

routine jobs, you can reach through any front-end opening and spray the front of the condenser. As for a backflush, just loosen up the shrouding, move it back, stick the wand in, turn on the water and within minutes you've got a professionally done cleaning job. What a country!

Speed Pro Brake Lathe Arbor Nut System by Sun Tool Company

It's funny how some of our sturdiest shop equipment can be the most fragile. Take a common brake lathe, for example. Overtighten the hex-shaped arbor nut with a wrench just a tad on a rotor or drum with an uneven hat section and chances are real good you'll bend the arbor. Not only will that set you back a couple of hundred clams for repairs, but the lost revenue from the down time is immeasurable. Of course, that's assuming you'll even *notice* the wobble; not very likely, since a bent arbor is basically impossible to visually detect. About the only thing you *will* notice are the comebacks that result from the pulsation complaints you'll get because the arbor isn't running true. We're not painting a very pretty picture, are we?

Fortunately, there is a solution—the patent pending Speed Pro Brake Lathe Arbor Nut System from the folks at Sun Tool. In a nutshell, Speed Pro is two tools in one—a self-aligning spacer and a round, knurled arbor nut that's spun on by hand. Just put, say, your rotor on the lathe, install the spacer, then snug everything down with a few spins of the nut. The setup automatically aligns the arbor



to the work piece, provides just the right amount of torque, allows dead-on machining and reduces the risk of injury should your hand make contact with the spinning nut. Impressed? So were we!

LeakMaster EVAP System Tester by Champion Engineering

When evaporative emissions leak detection became part of the diagnostic capability of OBD II, techs were finally able to determine if a fuel vapor leak existed in the system. *Finding* the actual leak point remained difficult, however,



unless it were something very obvious—a loose or missing gas cap, for example. The Champion LeakMaster NE240 is a state-of-the-art smoke machine with a choice of tests, all of which are designed to make finding EVAP leaks a piece of cake.

The NE240's "triple-choice operation" starts out with a basic pressure/flow rate check. If leakage exceeds the rate calibrated into the machine (.020 inch, .040 inch), that confirms that there is a leak, and its apparent size, as well. By the way, the machine can be calibrated to identify leaks smaller than .020 inch, which will be especially useful if the standards are tightened.

The next step in the process is the nitrogen-delivered diagnostic smoke test, where typically you'll see smoke emanating from the leak point. With really small leaks (or several small ones) you get a second chance to pinpoint the leak because a trace dye, which is added to the smoke, leaves a residue at the leak. You can be sure of the exact location by simply aiming your ultraviolet light there. Things don't get much simpler, guys!

Although the NE240 is designed primarily for EVAP system testing, it also can be used as a general-purpose smoke machine (water, wind, vacuum and exhaust leaks, as examples).

What Quits First? by Lenehan Research

Intermittent stalls and "hiccups" still are the diagnostic challenges of this industry. The "flight recorders" that use scan data from the serial data line sometimes help, but the refresh rates still are too slow. DSOs (digital storage oscilloscopes) will pick up most of the problems, but not every shop has one.

What most techs really want to know is where to look first, and that comes down to either the ignition or fuel system. It would be nice to get a precise answer, but a good starting point is what stopped first, the "fire" at the plugs or the spritz from the injectors?

What Quits First? is an appropriately named diagnostic tool. It's designed to analyze the last fraction of a second of engine operation prior to a die-out, then helps you make a quick determination of what circuit is responsible. The box itself is made of high-quality, drop-resistant plastic and has