

Classic Saab 900 Whaletail Restoration

The Saab 900 whaletail consists of two pieces; the composite wing and the rubber wing-surround. The rubber surround is mounted to the wing with standard metal studs with nuts, and with screws. No adhesive is used. You may find adhesive on your part from an earlier attempt to repair it. If your whaletail came from the rust belt, most likely the hardware is rusted and the rear rubber lip has come off the wing and the part will need repair.

Areas which are prone to failure:

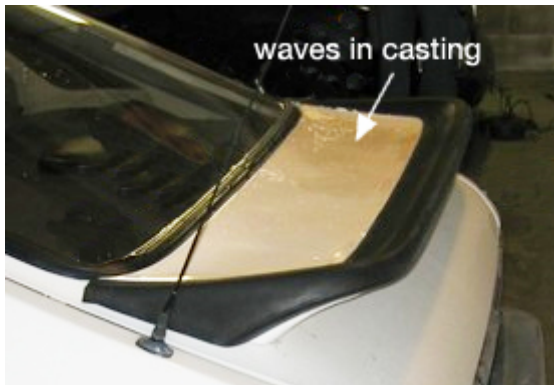
The most common failure is where the front-upper edge of the rubber surround meets the rear-upper edge of the wing. That area is prone to water penetration which compromises the metal mounting structure within the rubber surround. Let me explain. The rubber surround has a metal band embedded in it along the meeting edge. That band is what the mounting studs and screws go into from beneath the wing to fasten the two parts. The openings in the rubber part to insert the studs are larger than the mounting hardware. This allows water and salt to get in between the rubber face and the embedded metal band causing it to rust. If it gets bad enough, the metal band expands and blisters or cracks the rubber along the mounting area. This will need to be fixed.

Another problem area is the area of the wing that is hidden by the rubber surround along the top. There is no system along this area for water that has penetrated to drain off. In the winter, water that gets in this area freezes, and pops the rubber surround's rear lip off the wing at the back.

Another area that usually needs addressing is the mounting points. The ribs that hold the mounting screws (between the hatch and the whaletail) are very narrow. This makes it difficult to get a mounting screw to hold without compromising the wing. The composite ribs are often broken in the mounting areas because of this.

Lastly, the upper surface of the wing often has a wavy appearance when it is painted with a glossy paint. This is usually the case, as they are often painted to match the car.





Solutions:

You'll need to separate the two parts by removing all the mounting hardware from beneath the wing. If things are badly rusted, expect to break a few studs or screws. That's OK, you can drill them out and re-tap them. I use new stainless steel hardware to reassemble the parts. If the rubber is torn anywhere along the mounting area, carefully cut those areas away exposing the metal beneath. Be sure not to cut too high or too much, or you'll see the repair when you remount the rubber piece. Scrape away any rust you can and put some rust converter on it and paint it. Once that dries, put some dish detergent on the threads of the new stainless screws and turn them into the metal band a couple of turns. If the upper portion of the rubber piece has peeled back where you may have made cuts, use some wooden strips and clamps to get it back where it belongs. Then, clean the rubber area really well with alcohol and fill in the repair with urethane windshield setting compound (comes in a caulking tube from most auto supply stores). Spread it with a putty knife. Also fill in the excess areas around the screws in areas that didn't need repairs. The urethane compound won't stick to the dish detergent so you should be able to take out the screws you inserted earlier once the compound has dried overnight. Now, when you put the two parts back together, you'll have a watertight seal. The urethane repairs can be sanded smooth with 120grit paper once it's dried so don't be afraid to put extra on. Also if there are areas of the rubber that have blistered but not broken through, don't cut them out. Just sand the blisters smooth. This will insure the integrity of the original rubber part. If you've got really bad failure of the internal metal mounting band, it will need to be removed completely and replaced with a new band. I've also heard of people just epoxying new studs into the rubber piece without using the metal band. I haven't done this myself, so I can't vouch for it's effectiveness.

Another area that needs addressing is the recessed area that you'll see once you get the rubber off. Picture the spoiler on the car. If water goes between the rear-upper edge of the wing and the front edge of the rubber it has no where to go. There are no weep holes in the recessed area beneath the rubber surround. I drill a series of 1/4 inch holes in that area through to the hidden underside of the wing. This allows water to get out via the weep holes where the bottom of the spoiler meets the hatch.

You may also notice that with glossy paint on the upper part of the wing, you'll see waves. You can correct this by filling them with body filler to smooth the whole thing out. Make sure you scuff the wing up with course sandpaper before you start so you'll get a good bond with the first coat. You'll need lots of thin coats. Use the widest spreader you can and sand it with a good body block to be sure its not wavy. Don't build it up too heavy to quick. Finish off with a high-build primer and sand with 2000 grit wet paper before applying the finish coat. I sprayed the top of mine with SEM semi-flat trim paint. The low sheen helps hide any imperfections and matches the look of the rubber. The backside below the rubber piece was painted gloss black to match my car so I don't have to be concerned about getting wax on it. Wax and semi-flat paint don't mix.

Next, I'll address the mounting issues. Once you get the wing off, flip it over. You'll notice that there are very narrow mounting points to screw into. The chances of hitting these points with the holes already on your hatch are not likely. I cut away about an 1/8" of the mounting ribs where they meet the hatch and inset 1/8" thick by 1" wide pieces of aluminum there. I bent it up at an angle to follow the curve of the rib where its angle changes (wish I had a photo to demonstrate this) and mounted the aluminum pieces with recessed screws. The new aluminum pieces are now flush with the original mounting area of the rib, but are an inch wide instead of 3/8". It gives you plenty of fudge room so you'll be able to use your old mounting holes. You should only need to drill two additional holes in your hatch, at both rear corners of the wing. There is plenty of meat on the wing there so that area doesn't need reinforcement. The rear edge of the wing should be mounted with 3m body molding mounting tape (available at autobody supply stores). Be sure that the tape doesn't block the weep holes. Lastly, you'll probably notice that the two top holes (near the window) from your original spoiler don't line up with the new spoiler. You have two options here; fill them and drill new holes (too much work in my opinion) or add a flange to the wing that reaches the mounting holes but is hidden beneath the rubber part of the wing. I did the latter. I used some more 1/8" aluminum by about 3/4" wide and screwed it into the underside of the fiberglass wing. I cut a recess in the underside of the wing that it fits snugly into (lust like putting a hinge on a wooden door). It protrudes out about a half an inch at the top and is shaped like the rubber piece at its almost-exposed end. It extends just enough to get a screw into it from the original mounting hole and still be hidden by the rubber top piece. I made it long enough to get two screws through it where it mounts to the fiberglass wing and used screws long enough to penetrate into the rubber top piece from underneath--again the screws are recessed to be flush with the aluminum face. I painted that piece trim black to be sure it's well concealed (be sure to use a bonding agent like Bulldog when painting aluminum). On my car the wing doesn't go flush with the hatch at these points. I'm not sure if this is

the same on all 900s. I used a rubber grommet sandwiched between the hatch and the mounting bracket that the screw passes through to be sure it stayed watertight.

You may want to rework the mating surface of the wing to contour better with your hatch as well. The composite material is easy to reshape. Take it easy and just remove a little at a time between test fittings. Be sure that you put weep holes back in if you have to grind them away when custom fitting.

Before you mount the wing, put some mounting tape in the shape of a washer (or get thin rubber washers) around all the mounting holes to be sure you don't get water penetration. Also be sure that you put the rear window weather seal ON TOP of the wing. It's easier to do this if you pull out the seal insert in that area first.

