

Fuel Rail Woes - Help!

Posted by spec944#74 - 24 Dec 2012 10:35

Dave Hauk and I maintain 3 late 944 cars race cars and we are having unbelievable problems with leaking fuel rails. It seems that no sooner than we put one on it leaks. We currently have 7 leaking rails piled up! We have tried silver soldering, brazing, TIG welding and a combination of TIG and MIG and have still not achieved a reliable repair. The only source of refurbished ones I have found is through Paragon and costs \$231. We'll spend that if we have to but we would really be interested in any alternatives you may have found, be it repair or replacement, that will let us make use of all these rails we have.

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Re: Fuel Rail Woes - Help!

Posted by 944Racer72 - 29 Dec 2012 10:52

Lindsey Racing makes a billet rail for \$144 - not currently legal. However I agree that it isn't really a problem unless the balance shafts are mis-timed. I had a belt skip a few teeth and broke two rails in one weekend.

I will bet that the NorCal engine fire was from mis-timed balance shafts because the engine was just rebuilt.

You can run these engines fine with no balance shafts but if you mess up the marks and put them 180 out, you will break fuel rails and possibly the oil pick up tube. IIRC, the bottom shaft is the one that is easy to reverse the marks.

Here's some more info: www.clarks-garage.com/shop-manual/eng-08.htm

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Re: Fuel Rail Woes - Help!

Posted by AgRacer - 29 Dec 2012 11:52

I am currently doing the belts on my car as well as a slew of other things. Its good to know that this is a procedure that needs special attention or else it will have second and third order effects. The rules do allow for aftermarket fuel lines in its entirety correct? I have heard that the fuel lines that come into the engine bay and connect to the fuel rail are also a potential leak hazard.

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Re: Fuel Rail Woes - Help!

Posted by 944Racer72 - 29 Dec 2012 19:58

Yes the lines may be replaced with aftermarket and yes they are often old and brittle.

Lindsey sells a kit for that as well. I'm not pushing Lindsey products but I do have their lines and have had no issues.

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Re: Fuel Rail Woes - Help!

Posted by Big Dog - 30 Dec 2012 10:36

I, also, have replaced the stock rubber lines in the engine compartment with the Lindsey lines and have had NO problems with them. I also replaced all of the soft fuel lines at the rear of the car, including the return line into the fuel tank as I had issues with one or more of them early on and decided to solve the problem.

Some of the lines, at the rear, are not available new. Some of them are quite expensive. I had a local hose shop remake them with my original fittings and they have worked great and I have never had an issue with them. Of course, I had the tank out so replacing the return line was easy on the 88.

Big Dog

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Re: Fuel Rail Woes - Help!

Posted by tcomeau - 29 Jan 2013 20:13

I've had a different experience. It's usually bad engine mounts that cause failures in fuel rails that we've seen. Both engine belts were timed well. But the engine was shaking like hell at idle. The rail is the farthest thing from the center of the engine so it gets beat up the worst. For us, the cracks usually appear at the top of the 4 mounting legs.

Another good way to start a crack is to mount/dismount a fuel pressure reg or pressure damper without supporting it. This twists the mounting bracket to the rail.

We train our drivers to recognize that the smell of raw fuel in the cockpit, in an otherwise healthy race car, is *probably* a cracked fuel rail, and it's "game over." Respond accordingly.

BTW, a routine safety test that's very quick and easy to perform is to pull your vacuum lines off the damper and regulator and check for fuel. When the diaphragm of these two parts starts to fail, it'll seep fuel into the vacuum lines. Full failure results in blowing the vacuum line off and squirting a solid stream of fuel!

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