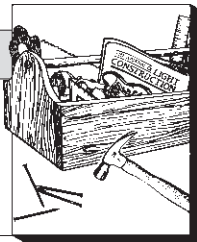


On Site With SmartLevel

by David Schwartz



The triangular-shaped aluminum I-beam rail of the Pro SmartLevel is fitted with durable ABS panels and end caps, and the extra-large handholds can be grasped easily while wearing gloves. The electronic module mounts in the center handhold of the 24-inch rail and any handhold of the 48-inch and 78-inch rails.

Builder David Schwartz of Overland Park, Kan., recently took a Pro SmartLevel to the site with him every day with the idea of trying it out in as many situations as he could come up with. The job was an interior renovation and he found enough uses for the SmartLevel to send us this report.

The Shape

One of the first things you notice about the SmartLevel is its unusual shape — a wedge that is wider on the bottom than on the top. This is more than just a clever play on the manufacturer's name, Wedge Innovations (2040 Fortune Dr., Suite 102, San Jose, CA

95131; 800/762-7853). For starters, the broad base and bottom-heavy weighting make it almost impossible to tip over sideways when set on a narrow surface, like an open joist. The wedge-shaped cross section and tapered ends also allow you to take readings in hard-to-reach places that, with a standard rectangular level, would require three hands or a straight stick of wood and some bungee cords.

On the other hand, the tapered sides make it difficult to hold the level against a wall surface with one hand while striking a line along it with the other. Letting the level roll back flat against the wall

seems to affect its accuracy. There are two built-in clips on each side that fold out to help hold it square to the wall, but they only work on a solid surface and won't steady the level across open studs.

Readout Modes

I am convinced that the *pitch mode* readout is the single greatest strength of the tool. It finds the inches of rise per foot of run and displays it as a fraction. If the pitch is between one incremental pitch and another, it displays a little plus or minus sign to tell you which side of the fraction you're on. Nothing like this can be done with a bubble level. When combined with the ability to temporarily set any angle at "0.0°", it's a real boon when you must repeatedly lay out sloped or pitched work, such as a ramp, roof framing, or sloped soffits.

While the digital readout eliminates the gymnastics of having to hold one end of the level while watching the free end and the bubble at the same time, the limit of precision in this mode is only 1/8 inch per foot. For the SmartLevel to be really useful, it would have to be accurate to 1/32 inch per foot. When I set a door frame or hang cabinets, I use a level to answer the question "How far off am I now?" and anything greater than 1/8 inch in 4 feet tells me the answer: "Too far."

The *degree mode* achieves, and even surpasses, this level of accuracy, with precision to within 0.1 degree. But I found that it didn't help to know, for example, that I was 0.3 degree off plumb. Maybe this is only prejudice from my 20 years of using bubble levels, but I couldn't get comfortable with it.

On the other hand, measuring accuracy in this way may make it easier for inexperienced carpenters to achieve the desired degree of accuracy. Once you decide the tolerance will be, say, 0.2 degree, it either is or it isn't and requires no judgment to interpret the position of a bubble.

The *helper arrows* come in handy here, too, and could be the SmartLevel's second greatest strength. In any readout mode, an opposed pair of arrows appears at the very ends of the readout screen, showing which way to move that end of the level to achieve plumb or level. When you've got an inexperienced helper reading the level and calling out to you which way to shift the wall you're working on, this feature could save some aggravation. The arrows disappear at plumb and level.

The *simulated bubble mode*, however, falls short of smoothing the transition from the traditional "liquid bubble display" to the digital liquid crystal display. I found it excessively touchy and difficult to focus on. I constantly returned to the degree mode and searched for "0.0°" and "90.0°" to find level and plumb.

Recalibration

It's impossible to overstate the convenience of being able to reset the SmartLevel after you've dropped it or just to make sure it hasn't gotten out of whack. A routine that, with practice, can be run in about four minutes completely recalibrates the electronic module at the heart of the tool. Compare this with the fate of most bubble levels. They limp through years of service covered by obscure hieroglyphics indicating which bubbles to read and which to ignore, and what compensations to make.

If this makes the SmartLevel the last level you'll ever need to buy, the fact that the electronic module can be removed and placed in rails of different lengths is no guarantee that you won't need to buy more than one SmartLevel. Router bits are modular, too, and yet I find I own five routers. The convenience of having to buy only one electronic module — which constitutes the bulk of the cost — may be outweighed by the inconvenience of switching the module. ■

What's New With the SmartLevel?

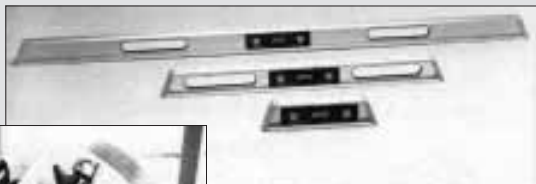
Since we first reviewed the Pro SmartLevel (*Toolbox*, 1/90), Wedge Innovations has introduced a family of products called the *Series 200*. First came the SL224 (*Toolbits*, 11/91), a 24-inch model with a rectangular aluminum "I-box" body and a nonremovable electronic module. It will read all angles and digitally display the results in degrees, and it can be recalibrated. Unlike the Pro model, it won't display percent slope and has no simulated bubble, and its accuracy is 0.1 degree within 1 degree of level and 0.5 degree everywhere else. A "Shallow Pitch Indicator" shows readings within 1/8 inch, 1/4 inch, and 3/8 inch of level and is useful for laying drain pipe or pitching slabs to drains. It retails for between \$49 and \$60.

The most recent additions to the product line are the 4-foot SL248 (\$59 to \$70) and the 9-inch long SL209 (\$39 to \$50), which easily fits in your tool pouch. Both models have the same features as the SL224.

There have also been some changes to the Pro model. The *Pitch Mode*, which previously displayed inches of rise per foot of run in decimals, now displays the pitch as a fraction, which is the way most carpenters like it. Angles in the lower pitches are indicated in 1/8-inch increments.

Another useful feature is the *Hold* button, which allows you to lock in a digital reading. This comes in handy in places where you can't easily see the display, such as nearly reaching from a scaffold or in a dimly lit crawlspace, and keeps you from forgetting the reading if you get interrupted. Even more useful is the ability while in the *Hold* mode to cycle among the other three modes. This allows you to use the pitch (rise/run) display while building a ramp, for example, but lets you convert to percent slope or degrees when the building inspector tells you the ADA regulations aren't written for pitch.

— D. S.



The Series 200 family of SmartLevels features rectangular aluminum I-box rails with tapered ends and a nonremovable electronic module. The 9-inch model SL209 easily fits in a nail pouch (inset).