

FRP Techniques

How to Install 996 Tailbases

Recently we installed each of our 996 tailbases on a new 996 cabriolet .

One after another, we bolted on each of the 8 different bases we make, to individually check and evaluate their fit. Each tailbase fit great and the following instructions will help guide you through the process so the end result looks like a factory installation.

996's are much more of a mass produced car than the older hand built 911's were and it shows when you're replacing parts. 996 Tailbases are much easier to install than comparable 911 bases.

To Remove and Replace (R&R) a 996 decklid or tailbase follow these steps-

1. Remove the original decklid.
2. Prepare the replacement on the bench
3. Install the new decklid and make the necessary adjustments.
4. Post Cure.
5. Check for seam integrity and air.
6. Begin preparation for refinishing by initially sanding and blocking with #80
7. Fix imperfections and primer
8. Painting.
9. Reassembly.

STEP 1. REMOVE THE OLD DECKLID

NOTE. If you will need to reuse the plastic grill extend the electric wing before removal. Use the switch by the front fuse panel.

1. Pop the rear latch and open the decklid.
2. Place a cover over the air inlet to prevent anything from accidentally falling in.
3. Behind the right tail light housing locate the plug for the wiring harness to the decklid. It operates the electric wing, fan and possibly a third brake light. Unplug it from the chassis loom. If there isn't room to get your hand in, remove the right tail light and pop out the tie wrap that holds the harness to the back of the housing.
4. Remove the four 6mm mounting bolts and lift the complete decklid assembly from off the hinges and place it on the bench. You will need to remove for transfer to the new tailbase many of the following components listed below. Read over the list, making a mental note of what you may have to reuse and what may need to be added new-

- The wiring harness
- The fan
- The rear latch



PHOTO 1

Unpack and examine the part as soon as you receive it from the shipper. When checking for shipping damage do not confuse mold transfer lines with actual cracks. For complete information on how to tell the difference see FRP Techniques P 16.



PHOTO 2

Check the reflection of the overhead light from the taillight to the base. This shows how closely the two surfaces line up and all we did was put in the 4 mounting bolts and close the lid.

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The rectangular plastic air cleaner to decklid bellows

The bottom weather seal

The plastic top grill

On C4S', the reflector

On Aero Cabriolet, remove the electric wing assembly to reuse the decklid

Plastic cover panels

Additionally you may need to-

Install a third brake light. This should be fit and checked prior to any paint work.

Install rear decklid stops.

Install grill opening screens.

Apply any emblems or decals.

STEP 2. PREPARATION

Before attempting to install the new tailbase it's time to check a few things on the bench. Ideally the new mounting hardware will already be installed. If it isn't check for the correct bolt length and pitch. 6X1 mm bolts are standard for the hinges and the rear latch.

Also check to see if the rear screw adjusters (snubbers) are installed. These may need to come off of the old decklid. Composite tails use larger plastic snubbers. These require a 7/8" or 22mm hole to install with a filed locating notch (See PHOTO 3)

996 tailbases almost lock into the hinges, and it isn't too difficult a job for one man to R&R. But if you are by yourself throw some heavy cloths around the engine compartment so the paint won't get scratched if the decklid slips.

STEP 3. INSTALLATION

1. To begin, reinstall the 4 mounting bolts and align the new tailbase using the old paint shadow as a guide.

2. Now, slowly lower the lid, carefully checking for any interference at the top edge, corners and sides.

3. Adjustments to the chassis side.

Check the plastic clips on the hinges. These may prevent the new tailbase from closing fully. Remove as needed (See PHOTO 5). Here a dollar bill is used to check clearances (PHOTO 6). Check the vertical black plastic lip on the end of each taillight. The new decklids almost always hit here. There is very little room between the plastic edge and the bottom of the liner (PHOTO 7).

Here a razor blade is used to neatly trim away this standing edge (PHOTO 7A). Once again use a bill or a piece of paper to make sure there is no interference (PHOTO 8).



PHOTO 3

Step 2 Preparation

Here the bolt length is checked with a vernier. Too long a bolt will tear out the side of the liner. Also a 22mm hole is being cut into the liner for the snubbers.



PHOTO 4

Bolt the bare tailbase to the car. Note how his left hand grasps the corner of the lid together with the hinge, preventing it from slipping and gouging the paint.

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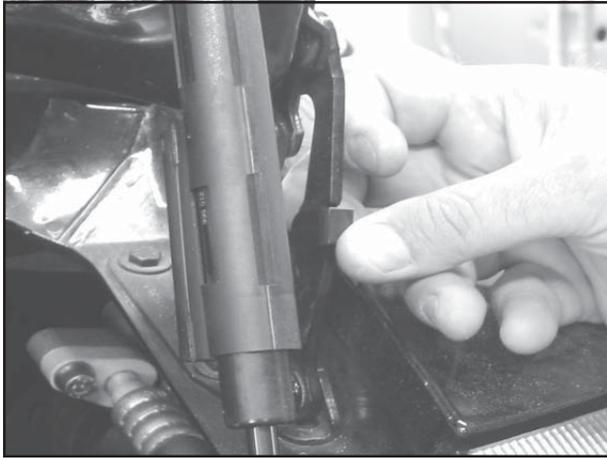


PHOTO 5

Removing the plastic clips from the hinges.



PHOTO 6

After the clips have been removed test to see that there is clearance.

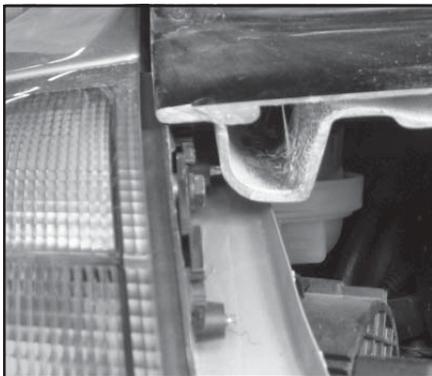


PHOTO 7

This cutaway decklid view shows the liner actually touching the tail light before its been trimmed (PHOTO 7).



PHOTO 7 A

Use a razor blade to trim this vertical piece of the tail light housing so the liner doesn't hit. It's also possible to relieve the liner side.



PHOTO 8

Again, after trimming the housing, close the lid and check.

Positioning the rear latch. There is a lot of adjustment on this piece and on the receiver mounted to the rear bulk head. Take your time and dial in these two.

As you start dialing in the fit move the lid as needed. The tail can move up or down on the hinge bolts and it can be positioned left or right by loosening and moving the hinges in the drip channel.

Now is the time to adjust the rear stops. These are similar in operation to the older 911 style rubber snubbers. Screw them in or out so the decklid rests on them and doesn't just balance on the latch.

The taillights on 996's can also be moved a little bit to better align with the decklid so the two surfaces appear flush. Remove the single attachment screw and pop the light out of the housing. The single mounting bracket is bolted to the side of the tail light housing and can be repositioned to move the tail light, up or down and in or out (PHOTO 9). Adjust as needed.

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Take a close look at PHOTO 7 again, just above the razor blade, where the corner of the quarter and the light come together. You can see the taillight is a good 1/4 inch too low from the factory.

At this time the replacement tail should be fitting almost as good as the original. Final hand fitting will include any light grinding or filling if needed.

If used, check the fit of the third brake light at this time.

If the new tailbase requires you to reuse the plastic grill, remove it from the electric wing as follows.

1. Raise the wing to the extended position by using the switch at the front fuse panel. This exposes the rubber accordian that has to be removed to access the bolts clamping the grill in place.
2. From underneath, the liner side, pop off the spring clips that secure the bottom of the accordian.
3. Now remove the flat bar that holds the accordian to the top edge of the wing. Slide it off to one side and the horizontal hooks will disengage.
4. The back edge of the grill has tabs that are clamped by the now exposed hex head bolts. You only need to loosen the bolts a few turns and the grill can be popped up and out.

STEP 4. POST CURING

In FRP TECHNIQUES we discuss in detail the reasons for post curing. In short, it's a simple process for stabilizing the laminate so it won't shrink over time and ruin the paint job. This simply involves raising the temperature of the part to about 190 degrees for a set period of time.

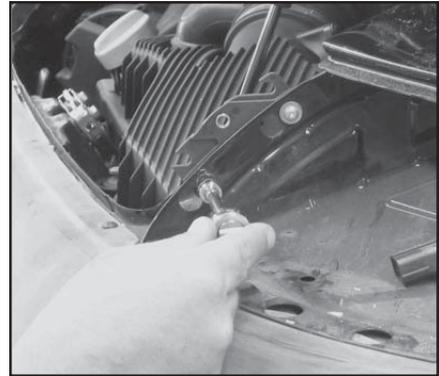


PHOTO 9

Removing the tail light allows access to the two bolts on the mounting bracket. Moving the bracket allows you to adjust the light to the decklid.

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The easiest way to accomplish this is to let the part 'cook' out in the sun for a few days. Here in southern California it isn't too difficult to find a sunny day and a black Gel Coated part will quickly reach 170-200 degrees. I like this method because it is always better to Post Cure a part in place and you don't have to worry about getting it too hot. But there is the problem of how long a customer is willing to leave his car. In this case it's also possible to effect a good cure with a small heat lamp.

Photo 10 shows a tailbase being heated with a nine bulb lamp. Be sure to keep the light at least 2 feet away from the part. Too hot can damage the part. I always keep an eye on temperatures with an infrared tire pyrometer. Be sure to evenly rotate the piece so the whole surface cures evenly.

After 'cooking,' the 'print through' in the surface will be very obvious. Two more checks and you can start sanding it off.

STEP 5. CHECKING FOR AIR AND SEAM INTEGRITY

In PHOTO 11, the technician is checking to make sure there aren't any air bubbles waiting to break out. Rubbing the round shaft of a screwdriver over ALL the corners is the best way to find them. It only takes, at best, five minutes. And it guarantees you won't have any nasty surprises after it's painted. Yes we do check each part in the shop, but sometimes we miss one or two and I guess some of the factory suppliers do too, because I've had air bubbles break out of really expensive OEM parts.

The second thing to check is the seam integrity. For complete details see Page 6, of *FRP Techniques*. Basically you need to squeeze all the places where there are



PHOTO 10 Post Curing
Here a small heat lamp is being used to cure this 996 ERS tailbase.



PHOTO 11 Checking for air
Using the round shaft of a screwdriver rub hard on all the edges and corners.



PHOTO 12
Squeeze all the seams and thin edges to check for open edges.

seams, just like the man in Photo 12. Like checking for air bubbles, this only takes a few minutes.

One of the main reasons for doing this is to find and fix any problems ahead of time. Paint won't fill in any hairline cracks it will just wick off to the edges and if you didn't bother to check first you might not notice until after it's painted.

STEP 6. BEGIN PREPARATION FOR PAINTING

Now it's time to start sanding. Take a good look at the reflections in the Tailbase and make mental notes of any areas that need particular attention and block them conscientiously. We always start with a thorough sanding of the entire part with #80 paper.

Anything finer than 80 or 100 isn't going to cut through 'printing' and Gel Coat is much harder than primer, so starting with something like 220 is going to take forever. With # 80, it should't take much more that 45-60 minutes to completely block sand a 996 tailbase.

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STEP 7. PRIMERING

Once the base is completely sanded you can go ahead and fix any imperfections with filler and then the part is ready to primer. Use a high quality catalyzed primer. When the primer dries its time to look the tailbase over for pin holes. You must locate and fill in these small holes before any more sanding or the dust will obscure them.

It's a simple job to fix pin holes. Just mix up small amounts of body filler and use a razor blade as a squeegee to fill them in. This is another small job that only takes a few minutes.

Normally we will block this first coat of primer and then shoot a second coat. Using finer papers until it's ready to paint.

STEP 8. PAINTING

Follow your normal painting procedures. If there are any carbon fiber parts that are to remain unpainted they still must be block sanded and resprayed with an automotive clear coat.

STEP 9. REASSEMBLY

To reassemble the tailbase after painting refer back to the second page of this "How To" chapter.

The two areas that will take a little more attention will be replacing the wiring harness for the fan and for a third brake light if your particular application requires one. A small modification to the wiring harness is necessary to turn off the 'wing failure' light on the dashboard when changing the electric wing for a fixed tailbase. Like the Aero Kit wing.

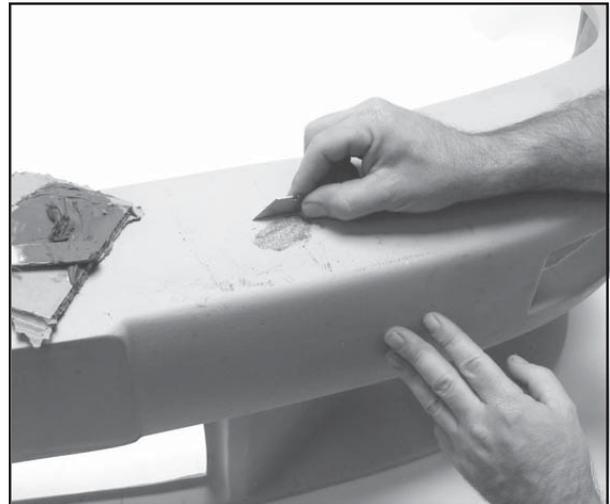


PHOTO 13 Pin Holes

Immediately after the first primer dries check the surface for pin holes and use a razor blade to spread fill in them.

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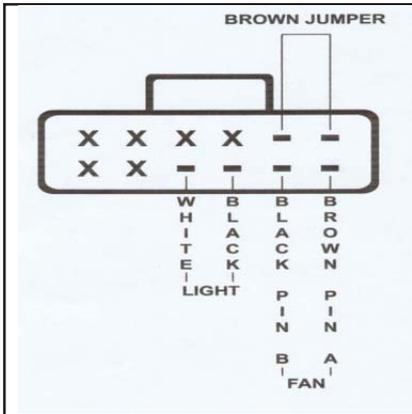


PHOTO 14
The MPC for model years 99,00,01.

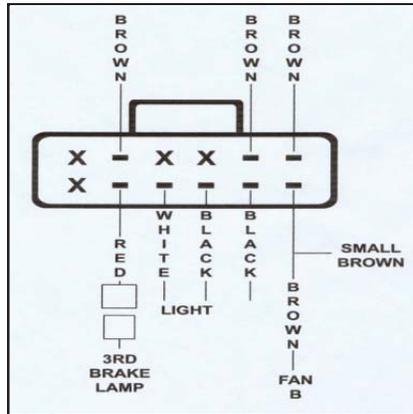


PHOTO 15
The MPC for model years 99,00,01,
with third brake light.

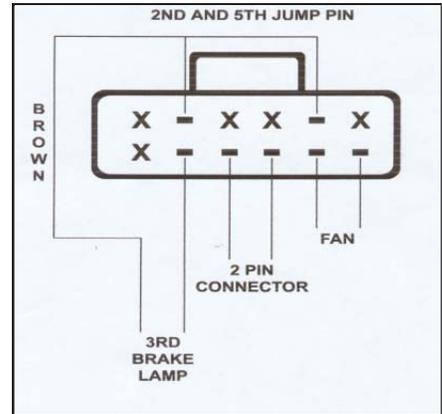


PHOTO 16
The MPC for model year 02.

Depending on the year of the car the multi pin connectors on the ends of the harness coming off of the original decklid have slightly different pin positions. Photos, 14, 15 and 16 above.

The factory service manual offers a brief description of how to do this for 99,00 and 01 models. As explained in the instructions ...

“Check whether there is a jumper connecting pin 2 (which is already jumped from pin 1) to pin 5 on plug X23 of the new wiring harness (connection to the vehicle). If this is the case, the spoiler extended signal will be constantly present at the control module and the warning light of the retractable rear spoiler will not light (at speeds above 74mph or 120 km/h).”

Basically what this means is that the 3 top wires of the plug all need to be together.

For 2002 models a jumper should be connected between pins 2 and 5.

The wiring for the MPC plugs is as follows.

We recommend coating the fasteners for all wing parts with Loctite Red, Type 262 thread sealent for the final assembly.

Reuse stock grill Third brake light

Aero Tailbase

ERS

Clubsport

Aero Cabriolet

Twin Turbo

GT II 996

Bridge Tailbase 996

GT 3, Cup Bi Wing

Twin Turbo C4S

GT3 2003

YES

YES

YES

YES

YES

YES

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996 Rear decklid Grill Removal.

First raise the wing to its extended position to gain access to the mounting bolts.

Second, remove the black plastic accordion. From underneath start by removing the 8 push on clips that hold the metal stud plate in place.

Third, from the top remove the plastic push pins, one in each corner. Now slide the long metal support plate to one side and it will pop off.

Fourth, remove the grill. The grill is held in place at the front by plastic clips and at the rear by 4 pinch bolts. Loosen the hex head pinch bolts **ONLY** a few turns and lift the grill up and slide it out.

996 Decklid Reassembly



PHOTO 17

Use 3M Weather Strip Adhesive to help hold the rear seal in place after painting.



PHOTO 18

After painting the snubbers can be glued in place.