or most online parts supplier.

So the first thing to do is to remove the old setup. Remove the strut tower bar first, and then unbolt the master cylinder from the booster. Push the master to the side, leave the reservoir attached, it doesn't need to move from there right now. Next, and that's the shitty part, you must unbolt the booster from the firewall.

Go inside the car remove the plastic panels under the steering wheel (held on with hex screws) and take a look at how they fit in, it will help during reassembly, a total of three parts need to be removed, the "main" panel that you first see and that is there for aesthetic reasons, the panel that it's holding onto and the heating duct into which it slides (there's a screw at the far right, I didn't see it at first).

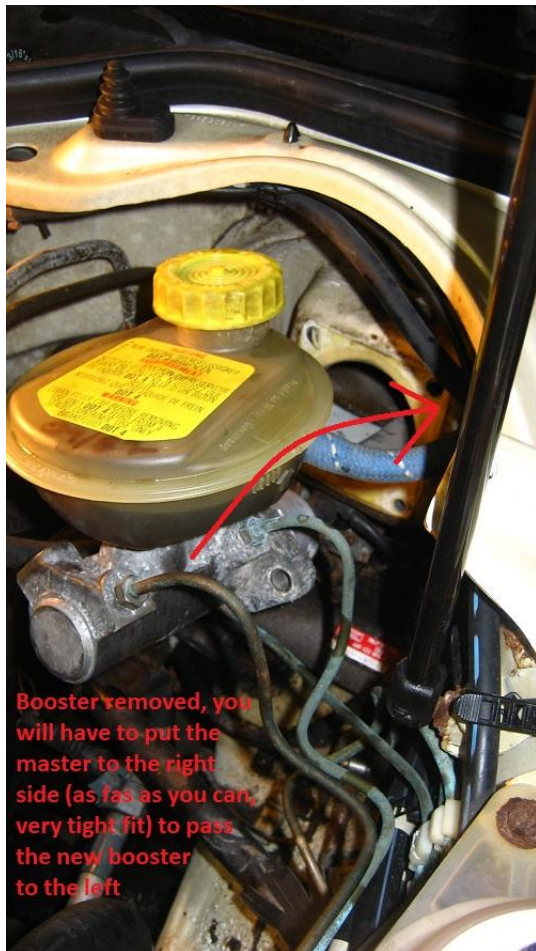
Now that it's done, remove the lock washer (KEEP IT!!!) that holds the clevis to the brake pedal and remove the pin.

Now is the time to unbolt the booster for real, you will need a 3/8 ratchet, at least two long extensions, one U-joint (a flexible joint that goes between the ratchet and the socket) and both a short and a long 12mm socket (or was it 10mm?). There are two nuts that are easy to reach, the ones on the right, the lower one on the left isn't that hard to reach, use a light to guide you.

Now is the hard to reach one, what you must have realised by now is that you are removing the nuts from the booster but the bolts these nuts are screwing onto pass through the bracket that holds the clutch pedal and master cylinder. Look at the bracket carefully and you will see a round hole right behind a heating duct that is covered in some kind of cloth. You must attach your socket to an extension, attach the U-joint, attach a second extension and pass this setup through the hole going toward the firewall, the U-joint should give you enough flexibility to pass without much trouble even though

the duct is in the way. With you left hand find your way around the clutch pedal to feel your extensions making their way to the firewall and try to guide them. Personally I guided the socket all the way until I couldn't push it any further and then, using my right hand, I turned the extensions until I felt that the socket was plugged on the nut. You're going to spend some time trying to remove this nut, be patient (if you have a friend helping you, he can pull on the booster at the same time so you'll know if you are making any progress).

Once you're done with that, go in the engine bay and remove the hydraulic booster (you can unscrew the two line that are fixed on it), scrape off the old gasket. You'll need to move some of the pressure lines around to be able to fit your vacuum booster where it's going and you'll need to move the master to the right as far as you can. As I said before, if your lines are in good condition it shouldn't be a problem. If you don't mind having to refill your brake/clutch fluid and bleed both systems then you can just remove the brake master and put it back later. Removing everything would be the best solution because it's a very VERY tight fit. If you are a trooper (like I was), you'll leave everything in place and you'll curse the day Audi decided to make the clutch master feed hose just the right length to reach the master (it's the blue flexible hose at the back of the reservoir). This hose will barely fit between the booster and the car's body, but it fits.



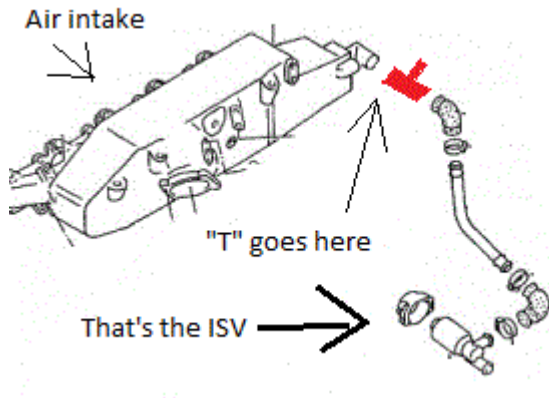
Put your vacuum booster in place (don't forget the new seal that goes between the booster and the firewall), put the master in place (apply a good layer of gasket maker on the booster before you do that, just follow the instructions to make sure you have a good seal in-between the master and the booster).

You'll notice that you have a small pressure line that connects to the feed line for the steering rack, you'll need to remove it and plug the hole in some way, since you have to remove the pressure line, you can cut it, remove the "connector" and weld it shut (JB Weld? You can try, not sure if it can hold a lot of pressure). You can take a chance and just cut the pressure line, leaving about an inch past the "connector" and put it in a vice so it doesn't leak.

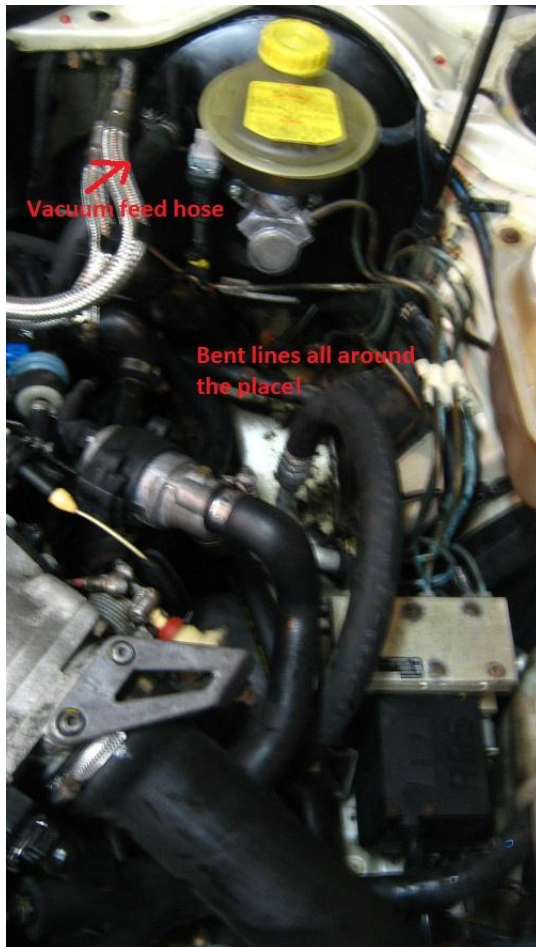


If you want to do the job the right way, you'll have to remove the bomb (old pressure accumulator) which is accessible from under the car on the driver's side. Try to follow the pressure line that goes down from the power steering pump. You will also need to either change the power steering pump for one that comes from a car without hydraulic brakes (I think one from a 6 cyl. bolts right on) OR you can unscrew the big X-plug on your pump and unmake the piston that's inside.

At the back of the air intake you have a vacuum hose that goes to the Idle Stabilization Valve (ISV), you must unplug it from the intake and make a "T" that will bring air to the vacuum booster. I did it with some plumbing stuff I found at the hardware store, measure the diameter of the check valve intake (around 1/2" if I'm not mistaken) and the hose already in place (around 3/4" if I'm not mistaken again). You will need a hose to go from the "T" to the check valve and another one to go from the intake to the "T".



You should have something that looks like this:



Now we have to modify the strut tower bar because the new booster pushed the reservoir farther into the engine bay, if you removed the brake master to put the new booster in, you are lucky, just turn the reservoir around on the master and it should barely clear the bar. Another solution is to cut a small section of the bar halfway through, invert it and weld it back so it gives you something like this:



Don't have access to welding equipment? Cut the bar completely and make something like this using some scrap metal:



Use your imagination, I'm sure you can make something solid.

Once everything is in place, wait for the seal between the master and the booster to dry (if you removed the brake master you must refill/bleed everything first) and try to move the car around, the pedal will feel quite stiff and you must get used to the fact that you don't have much pressure in the system unless you have your foot on the clutch pedal.

Have a beer and laugh at all those guys who still have their bomb that will stop working after 6 months because now you have a bulletproof setup!