

## Venting 32v 928 Heads

**Background:** There are reasons that you may want to add steam vents to your 928 heads to prevent steam pockets from forming near the cylinder walls.

These reasons normally are:

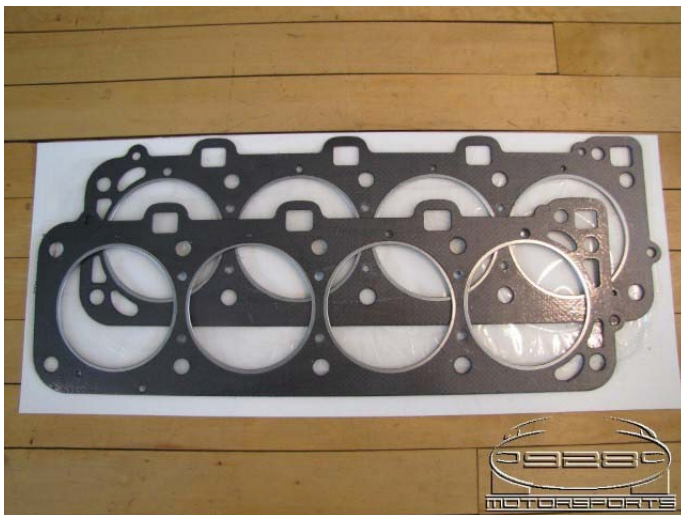
- 1) larger bore sizes, like 4.250" that allow less room for water around the outside and between the cylinders, or
- 2) high-output engines (above 500 HP) with power-adders, like supercharging.

The steam vents are small, and do not greatly change the coolant flow through the engine. All they are intended to do is to vent any steam bubbles that may form on the outside of the cylinder walls up into the heads where they can be carried away.

Without them, a steam pocket can form between two cylinder walls (the hottest area in the block) and create a localized hot spot on the cylinder wall. This in turn can deform the cylinders, reducing piston ring effectiveness and contributing to head gasket failure.

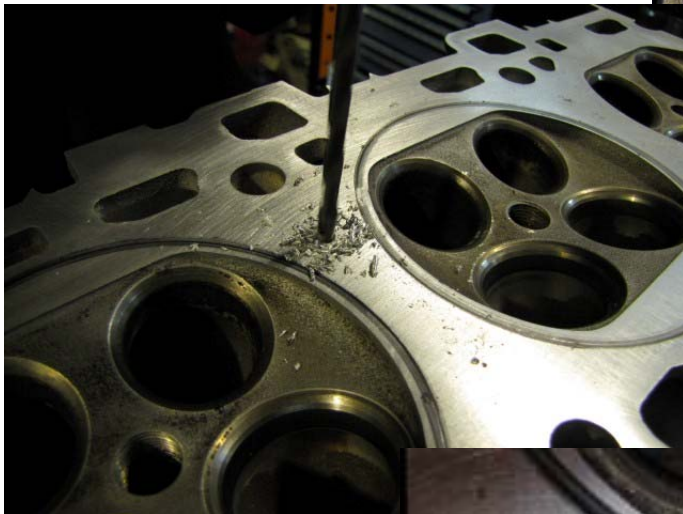
With them, the air bubbles (should they form) can rise up into the heads and be carried away, so the cylinder walls are evenly surrounded by coolant on all sides at all times.

**Process:** Start by getting a set of specially modified head gaskets from us at 928 Motorsports. They are available for your engine in graphite-composite steel, multi-layer steel, and copper-silicone. Ask us which material is best for your 928 application.



**Step 1:** Lay our head gaskets onto your heads and mark the center of each of the 6 vent holes per head gasket. You will see two of them near where the cylinders are closest to each other.

We suggest you locate the center of each vent with a drill punch, so the drill bit does not "walk" on you as you begin to drill.



**Step 2:** With a 3/16" drill bit, drill down only 1/8" in each of the 6 marked vents per head. These are starter holes, and will combine the vents into a common entrance point.

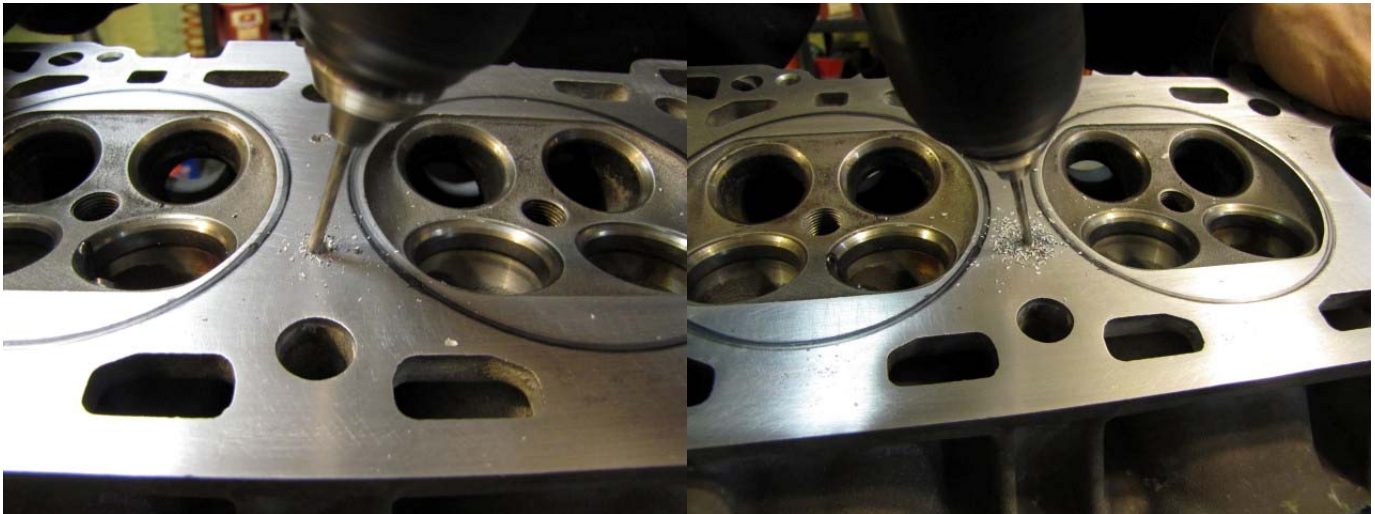
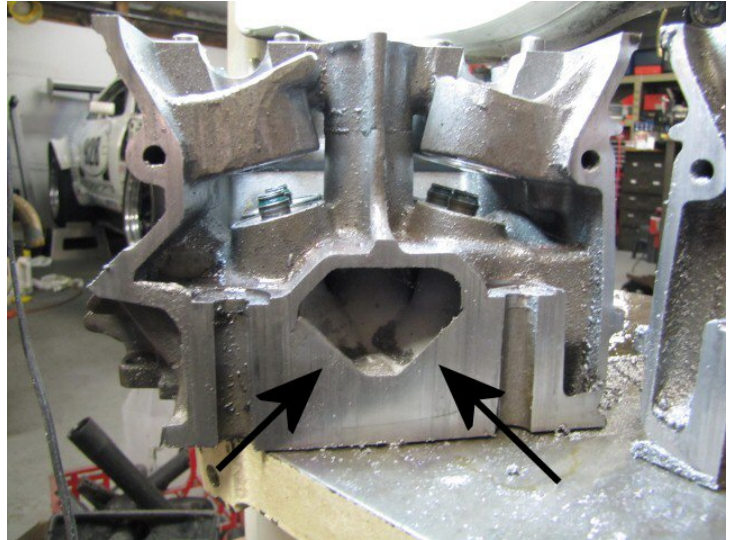


**Step 3:** This picture shows a 32v 928 head cut in half, and you can see the reinforcing rib that runs between two cylinders in the head.

Now change to a 1/8" drill bit, and drill two holes in each of the starter holes, each one pointed between 15 to 20 deg off vertical.

This will avoid drilling into that rib and route your vent holes directly into the cooling jacket.

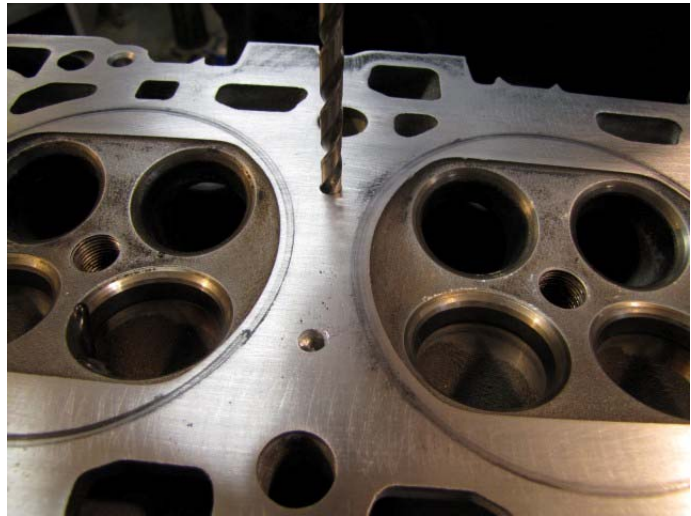
Continue with the 1/8" drill bit all the way into the water passageway in the head.



This is how it should look after Step 3 >



**Step 4:** Now change to a 7/32" drill bit and clean the top of each starter hole with it.



Two pics of the finished vent holes.

The holes in the head gaskets are larger than these vent holes, so that if there is any small mis-alignment of the head gasket and the head, the vent holes will not be covered.

