

FRP Techniques

How to Install Decklids and Tailbases

All decklids and tailbases are installed in the same general way. Follow these step by step instructions to hang them the way the pros do.

1. Open the shipping container and check for any damage to the part. **IMPORTANT!** Do not mistake mold transfer lines for cracks. See FRP Techniques p. 16 for more information. Check that it is the correct part that you ordered.

2. Begin the initial prep work to install the part onto your car.

3. Check the threaded inserts before attaching the hinges and plunger. If the bolts are installed, remove them and make sure the bolts turn easily in and out. If the part comes without fasteners you may need to check the thread pitch so there aren't any mistakes. The standard mounting bolt for 911 decklids is metric, 6X1 mm. Use a tap to clean out any stubborn threads and a depth gauge to make certain the

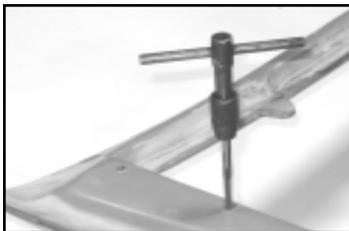


PHOTO 2.
Cleaning the threads



PHOTO 3
Thread gauge



PHOTO 4
Checking Bolt length



PHOTO 5
Drill hole for the snubber

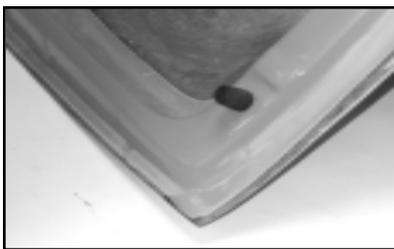


PHOTO 6
Snubber screwed in



PHOTO 7
Hinges and Plunger installed

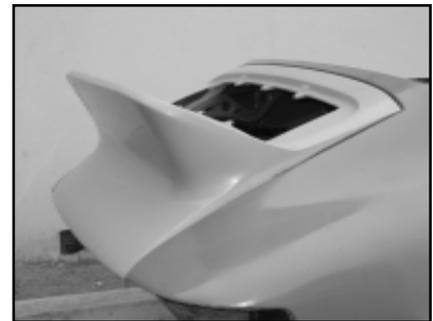
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3. Install the 2 rubber snubbers (PHOTOS 5 and 6). These 2 screw in snubbers are very important, because they are the main way to adjust the bottom corners of the decklids. Without them the decklid is balancing only on the plunger assembly. To install, drill a 1/2" hole where indicated on the liner and lightly chamfer the inside of the hole so the snubber will thread in.

The method we are using to install the decklid involves mounting the hinges to the decklid first then putting the whole assembly onto the car using the hinge pivot bolts. Some of the more elaborate tailbases, like the GT II, can be quite heavy and it's easier to pop the 2 pivot bolts in, then trying to start and screw in the 4 little 6mm bolts. With this method it is still a one man job to hang any tailbase.

1. If the cars paint job isn't going to be touched start by throwing a towel across the top edge of the engine compartment, at the rear window and rest the tailbase in a full open position on the cloth. Ease one hinge into position and slide the bolt through. Then do the same with the other. The bolts have a unique shape with slotted sides that prevent their turning when the lock nuts are installed. The slots also make it difficult to accurately position the bolts so they will slide in. I always grind 2 little notches on the round head to help me feel what position the bolt is in.



Once the bolts are in place lower the base, sliding it to the front or back so that the gap at the top edge is reasonable. WE ARE NOT GOING TO LATCH IT JUST YET!

Before you can latch the decklid check that a few things are close. The decklid itself should be square to the engine compartment opening. The gap at the top edge should be tight enough so that edge of the fiberglass just touches the metal corner as it swings open and the plunger should be centered to the latch receiver opening.

This is one of those many instances where you are going to be juggling several different adjustments at one time. It is not particularly difficult it is simply a matter of being aware of what you are trying to accomplish.

2. Once the decklid is close to where it's supposed to be check the positioning of the plunger. As the decklid closes the plunger should be centered in the middle of the receivers opening. Adjust as needed. To check the plunger alignment, push down on the outside of the decklid, right over the plunger, just like you were closing the lid. If the lid shifts slightly to one side the plunger isn't centered in the receiver.

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If you are going to be successful hanging bodywork you have to work towards getting the part centered correctly in its opening, or in relation to the surrounding panels and then adjust the mounting points accordingly.

3. When everything looks good and the decklid can be latched, adjust the snubbers to bring the corners of the decklid even with the quarter panels.

4. Now it is time to really start dialing in the fit. Let's start at the top edge and the hinges. position the decklid so that it has a nice tight even gap along the top. Ideally when the gap at the top is correct the bottom corners should align with those of the quarters. If the lid is too long you might want to grind a little off the top and bottom edges. If it's too short you will have to split the difference with a little bit bigger gap at the top and the bottom.

Snug the hinge bolts and open the decklid checking for interference. If the bottom edge catches it will have to be chamfered, or it will ruin the paint. Now would be a good time to pop out the 2 pivot bolts, remove the tail and flip it upside down so you can grind a nice 45 degree chamfer on the inside corner (PHOTO 9). Having to grind this inside corner is pretty much standard practice for all decklids and tailbases. Reinstall and check.



PHOTO 9
Grinding the bottom corner so it clears and won't scuff on the edge of the window frame.



PHOTO 10
Correct top corner adjustment.

5. Now let's adjust the shims at the hinges.

PHOTO 10 shows a correct fit, where the decklid is even with the body. If your wing sits too high or too low you will have to correct it with shims. If you aren't familiar with how to shim decklids look at PHOTOS 11, 12, 13, 14. Using thin washers as shim stock and positioning them between the liner (the bottom of the decklid) and the hinge allows you to raise or lower the top edge of the lid as needed.

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PHOTOS 11 and 12 illustrate what happens when too many washers are stacked at the rear bolt. This lowers the top.



PHOTO 11
Rear Washer Stack
Place washers here to lower the front edge.



Photo 12
Top Low
Too many washers at the rear bolt.

PHOTOS 13 and 14 show the opposite. Too many washers under the front bolt raise the decklid way up. CAUTION. Whenever a decklid sits up too high, FIRST check to make sure that the liner isn't hitting the channel surrounding the engine compartment. This is a common problem and you simply need to tap the metal down to provide clearance.

Normally 1 or 2 washers per side is usually sufficient for the adjustment.

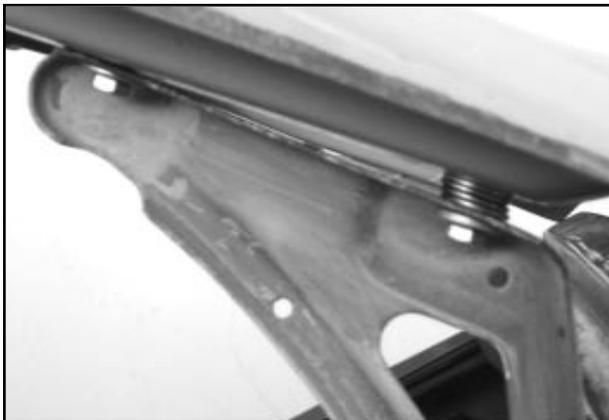


PHOTO 13
Front washer Stack
Place washers here to raise the front edge.



PHOTO 14
Top Too High
Too many washers at front bolt.

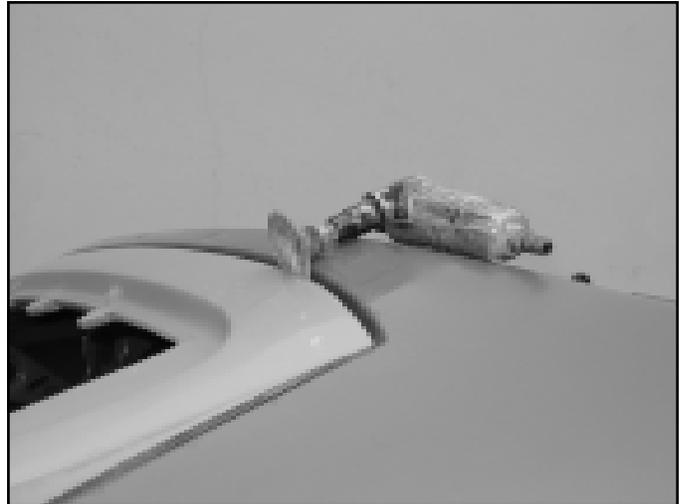
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Once the decklid is mounted with the hinges correctly shimmed, the plunger latching and the rubber snubbers positioned it is time to decide what else will be needed to perfectly match the new part to the surrounding bodywork. This is where any important grinding or sanding needs to be done next.

The four sides can always use a little extra work.

PHOTO 15. Shows a right angle grinder with an 80 grit disc. A few passes with this grinder at a fairly slow disc speed will grind the top edge of the decklid producing a nice parallel seam. If the whole car isn't being repainted, protect the exposed paint with a few layers of heavy tape and don't spin the grinder very fast. Use the same technique for the sides and the bottom



Another common problem is when the decklid doesn't match the window frame. If it's too low it can be filled and ground if too high. You can often grind as much as 1/8" off the decklid. Use a big 5" grinder with #36 grit and make smooth even passes (PHOTO 16) It is not necessary to grind the whole top. Concentrate on getting the corners even and even if the decklid tapers away at a slightly different angle it will be less noticeable.



Whether it's high or low the real trick is how to apply and work the body filler. While this comes with experience the technique is as follows...

1. Apply heavy tape to painted surfaces.
2. Cut a squeegee to match the frame to decklid angle.
3. Apply a thick layer of filler across the joint and over both surfaces. You want to do this in one shot.

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4. Now, and this is the important part, while the filler is still gooey, open up the seam with a stick, PHOTO 18, AND as soon as it tack up quickly hand sand it with #36. Then open up the lid and remove and big drips before they harden.

With this method I can fix even big problems in about 45 minutes.



PHOTO 18

Cutting open the seam before the filler sets up will prevent the filler from lifting off the edges.

Another common problem that often doesn't get fixed and looks terrible is when the top edge of the decklid bows over the rear window frame. You can often grind as much as 1/8" off the decklid to help the surfaces align. Use a big 5" grinder with a #36 grit disc and make smooth and even passes. It is not necessary to completely grind the whole top edge. Concentrate on getting the corner of the decklid even with the corner of the frame and then even if the decklid tapers away at the wrong angle it will be much less noticeable. Protect any painted surface with heavy tape.

CAUTION. Before you start grinding check to make sure that the bottom of the decklid/tailbase (the Liner) is not hitting the engine compartments drip channel. These channels often get bent and prevent the decklids. These channels often get bent and prevent the decklids from closing all the way.



It also goes without saying that if the decklid surfaces are a little too low they can be built up with body filler. Tape off any good painted surfaces and spread filler right across the seam. How the back, (the decklid portion), of the tailbase blends into the quarters is another place that should be matched. It's normal for angles formed in fiberglass to become more acute. It has to do with the shrinkage we talked about in the first part of FRP TECHNIQUES. Since all tailbases rise out of the decklid at about ninety degrees it is natural for the thinner decklid portion to want to lift up slightly so its above the level of the quarters.

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You can also block sand these areas so they more closely match the quarters. Use a long board file with #80 or #36 paper and level the decklid as needed.

Once all the fitting, adjusting and grinding etc. has been completed, then and only then is it time to go onto the next stages.

The very important Post Curing or cooking. PHOTO 20. Refer to FRP Techniques p.8.

Checking for air bubbles and seam integrity. PHOTO 21. Refer to FRP Techniques p.20.



PHOTO 20
Post Curing

Now it is time for the first steps of refinishing. Sanding off the post cure print through, and preparing the surface for the first coat of primer.



PHOTO 21
Checking for air bubbles.

Following all the steps will give you a professional looking installation every time.

PROFESSIONAL TIPS

1. For larger and heavier tailbases use the plunger assembly from a turbo model. It has a stiffer spring designed for the bigger turbo wings.
2. When installing the 911 plastic grills order the longer of the black 'T' headed studs so that they extend through the thicker fiberglass.
3. To insure that the decklids are only removed at the hinge bolts put a pop rivet between the 2 6mm bolts through the hinge and into the decklid.
4. On intercooled cars check that the studs securing the screen to the louvers do not strike the intercooler.
5. Large tailbases may be too heavy for the stock gas strut. Use the turbo version or combine 2 struts side by side.
6. Turning off the dashboard wing failure lights on C2/4 cars. When you remove a tailbase

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with an electric wing the wiring harness for the wing unplugs in the engine compartment. Locate the connector end that stays with the car. Here you need to put a small 'U' shaped jumper wire between 2 of the pins to close the circuit and fool the system into thinking that the wing is extending. Run a jumper between pins 3 and 7.

7. Turning off wing failure lights on 993's. Unplugging the square connector that is mounted under the dash will disable the light on 993 models.
8. Drain Holes. Small drain holes should be drilled in the bottom corners of decklids and tailbases so water can drain out.
9. Air Expansion Holes. All wings should have at least 2 small air expansion holes drilled discreetly underneath or in the sides. Air expansion in a black carbon wing in the hot sun can easily cause severe surface distortions.
10. Wiring. Many decklids come with engine compartment lights and ground straps. In most instances these things are deleted with after market tailbases and race applications.
11. Gaskets. Many of the insert type tailbases are installed without the base gasket. If you want to install a seal between the new insert and the decklid you can find thin rubber welting that will do the job. The welting needs to be darted to go around the radius and will also need to be glued to stay in place.
12. Masking off and painting the grill areas black like they used to do on old turbos is a nice detail touch.
13. Painting Top Wings. Many tailbases come with removeable carbon fiber top wings. If you want to leave the carbon showing the wing must still be painted with a high quality automotive clear to prevent UV degradation. To hide the seams and dress up the piece paint the perimeter edges black first then shoot the whole thing in clear.
14. Mounting 911 tailbases on C2 chassis. Even though the bolt pattern is different on C2 cars, 911 tailbases can still be used. All you need are a pair of the right angle hinge adapters. These came standard on RS Americas and C2 Turbos.