15 Tips for Basement

FWW's online audience weighs in on muffling noise, stifling dust, adding light, and reducing moisture

In medieval times, miscreants and criminals were tossed into the bowels of a dungeon for their offenses. Below ground, these dungeons were dark, dank, foreboding places, characterized for centuries as hideous homes for torture or cramped imprisonment.

It may be a stretch to compare a basement shop to a dungeon, but they do have similarities. Like a dungeon, a basement is a hole in the ground and attracts all manner of moisture, with issues such as mildew, rust, even small floods. Basements aren't flooded with natural sunlight, either; single incandescent fixtures are the norm, usually scattered where you don't need them. On top of that, basements are where household items go to die, so space is tight.

Still, for lack of an alternative, many woodworkers set up shop in the basement and have to deal with any or all of these medieval horrors. To help them out, we asked our extensive and experienced online audience for tips on making a basement workshop drier, brighter, and more space-efficient. We also asked folks how they prevent noise and dust from infiltrating the living areas above.

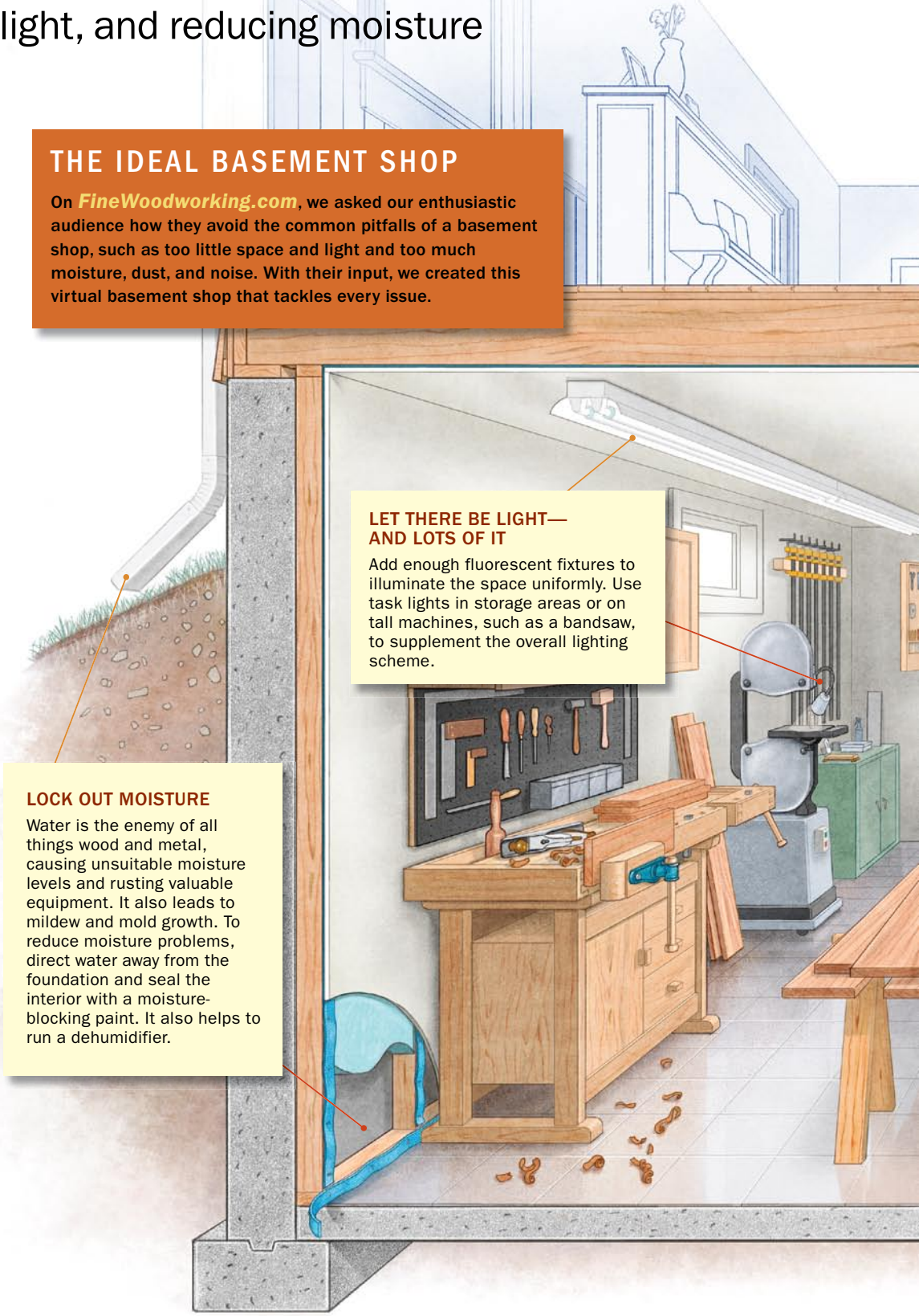
The response was overwhelming, and we got plenty of nifty solutions to common problems. We used those ideas to create a virtual basement shop that is as comfortable to work in as it is unobtrusive to the rest of the household.

How to keep moisture at bay

Basement walls are concrete, a porous material that allows moisture penetration if you don't take measures to stop that migration. It's well worth

THE IDEAL BASEMENT SHOP

On *FineWoodworking.com*, we asked our enthusiastic audience how they avoid the common pitfalls of a basement shop, such as too little space and light and too much moisture, dust, and noise. With their input, we created this virtual basement shop that tackles every issue.



LET THERE BE LIGHT—AND LOTS OF IT

Add enough fluorescent fixtures to illuminate the space uniformly. Use task lights in storage areas or on tall machines, such as a bandsaw, to supplement the overall lighting scheme.

LOCK OUT MOISTURE

Water is the enemy of all things wood and metal, causing unsuitable moisture levels and rusting valuable equipment. It also leads to mildew and mold growth. To reduce moisture problems, direct water away from the foundation and seal the interior with a moisture-blocking paint. It also helps to run a dehumidifier.

Photos, except where noted: staff; drawings (this spread:) John Hartman

Workshops

BY THOMAS McKENNA

USE NOOKS AND CRANNIES FOR STORAGE

Basement shops often compete for space with family needs (laundry areas and play rooms) and utilities (water heaters and furnaces). So you must take advantage of every storage opportunity. You can hang racks and cabinets on stud walls built along the perimeter. Though not aesthetically pleasing, pegboard is a convenient place for tools, clamps, and jigs. Also, take advantage of oddly shaped areas, storing lumber and offcuts under stairs or in other tight spaces.

DO NOT DISTURB THE HOUSEHOLD

Let's face it, building furniture is a noisy hobby, and when you're engaging your passion below the rest of your family, the muffled roar can be annoying. We got some great tips from readers on how they manage sound transmission, ranging from isolating framing from drywall, to beefing up the basement door, to muffling shop vacuums and compressors, to simply not working after hours.

DON'T CHOKE ON DUST

There's not a lot of airflow in a basement, so airborne dust will just hang in the air or migrate to living areas above. To control and capture it, use a dust collector and install an air cleaner. To prevent dust from tracking upstairs on the bottom of your shoes, place a doormat at the bottom of the stairs or use a pair of shop shoes.

Defend against wetness

To reduce moisture levels in the shop, coat the walls and floor with a moisture-sealing paint, such as Drylok, and add a dehumidifier.

the effort, though. Here in the Northeast, for instance, many basements are moist, and folks who have basements are familiar with the term "musty." In summer, there's an odor in the basement that's impossible to miss but hard to pinpoint. In winter, the cold, moist air can chill even your fingernails. And the moisture does not just create an uncomfortable working environment. It also will rust your tools and increase the moisture content of lumber to undesirable levels.

If you get standing water regularly, you may have issues that need to be addressed by a professional waterproofing contractor before placing expensive tools and materials in harm's way. But if you simply have a damp space, there are many ways to fight the fog.

Look outside—If you're battling moisture, the cause may be rooted outside the house. Check that the house gutters are not clogged and that the downspouts are directed away from the foundation. Where possible, try to grade the property so that it slopes away from the house. This may be easier said than done.

Get a dehumidifier—One of the first things we heard from our online responders was to add a dehumidifier. You can get one at any home center. Depending on the size, the cost will run from about $150 to $250. When you install the dehumidifier, make a habit of emptying it regularly, especially during the humid summer months.

Seal walls and floor—You can reduce moisture by sealing the walls and floor with a moisture-blocking paint, such as Drylok or Damplock. These thick coatings have the added benefit of giving the area a bright face-lift that reflects light.

Guard against rust—Finally, you can fight rust directly by placing desiccants in tool drawers or coating surfaces lightly with paste wax (rubbing waxed paper on machine tabletops works, as shown in "Protecting Surfaces in the Shop," *FWW* #167).

Fight dust and noise migration

Dust is a known carcinogen, so it's important to prevent as much of it as possible from floating around. If you work in a basement, the dust also becomes a nuisance upstairs, as it will migrate into living areas. So get a dust collector and an air cleaner to help keep the particles at bay. You'll also appreciate the fact that there will be less to sweep up.

Brighten the space

Dave Verstraete Grandville, Mich.

For even illumination, Verstraete added banks of fluorescent lights. *He also laid down light-colored tiles and painted the walls white to add reflectivity. "When I switch on the lights in my basement shop, it feels like I am outside on a sunny day," he says. Although uniform lighting is the goal, some taller tools, like a bandsaw, cast inconvenient shadows. To eliminate those, use strategically placed task lights (right).*

Keep dust downstairs

Art Mulder London, Ont., Canada

These shoes were made for working. *Mulder uses a pair of shop shoes and a mat to avoid tracking dust into living areas.*

Dave Verstraete

Serious dust collection. *Most readers with basement shops agree: A dust collector and an air cleaner are must-haves. Verstraete uses a portable 2.5-hp collector, which provides plenty of capacity in a small footprint.*

Serge Duclos Delson, Que., Canada

Quiet cleaner. *Duclos, a frequent contributor to Methods of Work, says he's reduced vibration from his ceiling-mounted air cleaner by separating it from the joists with 6-in.-wide, ¾-in. plywood strips.*

Along with dust, a woodworker's passion for building things comes with another inhospitable by-product: noise. When you're working below the living area of your home, you must be mindful of others above. Our online survey uncovered some nuggets that help reduce the noise that can invade living areas.

You can launch a systematic, all-out offensive against sound, as Mark Corke did for us in 2004 ("Soundproof a Basement Shop," *FWW* #167). In that article, he showed how to frame and insulate the basement walls and ceiling to eliminate sound migration into the upper living areas. But there are smaller steps you can take to help turn down the volume.

Separate drywall from framing—One way to reduce sound transmission is to isolate the drywall from the framing. You can install resilient metal channel (www.truesoundcontrol.com) in the ceiling, as Corke did, but a cheaper alternative is stapling polystyrene sill sealer (available at home centers) to studs and ceiling joists to create a cushion between the wood and the drywall. Insulation between framing also will help reduce sound transmission; the higher the R-value, the better the insulation will dampen sound.

Put a lid on your compressor and shop vacuum—Although you can't put a muffler on your tools, you can reduce the output of two of the more annoying accessories in the shop: the compressor and the shop vacuum. By housing each of these in a soundproof chamber made of plywood and acoustic padding, you drop the noise level of each machine (see "Silence Your Shop Vac," *FWW* #195). Just make sure the box has enough holes or vents for airflow.

Get a better door—One of the unique aspects of a basement shop is that there's often a door leading directly to the living areas of the home. Choosing the right door, or modifying your existing one, can help reduce the amount of noise and dust that enters the home. For advice in that area, I turned to veteran *Fine Homebuilding* editor Chuck Miller, who's also a talented woodworker.

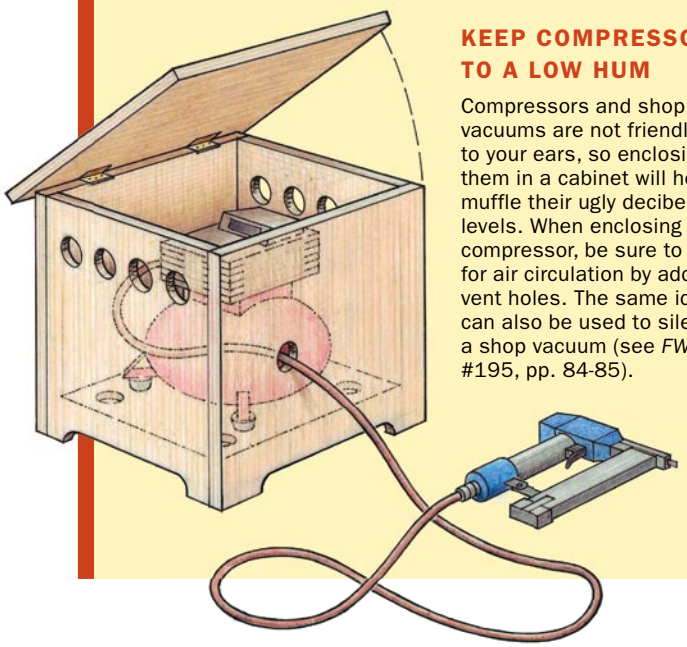
High-frequency noises generated by routers and shop vacuums get in through cracks, Miller says, while low-frequency sounds, such as those generated by a deadblow mallet on a workpiece, migrate through mass. Miller recommends treating the basement door as though it were an exterior entry, where you want to stop air infiltration.

Your first choice is install a heavy, prehung exterior door, with all the attendant weatherstripping in place. The weatherstripping will cut down on the high-frequency sound, and the mass of the door itself will muffle the low-frequency noise. If you don't want to add a new door, retrofit the basement

Reader shop photos, this spread: Art Mulder, Dave Verstraete, Serge Duclos

Keep it quiet

To contain noise and keep your family happy, try separating the drywall from the framing (right) and isolating screaming machines when possible (below). Another tip is to replace your hollow access door with a solid one designed for exterior use.



KEEP COMPRESSOR TO A LOW HUM

Compressors and shop vacuums are not friendly to your ears, so enclosing them in a cabinet will help muffle their ugly decibel levels. When enclosing a compressor, be sure to allow for air circulation by adding vent holes. The same idea can also be used to silence a shop vacuum (see *FWW* #195, pp. 84-85).

Robert Beason Longmont, Colo.

A cushion between framing and drywall. *Before installing the drywall in a basement shop, Beason suggests stapling sill sealer to the studs and joists to dampen sound migration.*

door with weatherstripping along the door stops, and add a vinyl sweep to the door bottom.

Pump up the lighting, and make the most of space

By their nature, basements don't get natural light, so you need a boost here. Typically, basement lighting schemes are not well-thought-out by builders. You often get a small handful of single bulbs scattered here and there. But you can change the lighting scheme to create a more inviting, comfortable work area.

The goal is to create uniform lighting from corner to corner, and fluorescent fixtures are the most economical way to do it. If you have existing incandescent fixtures, replace them with banks of fluorescent lights to illuminate as much of the space as possible. If you don't have existing fixtures and wiring, it's worth the investment to hire an electrician to run the wiring and install the fixtures.

To help with light reflectivity, paint the walls white and coat the concrete floor with epoxy paint (see "Brighten Your Shop With an Epoxy Floor," pp. 44-47). Another option is to lay down light-colored vinyl tile. Treating the floor not only helps with light reflection, but it also fights moisture and makes it easier to sweep up any debris.

If you need to, add task lighting at your bench or at machines that cast shadows on their own tables, such as a floor-standing drill press or a bandsaw. It's also beneficial to illuminate storage areas.

As with most woodworking shops, a basement can get filled with equipment quickly. But basement spaces can be small to start with, and often store stuff for everyone in the family, so storage for your lumber, tools, and accessories becomes even more of a challenge.

Many readers suggested using narrow or oddly shaped areas, such as the space under stairs, to store lumber and scraps. Those with larger basements built separate storage rooms around their furnaces and water heaters. This solution not only creates a neat storage option, but it also isolates the utilities from wood dust. Some folks simply store most of their wood outside or in the garage, bringing in stock as they need it.

Some readers built wood stud walls over the concrete surfaces, making it easy to hang cabinets, lumber racks, or other storage systems. The bottom line: Use spaces smartly, and you'll stay well organized and avoid mixing your lumber scraps with the laundry.

Working in a basement is not so bad

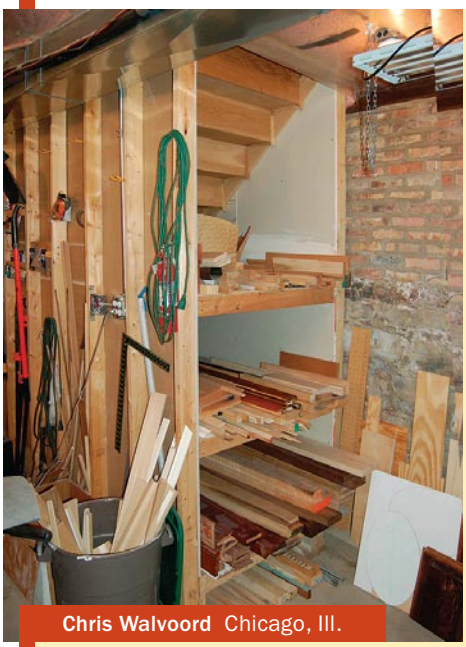
A basement may not be the ideal place to set up shop, but for many folks it's the best option.

Instead of toiling in a dungeon, you can create a clean, well-lighted place. In the end, you'll be more comfortable and so will your housemates—a win-win for everyone. □

Thomas McKenna is senior editor.

Drawing, this page: Vince Babak

Maximize storage



Chris Walvoord Chicago, Ill.

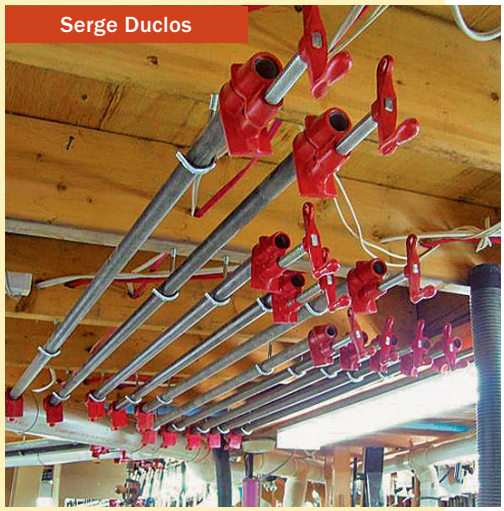
Perfect place for small parts. *Walvoord shares a basement with a family playroom and guest bedroom, so his space is ultra-tight. To make the most of it, he built shelves under his stairs to hold offcuts and jigs.*

Dave Verstraete

Don't overlook walls and ceilings. *Verstraete hung clamps on the wall (above), and put up pegboard near his workbench for jigs and tool accessories. Duclos hangs longer pipe clamps under the ceiling joists (below), leaving the wall free for other types of clamps.*

Robert Beason

An alcove for lumber. *This area in Beason's basement is too small to work in, so he converted it to a lumber storage area. A rolling storage cart fits perfectly between the lumber rack and basement wall.*



Serge Duclos

Reader shop photos, this page: Robert Beason, Christopher Walvoord, Dave Verstraete, Serge Duclos