Nuts & Bolts

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a newsletter from Home Repair Resource Center

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In this issue...

Glass Block Windows

Glass block has enjoyed a recent revival as a building material. It was commonly used during the '50s and still can be seen in a lot of "art deco" style applications. For the past ten to fifteen years, however, glass block has found a new usefulness in replacement basement windows, and it is starting to be used more extensively in other settings around the home.

Glass block has inherent qualities that make it a good material for certain locations. Because of how it is made, glass block is an insulator. It is difficult to break through, and it is waterproof. It lets light in, but obscures visibility from the outside. It can be back-lit for dramatic effect. Small vents can be installed in a glass block panel to allow air flow. It is durable, long-lasting, and virtually maintenance-free.

glass block

These features make glass block a good choice when replacing basement windows, as well as for shower stalls and for replacing bathroom windows. In Cleveland Heights, installing glass block windows requires a permit, and code requirements specify the number of vents that must be included.

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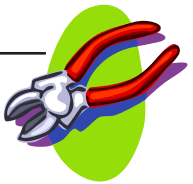
Our electrical and plumbing classes are here!

Don't forget to purchase your multi-class punch card for the lowest price on your materials fee.



Save the dates:

Mark you calendars now for HRRC's annual **Community Home Remodeling Fair**, which will be held on **Saturday, March 20th,** at a new location – the Cleveland Heights-University Heights Main Library, 2345 Lee Road. The schedule of presentation and other program details will be included in the next issue of *Nuts & Bolts* and will also be listed later this spring on our website, www.hrrc-ch.org.

HRRC will also offer a special presentation for seniors, "Do's & Don'ts of Contracting a Repair" in conjunction with AARP at 1 p.m. on Friday, January 29th, at the Community Center. Call 381-6100 for more information.

Holiday Closings:

Thursday & Friday,
December 24th & 25th
(Christmas holiday)
Friday, January 1st
(New Year's Day)
Monday, January 18th
(Martin Luther King Day)
Monday, February 15th
(Presidents' Day)

Plan ahead to get any tools or information you'll need.

Best Wishes for a Joyous Holiday Season

from all of us at
Project Repair
and
Home Repair
Resource Center

Please help:

If you have't yet returned the "Repairs Completed" card enclosed with your last *Nuts & Bolts,* you can still mail it to us or drop it off at our office – or even call us with the information at 381-9560. We're asking that you list all the repairs that you did in 2009 with the help of Project Repair, whether you did them yourself or contracted the work. We'll add the value of your projects to those done by other participants and come up with one measure of PR's value to the community. **This is a way that each and every PR member can help!**

Glass block windows

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To install a glass block window in your home, first determine the size of the window opening. If you are replacing a basement window, you'll probably be removing the existing frame, whether metal or wood, and installing the glass block directly against the masonry wall. Other locations may require a wooden frame. Like any other type of window, a glass block panel won't itself support any weight, so the opening you put it into has to be self-supporting. Measure the entire window opening and subtract the thickness of the frame (if any), leaving you the dimensions to be filled by the glass block panel. Take these dimensions to your glass block supplier and choose the blocks you'll need to make the panel.

Glass block comes in many different looks and in two standard thicknesses. The blocks are sold in several heights and widths, so blocks of different sizes can be combined to make a panel of the required dimensions. Each row of blocks will have to be the same length as the other rows, but you can make small adjustments in the thickness of the mortar between blocks to accommodate odd window sizes. Once you have determined the combination of block sizes you'll need and have selected their style and thickness, you are ready to start.

When assembling the individual blocks into a window panel, whether on your workbench or in the window opening, it's important that the blocks are evenly spaced and that the panel is level and plumb. Take time assembling the first row because, if it isn't straight, all the other rows will suffer.

If you want to install a glass block window yourself, there are several ways to do it. The approach you use will usually depend on where the window will be installed, the size and complexity of the panel, and your own skill level.

1. You can take your window dimensions to a glass block company and have them assemble the panel for you. You then take the panel home and install it in the opening yourself *(see below)*. This is usually the easiest choice, but it is more expensive than making the panel yourself.

2. You can buy the supplies, make the panel yourself in your workshop, and then install it in your opening. If you have a window that will have a wooden frame surrounding the blocks (like a bathroom window), you can build the frame and assemble the panel inside it in your workshop, and then install the whole unit in the wall. For most basement windows, however, it works best to remove the existing framing, build the panel in your workshop, and then install it into the opening, mortaring the panel to the surrounding foundation wall. Even if your panel will be installed in such a frameless opening, you might find it easier to make

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Glass block windows

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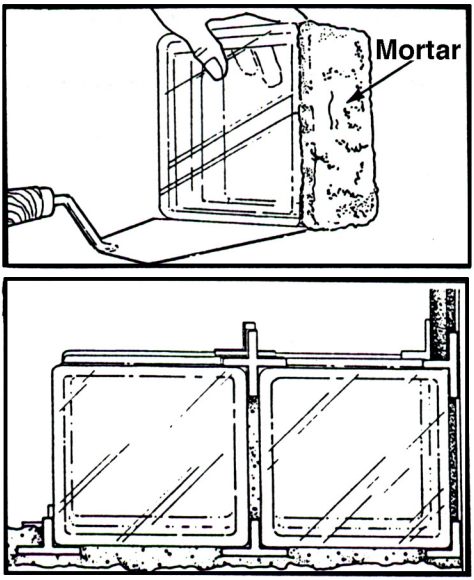
a "temporary" wooden frame of the desired panel size and construct the panel inside it on your workbench. After the panel has set up, you take the form apart and install the panel into the window opening. (Assembling the form with screws will make it easier to take apart later.)

3. You can assemble the panel from the individual blocks right in the wall opening. This method can be more difficult, but it may be the only way to install a larger window – glass block panels get heavy fast.

When assembling the individual blocks into a window panel, whether on your workbench or in the window opening, it's important that the blocks are evenly spaced and that the panel is level and plumb. You can buy spacers designed for glass blocks, or you can space the joints by eye, using a straightedge or level to check each row of blocks. Take time assembling the first row because, if it isn't straight, all the other rows will suffer.

To join the blocks, you'll be using a special glass block mortar. This mortar is usually white, but it can be tinted to match the mortar in the surrounding foundation wall by using masonry tint (available at building supply outlets) or latex tint (available at paint stores.)



Glass block mortar is mixed stiffer than ordinary mortar. It's at the right consistency when it holds its shape when formed into a ball in your hand. Before you start each row, lay down a bed of mortar slightly wider and thicker than you want the finished joint to be. Before adding each block, apply a like amount of mortar to one side, to hold the neighboring block in place. Then, twisting slightly and applying pressure, embed the block in the mortar, pushing down until the block is level and plumb, and each mortar joint is at the right thickness. Scrape off any mortar that has been pushed out as you go along. You can use just about any type of trowel to install the mortar between the blocks, but a tuckpointing trowel is helpful for "tooling" (cleaning and smoothing) the joints after the mortar has set up for about ten minutes.

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Home How-To

Women's repair program
to be offered again this spring!

If you are a woman head of house, *call now* about the next offering of our repair education series, "Home How-To." During this intensive, six-month program, you'll work together with other women homeowners to master basic carpentry, electrical and plumbing skills. Absolutely no previous experience is required!

Even though you'll need to make a fairly significant time commitment, you'll benefit from personalized instruction and will have ample oppotunity for "hands-on" practice with tools and repair techniques. By the end of the program, you will have gained the confidence and experience to complete a variety of home repairs on a do-self basis, saving money that can be put toward materials or "bigger" contracted projects.

There are two additional benefits to the program: each participant will receive an in-home consultation with HRRC's Repair Instructor to identify needed repairs, and each will have one repair accomplished by the class at her house.

This year, most of the classes will be held on Thursday evenings from 7 to about 9:30 p.m., but a few workshops – those involving more extensive repairs, as well as "rain dates" for exterior projects – will be held on Saturdays. The series will run from late April through October.

Because the goal is small-group learning, enrollment will be limited to 18 women who meet the following criteria:

- Woman owner/occupant of a house in Cleveland Heights
- Sole head of house
- Income within program guidelines:

family of 1: $43,375	family of 4: $64,825
family of 2: $51,875	family of 5: $70,000
family of 3: $58,325	family of 6: $75,200

- Willing and able to make six-month commitment (one 2-1/2 hour class per week; each participant to attend at least 16 of the 25 classes)

A $25 program supply fee is charged, and each participant pays for materials installed during the class at her home. If interested, call Becky at 381-9560.

Workshop Schedule

With the new year comes our popular electrical and plumbing series. Because these have traditionally "sold out," we urge you to reserve your spot early by calling 381-9560.

All classses are open to Cleveland Heights residents, and payment of a **materials fee** is now required. *(See our website for details, or call us for more information.)* Don't forget that a multi-class punch card will give you the best prices.

January

Intro to Electricity
Monday, January 4th, 7 - 9 p.m.
This "lecture" class must be taken before the "Basic," "Intermediate," or "Advanced" electrical workshops. You'll learn what electricity is, how it comes to your home and is distributed to your appliances, how to compute the load on your circuits, and how to ensure your safety when working with electricity.

Basic Electrical Repairs
Monday, January 11th, 7 - 9 p.m.
You'll learn how to replace single-pole switches and outlets (including GFCIs) and how to install simple fixtures.

Intermediate Electrical Repairs *(Two-part class)*
Tuesday, January 19th, 7 - 9 p.m. *and*
Monday, January 25th, 7 - 9 p.m.
Learn how to run wires through finished walls, how to add or change circuits, how to install more complex fixtures and three-way switches, and how to correct overloaded circuits.

February

Advanced Electrical Repairs
Monday, February 1st, 7 - 9 p.m.
You'll learn to update your service panel (and replace an old fuse box with circuit breakers) and how to install 220-volt lines and outlets for appliances.

Ceiling Fans
Monday, February 8th, 7 - 9 p.m.
We'll show you how to mount a ceiling fan and wire it into an existing circuit. We'll also talk about how to run wires from the fan to a wall switch and/or service panel, if that wiring is not already present.

Doorbells & Other Low-Voltage Systems
Monday, February 22nd, 7 - 9 p.m.
Working with low-voltage wiring (for doorbells, telephones and landscape lighting) is really quite simple. We'll show you how to install and repair these systems, easily and safely.

March

Copper Water Lines
Monday, March 1st, 7 - 9 p.m.
You'll learn to measure, cut, and solder copper pipe and fittings. You'll also practice making various types of connections in water supply lines and learn where each should be used.

Replacing Galvanized Water Lines with Copper
Monday, March 8th, 7 - 9 p.m.
At this class, you'll assemble copper pipe and fittings to replace old iron supply lines "on-site" in a Cleveland Heights home.

Plastic Water Lines
Monday, March 15th, 7 - 9 p.m.
If you want an alternative to copper, two types of plastic water lines have now been approved for use in Cleveland Heights. We'll show you how to measure, cut, and connect each type, and how to ensure your installation will pass inspection.

PVC Drain Lines
Monday, March 22nd, 7 - 9 p.m.
We'll discuss how your drain lines function, and how to maintain and update your drain system. You'll learn how to assemble plastic drain pipes, fittings, and traps, and how to operate a drain snake to clear clogged lines.

Faucets & Toilets
Monday, March 29th, 7 - 9 p.m.
We'll show you how to repair those annoying leaks in faucets, valves, and toilets; how to replace a toilet; and what tools to use when your toilet is clogged.

information sessions presented by

Home Repair Resource Center

a community nonprofit organization

Reducing Energy Costs: Getting the Most Bang for Your Buck

Pam Pierce, LEED AP, Green Accredited, Energy Consultant

If you're thinking about retrofitting your home to save on energy costs, come and learn which measures will have the most impact on lowering those high heating bills.

Thursday, January 28th, 2010 - 7 pm

Care & Maintenance of Fireplaces & Chimneys

Chuck Peterson, North Country Chimney Sweep

A local chimney sweep will talk about what you should do to keep your fireplace and chimney structurally sound and in good working order.

Thursday, February 25th, 2010 - 7 pm

HOME REPAIR RESOURCE CENTER

these HouseMender University sessions will be held at

Cleveland Heights - University Heights Public Library

2345 Lee Road

Reservations requested –
call (216) 381-9560

Glass block windows

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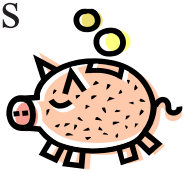
Once the panel has been assembled and the joints tooled, allow the mortar to set for another 15 - 30 minutes. Then, clean off any excess mortar from both sides of the panel and fill in any voids in the joints. If you used spacers, break off the projecting ends, leaving the body of each spacer imbedded in the mortar. After you have done all this, clean off any remaining mortar from the face of the bricks and let the panel set overnight for the mortar to harden.

Glass blocks are sold in several heights and widths, so blocks of different sizes can be combined to make a panel of the required dimensions. You can also make small adjustments in the thickness of the mortar between blocks to accommodate odd window sizes.

If you made your panel on the workbench, place it into the window opening and center it side-to-side and top-to-bottom, using shims if necessary. Check with a level to make sure the panel is plumb and level. Then, if the panel does not have a wooden frame, install mortar all around the panel between the blocks and the masonry walls, working from both sides. Let the mortar set up for a while, and then tool it as you did the panel. Pull out any shims that are sticking out, and complete the installation by cleaning off any excess mortar from the panel.

If you are doing this process for the first time, start with a small window and take your time. Before you know it, you'll be doing large curving shower stalls.

HRRC's Financial Fitness Series



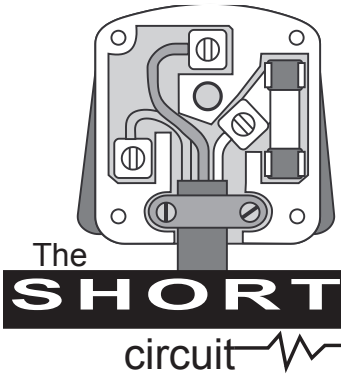
Home Repair Resource Center's interactive Financial Fitness series will help you develop your money skills, provide you with strategies for improving your credit, and teach you how to protect your home investment. Call **381-6100** for information or to reserve your spot in these FREE classes (all 6 - 8 p.m.):

November *Classes to be held at the CH-UH Main Library, 2345 Lee Road*

3	Tuesday	Power of a Personal Budget
10	Tuesday	Creditworthy Equals Choices
17	Tuesday	Understanding Mortgages & Refinancing
24	Tuesday	Avoiding Delinquency & Foreclosure Intervention

December *Classes to be held at the CH-UH Main Library, 2345 Lee Road*

1	Tuesday	Home Maintenance for New Homeowners
2	Wednesday	Power of a Personal Budget
3	Thursday	Creditworthy Equals Choices
8	Tuesday	Avoiding Delinquency & Foreclosure Intervention

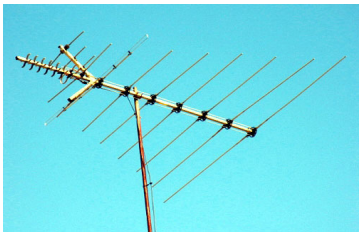


by Jim Kunselman

Sometimes when I tinker in my garage, I'll turn on the little television that I have out there to listen to the news or weather. Since the change-over in June 2009, all full-power television stations are required to broadcast only in digital format. So, my garage TV no longer received anything until I purchased a converter box. With the "rabbit ears" antenna on the set, I could get a good signal for only one digital channel, so I thought if I could build a larger antenna I might get better reception (more on that, later).

Cable companies have promised to continue sending analog signals (at least for the time being), but you certainly pay for that service. If you have analog televisions that received free over-the-air (OTA) television programming with an indoor or outdoor antenna, you will either need to buy a digital-to-analog converter box or a digital TV in order to watch programming in the new format. The government coupon program for the converter box has expired, but the boxes can still be found at online auction sites (where I purchased mine).

Using The Existing Antenna:



If you had good reception on analog channels 2-51 with your present outdoor antenna, it should receive digital television (DTV) signals, including high definition television (HDTV) signals. Most of the local DTV transmissions are on the UHF band (channels 14 to 51), so the antenna needs to pick up that spectrum. As long as it is in good condition and pointed towards the transmission towers, you don't need to purchase a special "DTV" or "HDTV" antenna to receive signals. Check websites such as www.tvfool.com or www.antennaweb.org that provide information on the locations of the local broadcast towers, so you can point your antenna to the stations you wish to receive. If you don't have an existing antenna, you can purchase a new one or try your hand at building one.

Connect your existing antenna with a balun transformer and RG-6 cable to the converter box or digital TV. Keep the length of wire between the antenna and set as short as possible to minimize interference. Ground the antenna mast (mounting pipe) and the cable to a grounding electrode driven into the earth. Make sure your TV is set up to receive over-the-air broadcasts (as opposed to being connected to cable or a satellite TV company). Then perform a "channel

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The Short Circuit

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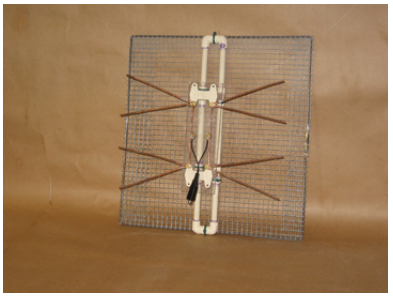
scan," in which your TV will automatically check to see which stations it can receive. With most sets, this is all you will have to do to watch local broadcasts

TV reception is affected by factors such as buildings, hills, trees, the weather, damaged/corroded antennas and connections. Reception can be improved just by changing the location of your antenna. Moving it away from other objects and structures, or placing it higher can often improve reception. The indoor antenna here at HRRC was blocked by the structural steel and ductwork in the roof and walls; once it was placed above the roof, reception improved greatly.



My new garage antenna is the double "bowtie" you see here. It's constructed of leftover 8-gauge copper wire for the bowties, PVC tubing and hardware cloth for the reflector screen. Placed near the peak of the roof inside the garage, it receives at least six stations and several of their sub-channels. I believe that, if it were placed outside high on a mast with a signal amplifier, it would be able to pull in even more channels.

By searching the web you can find all sorts of antenna plans. I've built a four-bowtie antenna from plans that I found. A bunch of Canadian electronic buffs (see www.digitalhome.ca) found a 1959 design (in public-domain) by Ohio TV engineer Doyt Hoverman and refined it for the UHF TV band. Now called the "Gray-Hoverman," it's said to be superior to most commercially made units.

You can also add a rotor that will let you re-orient your antenna to pick up stations that transmit from other communities. So, now you can join in my new favorite couch-potato sport called TV "DX"-ing. While wearing out my thumb on the remote, I've been getting some Canadian stations, as well as local ones.

Free to a good home:

The following items – used, but in good condition – have been offered to Project Repair participants who can use them (priority to low- and moderate-income homeowners):

- Glass porch light, black metal trim, ceiling-hugging style
- Bathroom over-cabinet light, white, holds 4 round bulbs
- dining room chandelier, black wrought-iron look with 5 "candle" bulbs
- 24" x 36" mirror, unframed, surface-mount
- inset medicine cabinet, beveled mirror door

Call 381-9560 if you are interested.

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