993 Intake Oil Leak

By Steve Grosekemper

As the last of the air-cooled 911s celebrate over a decade of service to their owners, they seem to more closely emulate their earlier air-cooled ancestors.

You see, back in the day… Porsches leaked oil to one extent or another and that was just the way it was. Hopefully, it was just a small leak that made it smell like a 911 and not something like an elusive James Bond driven DB-5.

993s are air-cooled 911s and as they age, they too, will leak some oil. Some of the leaks seem like a major deal, but are easy to fix like the lower valve covers. Some are not so easy to fix like the case through-bolt o-rings.

But not everything is as it appears and that is where we start our story today.

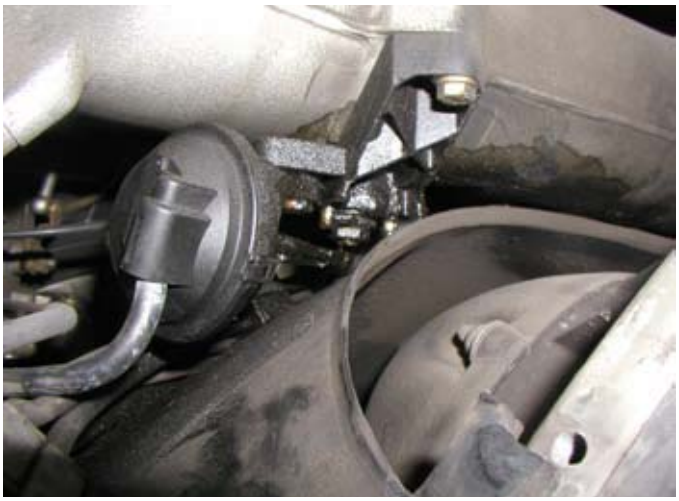
About the worst leak a 993 can have is leaking case through-bolts because that means almost complete disassembly of the motor for proper repair. The good news about this leak is that there is a relatively easy-to-repair item that tries to disguise itself as leaking case through-bolts.

This item is the lower intake resonance flap seal which can be found on 1996 and later 993s with the VarioRam intake system. The resonance flap can be found attached to the bottom side of the intake manifold just left of center.

This unit looks like a standard throttle plate that simply changes the length of the intake air flow tract to give the engine a broader torque and horsepower curve. As time marches on, the engine wears and creates more blow-by. Blow-by is oil vapor in the crank case. This vapor is then drawn into the intake system to be burned by the engine and cleaned by the emission control devices.

The older an engine gets, the higher the quantity of oil vapor created in the blow-by gas. A portion of this oil vapor mix will condense in the cool intake manifold. The portion that does not get burned by the engine will pool on the bottom of the intake manifold.

It pools right on top of the seal for the resonance flap and it leaks out onto the top of the motor (see image).



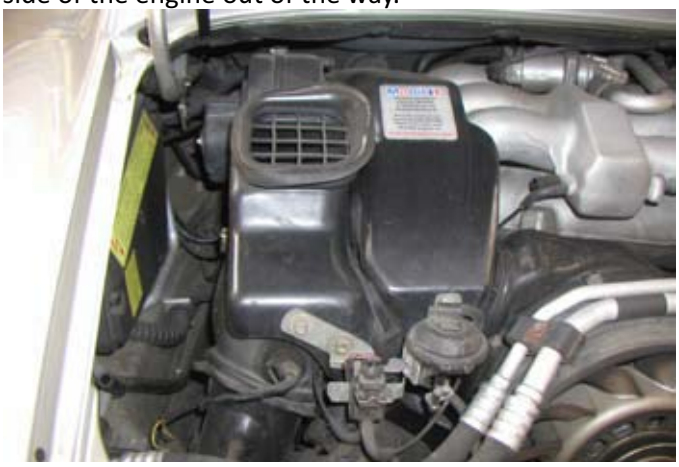
Leaking intake resonance flap with blower and ducting removed

As this item continues to leak, the oil cascades down the left side of the motor and eventually covers the case through-bolts with oil. That would be the disguising part of the oil leak.

Repair is not as difficult as it might seem. The flap is wedged between the intake manifold and the fan housing with about 5mm of clearance. The problem is the unit is about 75mm in height.

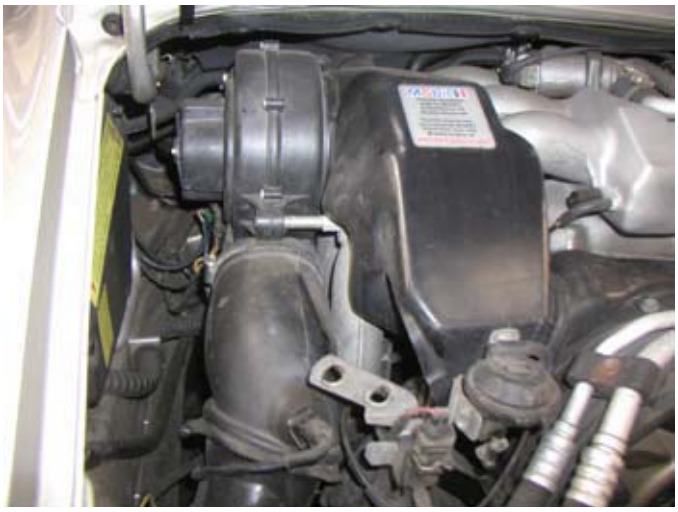
The trick is to separate the intake manifold from the port flange on the left side so it can be raised high enough to be able to slide the flap out the bottom of the intake manifold.

But before we get carried away, let's take a closer look to see if this is really the source of the oil leak. To start with, we need to get that big blower assembly on the left side of the engine out of the way.



The resonance flap is hiding under all that black plastic!

- Remove the 2 mounting screws on the air intake snorkel (10mm socket). Push this hard plastic air snorkel to the left and pull it up and out of the car.
- Unplug the electrical connector from the front of the rubber elbow boot just below the two mounting screws you removed above. (Squeeze metal release bail on plug to unlock and pull off.)
- Loosen the forward hose clamp and pull the large rubber boot out of the car.

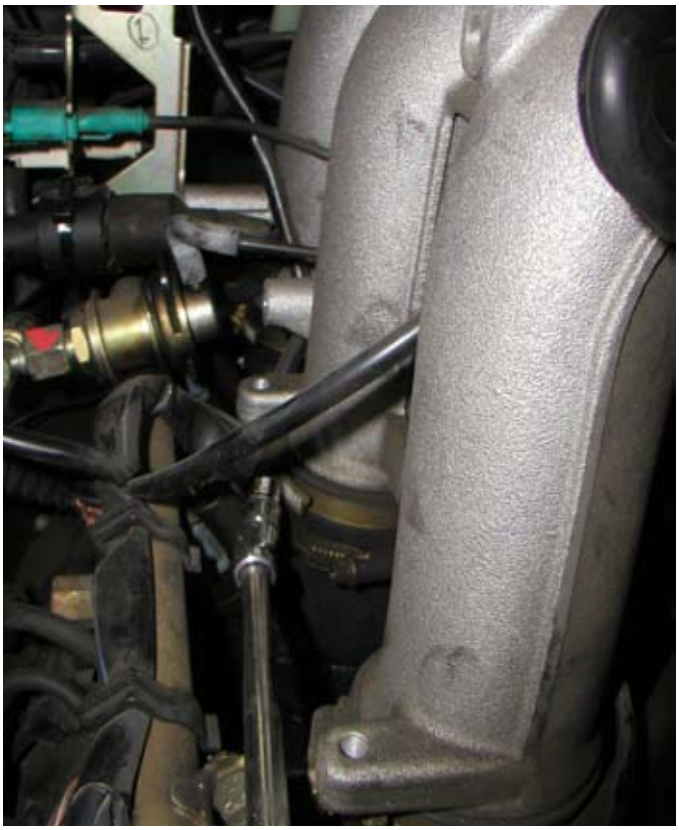


- Remove the electrical plug from the left side of the fan motor. (Carefully squeeze the top and bottom of this plug to release the plug locks.)
- Loosen the two long 6mm mounting bolts at the left side of the fan assembly (10mm socket). Be sure not to misplace the spacer between the fan and the intake manifold on the rear-most mounting bolt.
- Disconnect the electrical plug (2 red wires) and the lower vacuum line from the fan blower assembly. Gently twist and pull this vacuum elbow off as yanking it will break the delicate plastic vacuum switch. Air will rush in when the vacuum line is disconnected (if not, you have a vacuum leak and you need to fix it).
- To really see if it is leaking we need to get a little better access and remove the rubber air boot on the top of the of the cooling fan housing. To do this remove the two 6mm mounting bolts and pull the unit up and out towards you. There are clips holding the other end in place.

Now you can get a good look at the resonance flap to see if that is where your leak is coming from. If it looks like the one in the beginning of this article, you have found the source of that oil leak.

Now that we can see the problem all we have to do is replace that faulty unit and our leak will be gone. Sound easy enough? Then read on…

- Loosen the hose clamps at the top of the rubber intake boots. Use an air nozzle to blow any dirt away from boots and/or manifolds as you don't want any dirt entering the engine when the manifold is lifted up.



Loosening the upper clamps will make reassembly easier

- Unbolt the metal sensor plug bracket attached to the #3 intake manifold leg.
- Using a prying device, lift the left side of the intake manifold up.
- After lifting the manifold, disconnect the vacuum hose from the resonance flap.
- Reach around the left side of the flap with your left hand and remove 6mm bolt from the back of the resonance flap assembly. (Using a ¼ drive ratchet, 1-inch extension and 10mm ¼ drive socket will give you the best clearance and leverage to get this bolt out.)
- After the rear bolt is out, remove the front 6mm mounting bolt and pull the resonance flap and gasket down and out of the intake manifold.
- With the unit removed, thoroughly clean the mounting surface of the intake manifold as well as the inside. Stuffing some high quality (absorbent) paper towels inside the manifold is the best way to get the oil puddles out. After several minutes of soaking, pull the towels out. Repeat until the towels come out clean. "Out" is the operative word here. Don't leave any part of the towel in the motor. I know, seems silly to even have to mention it but…
- Carefully install the new resonance flap 993.110.061.03 and gasket 993.110.263.01 making sure the upper end of the shaft of the resonance flap is smoothly inserted into the top bushing. Do not force the assembly as doing so could damage the bushing requiring

complete intake manifold removal for repair! The easiest way to do this is to open and close the flap as the shaft enters the bushing.

- After the flap is in place, install the mounting bolts and slowly tighten them alternating from the front to rear bolts and operating the flap at the same time. This will ensure nothing is damaged upon installation and will also avoid any bushing alignment or binding issues.
- Reattach the metal bracket at the #3 intake runner taking notice of the rubber 4-way connecting piece in the upper left corner of that bracket. If the connector looks oily, deteriorated or collapsed you should replace it with a new unit. 993.110.573.00

With the flap assembly replaced and the intake manifold reattached, we will need to do some clean up. Find some good engine cleaner and soak the entire top of the motor so it can get everywhere the oil leak did. Remove the lower engine cover if you haven't already done so. Put a pan under the motor to catch all the dirt and oil as there will be plenty.

After the top of the engine is shiny and clean, you can reassemble the top of the motor in reverse order. Just start by reading this article backwards.

Good luck.