

New Tax Break Takes Shape

IRS Form 8903 to Be Released in January

Home builders and remodelers who pay W-2 wages may be able to take advantage of a new tax deduction in the 2005 American Jobs Creation Act, which was signed into law on October 22, 2004. Dubbed the Domestic Production Activities (DPA) deduction by the IRS, it amounts to 3 percent of net income earned from “construction or substantial renovation of real property in the United States” for the tax years 2005 and 2006. The percentage ramps up to 6 percent for 2007 through 2009, and reaches the targeted 9 percent in 2010.

“Substantial renovation” is defined by the IRS as “the renovation of a major component or substantial structural part of real property that materially increases the value of the property, substantially prolongs the useful life of the property, or adapts the property to a new or different use.” The Associated General Contractors of America (AGC) interprets this to mean that purely cosmetic changes, such as painting, would not be included in this definition. However, in the September issue of *Buildernews* magazine, tax attorney Neil D. Kimmelfield writes that painting and landscaping do qualify if “the services are performed in connection with a real property construction project.”

The Department of the Treasury clarified in a January 2005 fact sheet that the builder or remodeler doesn't have to own the property in order to qualify for the tax credit, so more than one person can take a DPA deduction for the same construction project. For example, if a general contractor and a subcontractor are involved in the installation of a roof on a new building, both may claim a deduction; each will benefit based on his own profit on the job.

Unfortunately, some builders and remodelers won't be able to take the DPA deduction. Because the deduction is based on a percentage of taxable income, a business operating at a taxable loss doesn't qualify. Also, the deduction for each year “is limited to 50 percent of the W-2 wages paid by the taxpayer that year,” so a self-employed contractor — who doesn't earn W-2 wages — can't take the deduction, either.

IRS Form 8903, “Domestic Production Activities Deduction,” and its instructions are scheduled to be released in January 2006. — *Laurie Elden*

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Hurricane Katrina damaged about 19 billion board feet of timber in Mississippi, Alabama, and Louisiana, the USDA Forest Service reported in October. Researchers estimate that the damaged timber, about 60 percent of which is softwood and 40 percent hardwood, could provide enough material to build 800,000 single-family homes and produce 25 million tons of paper and paperboard. However, the Forest Service emphasized the need to harvest the wood quickly, before insects, disease, and fire take a toll.

Top-Dollar Tarps

Once again, blue-tarp roof repair in the aftermath of a hurricane is costing the U.S. government a bundle. Knight Ridder reports that FEMA and the U.S. Army Corps of Engineers contracted to pay the Shaw Group of Baton Rouge \$1.75 for each square foot of tarp installed on New Orleans roofs damaged by Hurricane Katrina. That's the same price the government was criticized for paying the company last year for work in



FEMA/Bill Koplitz

Florida. Since the average repair requires around 1,500 square feet of tarp, the bill for each house — roughly two hours of work for a couple of guys — can top \$2,500.

Youngstown, Ohio-based Simon Roofing and Sheet

Metal has a contract for \$1.72 per square foot; its president, Steve Manser, concedes that his company could shingle a roof for the same amount, but told Knight Ridder that the cost of mobilizing, feeding, and housing large crews drives up the price.

Nevertheless, many observers are bound to agree with Mike Lowery of Pioneer Roof Systems in Austin, Texas, who points out in the article that the government is paying about 10 times what his company charges to tarp a roof, adding, "It sounds to me like these people are making a stinking killing." — *Laurie Elden*



FEMA/Mark Wolfe

A new Vermont law requiring carbon monoxide detectors in new residences and apartment buildings probably saved the lives of a family of five in October, reports the *Burlington Free Press*. (See *In the News*, 7/05.) The family's detector sounded after construction debris blocking a chimney caused large amounts of carbon monoxide to leak into the Killington, Vt., condominium. Readings taken afterward found concentrations of more than 400 parts of the gas per million parts of air. (OSHA standards prohibit worker exposure to more than 50 parts per million averaged over an eight-hour period.) "There is no question that the carbon monoxide poisoning would have been fatal to all five family members if it had not been for the detector," Killington fire chief Steve Finer told the *Free Press*.

Regardless of their immigration status, injured employees in California are entitled to workers' compensation benefits, the California Second District Court of Appeal unanimously ruled in October. In the case, Farmers Brothers Coffee argued that Rafael Ruiz was not entitled to benefits because he had used fraudulent documents to obtain employment with the company and so was in violation of the federal Immigration Reform and Control Act of 1986. The three justices disagreed, noting that California law specifically states, "For the purposes of enforcing state labor and employment laws, a person's immigration status is irrelevant to the issue of liability." The court further opined that denying benefits to unauthorized workers would encourage "unscrupulous employers" to hire more such employees in order to avoid paying workers' compensation costs.

In the News

Driving the Message Home

Many builders advertise their company name on their work trucks, but how about on a customer's car? In an innovative attempt to increase foot traffic through inventory homes, Atlanta builder Forrest Homes offers new-home buyers a free, two-year lease on a Volkswagen Beetle. But there's a catch: Each car is plastered with advertising for the builder and the dealership — and the \$15,000 lease agreement specifies that the homeowner must keep the ads on the car. Forrest Homes' Beth Marconi-Law calls the bugs "rolling billboards" and says they've provided the company with effective marketing: "They've generated leads, sales, and great PR — and they've created real buzz."

— Carrie Braman



Forrest Homes has found the perfect advertising vehicle: Volkswagen Beetles. Above, an eye-catching bug revs up sales at the Mall of Georgia in Buford, Ga.

Fifty years ago, fewer than half of all American homes had even a one-car garage. Today, almost three-quarters of all new houses boast garages for two or more cars. According to the NAHB, homeowners are increasingly putting large multicar garages at the top of their wish lists; the trend in upscale developments in particular is toward three-car behemoths capped with roomy second-floor "bonus rooms," which are frequently used as multipurpose recreational space. For a bit of perspective, consider this: One of these three-car garages is comparable in size — 1,000 square feet — to the typical new home back in the 1950s. How's that for progress?

Every year, more than 100 million birds in the U.S. crash into windows and die, say researchers. Skyscrapers, with their vast reflective surfaces and extensive nighttime lighting, are especially hazardous. "Building staff at one illuminated skyscraper have reported filling a 55-gallon barrel with dead birds in the morning," Randi Doeker, founding director of the Birds and Buildings Forum, told the *Environmental Building News* in August. In response, a growing number of concerned architects and builders are attempting to reduce bird deaths by making simple adjustments to their designs, such as using mullions to break up glass and create visual noise; tilting glass so it reflects the ground; using etched glass or window film; and installing screens on the outside of windows.

Free Unvented Crawlspace Design Guide

Crawlspace foundations are typically damp, which in extreme cases leads to mold, rot, and insect damage to the framing, plus musty air in the living space above. The conventional approach to this problem — ventilating with outside air — can make the situation even worse, especially in the spring and summer; adding warm, moist outside air to the cooler crawlspace raises its relative humidity and increases condensation problems (see “Fixing a Wet Crawlspace,” 8/04, and “Building a Sealed Crawlspace,” 10/03). Advanced Energy — a private nonprofit corporation in Raleigh, N.C., that researches energy use — offers field-tested solutions to moisture problems in its 2005 publication “Closed Crawl Spaces,” by Bruce Davis, Cyrus Dastur, and Bill Warren. Photographs, illustrations, and sample designs supplement the text, which provides detailed instructions for designing and building a closed crawlspace. The 75-page guide was funded by a grant from the U.S. Department of Energy and can be downloaded for free from the Advanced Energy Web site (www.crawlspaces.org).



Summer (June-August) Relative Humidity Summary

	2002		2003		2004	
RH Threshold	Vented	Closed	Vented	Closed	Vented	Closed
Above 90 %	0%	0%	23%	0%	7%	0%
Above 80 %	39%	0%	86%	0%	70%	0%
Above 70 %	79%	0%	98%	5%	92%	0%
Above 60 %	94%	0%	100%	64%	100%	13%
Above 50 %	100%	100%	100%	100%	100%	100%

One study of vented and closed crawlspaces in North Carolina monitored relative humidity levels during the summer months. The resulting data (above) offers persuasive evidence that closed crawlspaces stay much drier.

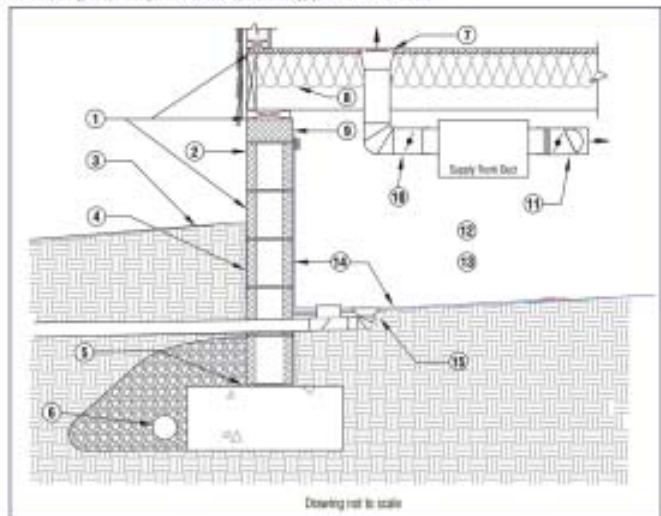
High-Performance Homes

Closed Crawl Spaces

Sample Design: Supply Air and Floor Insulation

1. Seal exterior wall penetrations and making surfaces at top and bottom of band joint. Crawl space access panel(s) or door(s) must be air-sealed.
2. No open foundation vents are allowed in exterior walls. Openings in ventilated porch foundations must be air-sealed with an access panel or permanent materials. Install floor vents per local residential code where required.
3. Slope finished grade away from building per local residential code or for 6 in. drop over 10 ft. Provide a method to transport roof runoff away from the house. Gutters and downspouts are one such method.
4. Damp-proof or waterproof the exterior wall surface where the crawl space floor is below exterior grade.
5. If it is not necessary to provide a capillary break (membrane or physical barrier) between the footings and foundation walls or interior columns, test this may provide additional moisture control.
6. Provide foundation drain to daylight per local residential code requirements.
7. Seal all plumbing, electrical, duct and other penetrations through floor with fire-rated materials and Fiberglass or rock wool insulation. Fiberglass or rock wool insulation are not sufficient.
8. Insulate floor joist cavities. Place insulation in full contact with the wall and ensure that it is secured in place. R-value required by local residence.
9. Leave a minimum 3" airspace between the top of the wall, a retarder and the top of the mass. Seal the top of the vapor retarder with self-adhesive duct mastic or equivalent. Optionally, apply a light colored coating over the insulation (gas) inspectability by pest control professionals.
10. Air seal all heating and cooling ductwork located in the crawl space. R-value per local code requirements.
11. Control moisture vapor in the crawl space with supply air from the house air conditioning system. Set supply air per local residential code requirements. Adjust as needed to control relative humidity in crawl space to desired. Provide a backflow damper and a balancing damper or constant air regulator to control airflow. Muddy vents may be used to achieve the airflow and/or desired distribution pattern if vent is allowed in the crawl space.

Advanced Energy Sample Design: A Closed Crawl Space With Supply Air and Floor Insulation



Clearing not to scale

In the News

University of Colorado Wins Solar Decathlon

The University of Colorado had its day in the sun in October, when it won the 2005 Solar Decathlon. Teams from 18 colleges and universities in the U.S., Puerto Rico, Canada, and Spain designed and built solar-powered houses for the U.S. Department of Energy-sponsored competition and transported them to the National Mall in Washington, D.C. Thousands of tourists wandered through the resulting solar village while judges ranked the homes in 10 categories, including architectural design, comfort,



Casey Cass

The University of Colorado's solar array of 34 SunPower 200-watt panels produces 15 kwh per day, on average. That amount is supplemented by a 180-watt PV system that also serves to shade the windows on the house's south side.

and energy efficiency. Teams were also required to generate enough extra solar energy to run a small vehicle, and earned points based on the number of miles they logged. The University of Colorado drove 318 miles to earn a perfect 100 points in this contest, bringing its final score to 853 points out of a possible 1,100 for a first-place finish. Cornell University snagged second place with 826 points.

The next Solar Decathlon will be held in 2007. For more information, visit the DOE's Office of Energy Efficiency and Renewable Energy Web site at www.eere.energy.gov/solar_decathlon. — Laurie Elden



Chris Gunn, Solar Decathlon

The winning team's solar-powered house sits on the National Mall in Washington, D.C.



Bryce Colwell



To build the walls, students used BioSIPs. These structural insulated panels are manufactured by spraying BioBased 501, a soy-based polyurethane insulation, between two recycled waste-paper SonoBoard panels.



Julie Herdt

A member of the Colorado team installs translucent, aerogel-filled panels at the top of the walls. The R-14 panels let diffuse light into the building without sacrificing insulation levels.