

Manual Transmission Swap

Contributed by Administrator
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Tired of letting hydraulics have all the shifting fun? Maybe it's time to retrofit a manual gearbox to your Saab! Absolutely - I've converted both 900s and 9000s from automatic to manual transmissions with great success.

There are no differences in the body between the two cars, so everything is a bolt-in - the mounts in the floor for the shifter housing and the holes in the firewall for the shift rod and the clutch are all there, plugged with rubber grommets. There are no electronics associated with the automatic transmissions, so you won't have to do any wiring or changing of control units.

If you're planning on attempting this, I strongly recommend having a parts car on hand, since you'll be able to see how and where everything is installed, and you'll be sure you have all the parts handy. It can be quite frustrating when you're missing one little bolt or nut you didn't anticipate.

If you don't have the luxury of having access to or the space to store a parts car, I recommend taking a bunch of Ziploc bags to a junkyard and bagging all the parts you (or the worker) remove from the car and labeling each bag with the general area the parts came from. It'll save you trouble later on.

Here's a basic list of the parts you'll need:

- Get the entire shift linkage from the knob to the input shaft on the transmission. On 900s, the shifter housing also contains the ignition lock cylinder. To remove the lock cylinder, you need to turn the key to the Accessory position and use a nail or similar poking device to depress a release. If you don't have the key to the parts car, you can drill "in just the right place," but if possible try to find a parts car with the key still in it. On 9000s, '93 and earlier cars have a different shifter alignment mechanism than '94 and later cars - make sure you get the linkage that matches with the transmission you plan on using. On 900s, some '86s and all '85 and earlier transmissions use a spring in the shift housing to center the shifter, some '86s and all '87s and later have the centering mechanism in the transmission itself. Try to get a shifter housing which matches the transmission you plan on using. Nothing bad will happen if you end up with two centering mechanisms (as my '86 900S does...) but you don't want to end up without one at all!
- Get the entire pedal assembly including the bracket that bolts to the firewall. You'll obviously need a clutch pedal, and you will need to replace your big ol' grandma brake pedal with a smaller, 5-speed sized brake pedal, so you might as well get the whole assembly. Installing it in either car will necessitate removing the dashboard, but despite the added trouble I recommend taking this route. Take the opportunity to replace all the old rubber vacuum hoses down there, and replace the bushings on the brake pedal. Having the dashboard out will also make it easier to pass the shift rod through the firewall. On 900s, this might also be an opportunity to replace your leaky or stuck heater control valve. On 9000s, '93 and earlier cars have the clutch master cylinder mounted in the false bulkhead, '94 and later cars have the master cylinder attached to the clutch pedal. Make sure you grab one from the right range for the car that will receive the parts.
- Don't forget that you'll need a flywheel, all the clutch hydraulics, and the clutch itself. The flywheel should come from an engine similar to the one you plan on using (2.0l flywheel for 2.0l engines, etc.). A complete clutch kit including a new disc, pressure plate, throwout bearing, and slave cylinder will be available for \$160 to \$200 depending on who your supplier is. The master cylinder must be purchased separately. Due to the nature of these components (and the hell you have to go through to replace them on 9000s) I strongly recommend buying new and not used. I also recommend picking up a new pilot bearing for the flywheel, since now will be the easiest time you'll have replacing it.
- 900s and 9000s have an ignition inhibitor that prevents them from being started unless the automatic shifter is in Park or Neutral. You will need to bypass this, by shorting the appropriate pins. I can provide wiring diagrams for either a 900 or 9000 if you need.
- If you are converting a 900 Turbo, you will need the intercooler pipe that goes from the airbox to the turbo, as automatics use a slightly different one. If you are converting a 9000, you will need the driver's side axle and support bearing, as they are shorter and smaller (respectively) on automatics.