

Why Flush Brakes?

"If stuff ain't broke yet, don't fix it" has been a mantra of traditional mechanical wisdom forever.

And like most gnarled chunks of traditional wisdom, a crackpot mantra at that, even if "everyone knows it." Would you defer oil changes until an engine throws a rod, since there "ain't nothin' broke yet?" Without maintenance, there will be damage soon enough. Would you wait to check and correct tire inflation until a tire turns to ragged black strings around a smoking wheel? For that matter, would you wait until the fuel tank runs empty to fill up? Rational maintenance is "fixing stuff before it breaks."

For most people, whatever they say otherwise about acceleration and performance, what really counts for the most important dimension of automotive performance is dependable, useful life, durability. You can't have that by waiting for something to fail and then replacing that piece; you can't have it by not "fixin' what ain't broke " until something is. The none-too-mysterious, none-too-dramatic non-secret of vehicle durability (assuming good engineering design and construction in the first place) is intelligent, attentive, regular inspection and maintenance.

To make a Benz last, you don't have to change the oil every Saturday morning, but you should change it before the car goes beyond the prescribed mileage limit or the recommendations of the oil maintenance reminder program. The lubricant properties of engine oil fall off rapidly after that time-point. You do have to look closely at all the vehicle components while you're doing routine work, because that's the only way you'll spot a leaking shock absorber, a worn ball joint, a split suspension bushing or a cracked exhaust hanger before it becomes a "drop everything," "right-now" problem –or worse still, a road-side breakdown or even an accident.

The main reason brake flushing falls into this routine-maintenance category is that brake fluid is hygroscopic: It draws moisture out of thin air. Since there's no visible change, this is very hard to believe unless you were to



Although we aren't covering ASR or ESP in this article, if you see a unit anything like this, you can eliminate some old fluid by doing the following: Look for the outlet marked "SP." Sometimes, as here, it ends in a stub; sometimes there's a pipe. In either case, set up a drain tube to vent the fluid into a container (it will come out with considerable force and speed). Loosen the fitting and start the engine. The ASR/ESP pump comes on and forces fluid through the valve block. When there are no bubbles, close the outlet and once the pump stops turn the engine off. Top up the master cylinder reservoir and check the brakes for reliable function. You're done flushing brakes for this car for a couple of years.

test it –but just take our word for it rather than run the actual test, which is dangerous since the fluid is flammable and could (with some difficulty – its flashpoint is high) catch fire under extreme conditions. To reiterate: DO NOT ACTUALLY PERFORM THE THEORETICAL TEST WE ARE ABOUT TO DESCRIBE AS IT WOULD PROPOSE A FIRE HAZARD. JUST USE YOUR IMAGINATION.

Here's how to run the test in your mind as a thought experiment: Imagine that you've got a cup or so of leftover new brake fluid (you don't save it, of course, because you use a fresh, unopened new bottle for each job unless you have one of those special, sealed-pressure flushing machines or bleeders – a very worthwhile purchase, indeed), and you pour it into a beaker over heat and measure its boiling temperature. Good quality brake fluid boils somewhere between 500 and 600 degrees Fahrenheit. That's pretty toasty, but the friction