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Edited by

Jeff Howell

DIY columnist, The Sunday Telegraph



DIY
ALL-IN-ONE
FOR
DUMMIES®
2ND EDITION

**by Roy Barnhart, James Carey, Morris Carey,
Gene Hamilton, Katie Hamilton,
Don R. Prestly and Jeff Strong**

Edited by Jeff Howell



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Introduction

Welcome to DIY and Home Improvement All-in-One For Dummies, the only repair manual you'll ever need. One glance through this book and you quickly see that it's not overloaded with technical details and obscure advice that you'll never want or need to know. Our goal was to compile a book that explains, in a fun and easy-to-understand style, how to complete a wide range of projects. This anybody-can-do-it approach appeals to fledgling do-it-yourselfers and seasoned handymen and -women. We encourage you to dust off your toolbox and tackle simple repairs and improvements using our idiot-proof instructions.

Basic steps and illustrations throughout the book walk you through the key points of maintaining and improving your home. These are tried-and-tested solutions to everyday home repair and improvement questions.

Foolish Assumptions

In this book, we make a few assumptions about who you are. We assume that you care about the appearance and condition of your home. We don't think that you're a home improvement fanatic or that you're a DIY expert – you don't need to be. All you need is this book, the right tools, and a desire to see your home be safe, functional, and attractive both inside and out.

How to Use This Book

You can use this book in two ways:

- ✓ If you want information about a specific topic, such as stopping cold draughts with weather-stripping or cleaning out gutters, skip to that section using the index or table of contents and get your answer pronto.
- ✓ If you want to be a home improvement guru, read the whole book from cover to cover. You'll end up knowing so much that Handy Andy will be calling you for advice.

How This Book Is Organised

This book is actually five books in one. The chapters within each of those books cover specific topics in detail. You can read each chapter or book without reading what came before, so you don't have to waste time reading what doesn't apply to your situation. Occasionally, we refer you to another area in the book where you find more details on a particular subject.

Book I: Planning Your Home Improvement Projects

Undertaking a home improvement project without planning is a recipe for disaster. This book walks you through the decision of whether to take on a task yourself or hire a professional, helps you gather the tools you need to do most home improvement projects, and gives you important tips for staying safe.

Book II: Basic Home Maintenance and Improvement

This book takes you through the various parts of a home, from the foundation to the roof, and tells you how to make common repairs. Included are chapters on window and door maintenance.

Book III: Painting and Wallpapering

A simple coat of paint or layer of wallpaper can have an amazing impact on how a home looks. This book helps you choose the best materials for your situation and get them up onto your walls like a pro. The chapters on painting cover both the interior and the exterior of a house.

Book IV: Carpentry, Woodworking, and Flooring

Working with wood really isn't too difficult, we promise. This book talks about the basics of carpentry and woodworking, from fixing pieces together to sanding and finishing wood projects. You'll find chapters covering the processes of repairing and installing new flooring.

Book V: Plumbing

Plumbing may be an area that you've always found a little bit intimidating – many homeowners do. But when you understand how everything fits together, plumbing repairs aren't any more difficult than other home maintenance projects. In this book, you find information about two major, vexing plumbing problems: Leaks and blockages. Before you call a plumber in a panic, check these chapters – you may be able to fix the problem yourself and save a packet.

Icons Used in This Book



We use the familiar For Dummies icons to help guide you through the material in this book.

Get on target with these great time-saving, money-saving, and sanity-saving tips.



Commit to memory these key tidbits of information that come into play in various aspects of your home improvement adventures.



We don't want to scare you off, but DIY is not for the accident-prone. This icon alerts you to potential hazards and how to steer clear of them. We also use this symbol to mark advice for making your home a safer place.



Let this icon serve as a warning that you're treading in trouble-prone waters. Why should you have to learn from your own mistakes when you can learn just as well from others'?



Some projects and repairs require the skills, experience, and know-how that only a professional can offer. Novices and weekend DIYers take note. This icon reminds you not to bite off more than you can chew.



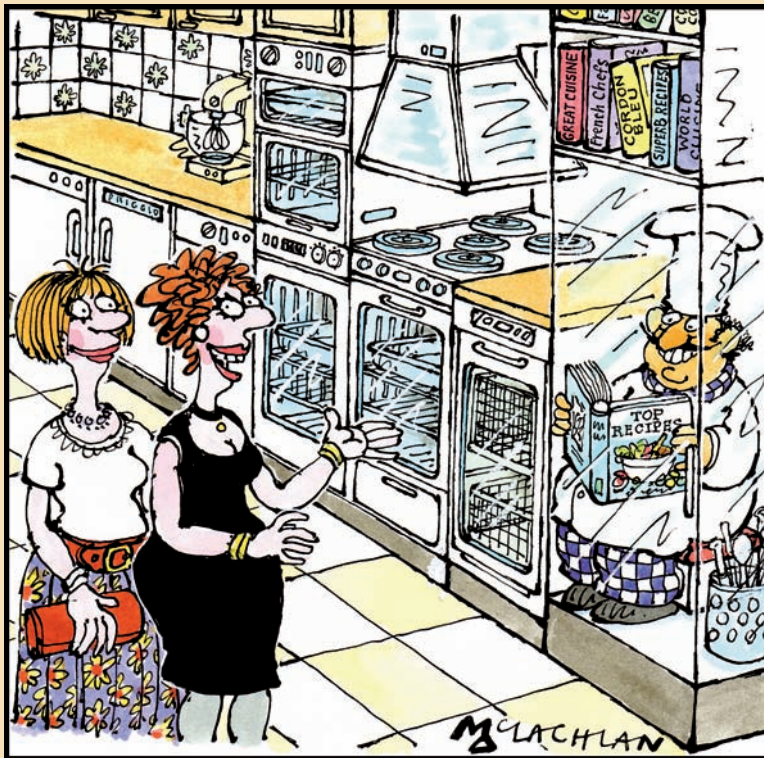
Most people want their toilets to flush, but some aren't happy until they know *how* the toilet flushes. This book doesn't bombard you with loads of technical trivia, but some background tidbits can be useful. If you crave obscure details that most normal people don't care about, seek out these icons. If you'd rather live in ignorant bliss, by all means skip these little diversions.

Where to Go from Here

We don't care whether you start with the Table of Contents, the Index, Book V, or even Chapter 1 (what a novel idea). What's important is that you get going. A better home is just around the corner!

Book I

Planning Your Home Improvement Projects



"George installed the fridge, the freezer,
the washing machine, the cooker, the hob
oven, the built-in oven, the dishwasher,
and I installed the chef."

In this book . . .

Where do you start? Can you do it yourself? What materials, tools, and knowledge do you need? How much will it cost, and how do you keep from going mad in the process? Dig into these chapters that frame answers to these knotty questions.

Collecting basic household tools and the right stuff for specific jobs doesn't have to be a struggle. Venturing into the local hardware store or home improvement centre need not be a struggle – although with the size of today's DIY superstores, you may need to pack a picnic.

Whether you want to estimate the time and cost involved in a job, or check out the possibility of adding more hands-on adventures to your to-do list, you can build comfort and confidence with a cruise through this book.

Here are the contents of Book I at a glance.

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Chapter 1

Gearing Up for Your DIY Adventures

In This Chapter

- ▶ Sizing up costs, time, and skill level
 - ▶ Choosing the right person for the job
 - ▶ Getting planning permission
 - ▶ Stocking up your toolbox
 - ▶ Investing in great gadgets
-

You can expect to save at least 20 per cent and sometimes 100 per cent of the cost of any job by doing the work yourself. What's more, you can enjoy the sense of pride and accomplishment that comes with a job well done. That said, you must remember that most people are hard-pressed for time and energy, and some projects require special skills and tools that you may not possess.

We're not suggesting that you tackle really advanced jobs. But countless other projects, such as removing wallpaper or sanding wood, require little in the way of tools and talent. By beginning with unglamorous repairs, such as fixing a broken window catch or tightening a loose hinge, you can quickly build your do-it-yourself skills and confidence.

Just how do you know your limitations? That's the \$64,000 question. We know that a handy homeowner can do an awful lot, but when it comes to massive projects, such as replacing all the walls in a house or building a large extension, you have other factors to consider such as your time and your money. This chapter is all about weighing up the pros and cons of doing it yourself versus getting in the professionals.

Taking Everything into Account

Three factors go into the decisions of whether and how to do a job yourself: time, money, and skills. If you have plenty of time, you can tackle almost any project, using only some basic tools and gaining the skills you need as you go. If you have lots of dosh, you can purchase plenty of timesaving tools and gear, or even hire someone else to do the job for you. And if you already have a treasure trove of home improvement skills, you can do the job yourself quickly and for a moderate cost.

But for most mere mortals, the question of to do or not to do the work all by yourself involves finding a balance of all three factors and then doing some soul-searching for a reasonable response.

Calculating the cost

First up, consider the cost of materials. Don't become another statistic of the do-it-yourself damage factor. If the materials are expensive, you're taking a big risk by doing the job yourself. If, for example, you're laying £40-a-metre wool carpet, you're gambling with expensive dice. Make one miscut, and you suddenly find yourself in the carpet remnant business. You have to replace the damaged material, and you'll probably end up calling in a carpet fitter to finish the job after all. Not much saving; plus, you wasted time in the process.



If you're considering a project and want to get a rough idea of the labour costs involved, go to a DIY centre and ask whether an installation service is available. Many DIY shops farm the work out to contractors. These stores often display materials, such as doors, windows, and kitchen units, with two costs: A do-it-yourself price and an installed price. The difference between the two figures is the cost of the labour.

Don't forget the other part of the equation – the cost of tools that you may need. Look at tools as a long-term investment: If you're a budding do-it-yourselfer, you want to add to your stash so that you have a complete workshop that can last a lifetime. However, if a project requires an expensive tool that you may only need once in your life, consider other options, such as hiring or borrowing. See 'Totting Up the Top Tools' later in this chapter.

Tallying the time

Time is a real consideration when you're deciding whether to tackle home repairs and improvements yourself. Estimating the time to complete a job isn't an exact science. Write down the processes involved in a job in

step-by-step fashion, and include the shopping time, working time, and clean-up time. Translate the work into numbers of hours . . . and then triple it. The result that you get is liable to be pretty close.

Many novice do-it-yourselfers make the tragic mistake of underestimating the time commitment and then box themselves into an unrealistic deadline, such as painting the living room before Christmas or building a patio for the Bank Holiday family reunion – both noble ideas, but they warrant considerably more time than initially imagined. The work usually takes much longer than you anticipate. Setting an inflexible deadline only adds more pressure to the project.

Book I**Planning
Your Home
Improve-
ment
Projects**

Scrutinising your skills

Now for a touchy subject: Recognising your talent. This topic is sensitive because some people are born naturally handy; others are mechanically challenged.

Remember that practice makes perfect. You may not have been born with a hammer in your hand, but you can develop the skills of a confident do-it-yourselfer and go on to hone the skills of a handy homeowner. It's true; as you get older, you get better. After you figure out how to install a dimmer switch, it's like riding a bicycle; you never forget.



Even if you aren't a do-it-yourselfer and you have no desire to become one, you can participate in projects and save money by doing the donkey work. We're talking about simple jobs, such as removing wallpaper, ripping up old floors, scraping paint, and many other tasks that require more time and enthusiasm than talent.

Hiring Help the Smart Way

If a project is simple, such as repairing a faulty boiler, the plan is pretty straightforward. Get a couple of estimates and compare them, making sure to specify the full scope of the job and the quality of materials.

This advice becomes dicey when the project is more complex – say, bathroom refurbishing that involves moving a wall, replacing the fixtures and floor – all subject to surprises, hidden costs, and unexpected complications. Professionals have difficulty quoting for a job without knowing what they may find when the wall comes down or the old floor comes up. An accurate quote is based on complete and accurate information and the cost of fixtures, which can range from low-end to luxury. As a consumer, you have to spell out exact styles, models, and colours for a precise estimate.

Finding a good builder

Shop 'til you drop . . . for the right builder, that is. Spend as much time choosing a builder as you do choosing a doctor. Start in your local neighbourhood and ask friends and acquaintances for recommendations. The Yellow Pages lists builders, but builders rely on their reputations for new customers.



Check out the builders' vans that you see working in your neighbourhood; the most familiar one probably has good repeat business there. Call in on the neighbour having work done (go on, you can be bold!) and explain that you're looking for a builder. Is your neighbour pleased with the builder's work?

This screening process is the best way that we know to find competent builders – it's direct, immediate, and tells you what you want to know from a reliable source: Another homeowner just like you.

Know what you want before talking to a builder. No, you don't have to know the serial number of the new mixer tap, but you do need to have an idea of the type, style, and features you want. First of all, a contractor can't quote for a job without knowing what you expect to have installed, repaired, or built. Second, the only accurate way to compare quotes from different contractors is to be sure that the work is based on the same specifications.

Some people may tell you to get three quotes from different contractors and choose the middle one – easier said than done. If you do your homework and are satisfied with the references and professional manner of a builder, you may be hard-pressed or time-restricted to dig up two more. The bottom line is to use your best judgement and common sense, and don't let a schedule force you into making a decision. If you interview a builder and are thrilled with what you find, don't baulk at having to wait until he or she is available. Never rush a job and settle for someone you're not completely satisfied with. After all, you only build an extension or refurbish your kitchen once – that is, if you get the job done right the first time.



When you meet with a builder, ask for customer references of work similar to your project, and then check them out. This task takes time, but you can benefit greatly by listening to someone with firsthand experience. Many people consult Trade Associations as a resource or contact a local council for a list of referrals. Even if you find a builder through one of these sources, you should still ask the builder for a list of satisfied customers in your area whom you can call for recommendations.

Covering all your bases

After narrowing your search for the perfect builder, you're ready to get down to business. At this point, it's critical to get everything in writing:

- ✓ **Liability:** Ask for a certificate of insurance and make sure that the contractor is insured to cover any injuries that may occur on the job. Reputable builders carry employer's liability insurance and public liability insurance that covers them in the event of third-party injury or property damage. Checking out a builder's insurance is very important, because you may be held liable if the builder or one of his workers is injured while working on your home. You may also be held liable if the builder or one of his employees injures someone else.

Tell your insurer about the nature of the proposed work, as it will probably increase the value of your property, and you don't want to end up under-insured in the event of making a claim. Take into consideration the increased security risks while the building work is taking place (such as scaffolding against your house, and temporary door and window openings to tempt burglars) – your insurers are unlikely to raise your premiums for this, but you could experience problems if you make a claim and you hadn't told them about the work.

- ✓ **Contract:** A complete contract includes a detailed description of the project with a listing of specific materials and products to be used. For a job that involves various stages of completion, a payment schedule itemises when money is to be paid. A procedure for handling any disputes between you and the contractor is also important, along with directions for handling changes in plan due to an unforeseen need for additional work or materials.

If the project involves removing debris or if it's intrinsically messy (plastering, for example), make sure that the contract has a clean-up clause that clearly defines the builder's responsibility to leave the work site clean and tidy. Also make sure that the contract spells out who's expected to apply and pay for planning permission and building control approval and what's necessary to meet those requirements (see below).

- ✓ **Warranty:** If the contractor offers a warranty, make sure that the provisions include the name and address of the person or institution offering the warranty and the duration of the coverage. A full warranty covers the repair or replacement of the product or a refund of your money within a certain period. If the warranty is limited, find out what those limitations are.



- ✓ **Planning permission:** Planning rules govern the overall development of land and buildings in an area. They are used to determine such things as density of population, position of buildings in relation to roads and other amenities, and the visual appearance of homes and neighbourhoods. Planning rules are not concerned with how the building work is done (Building Control decides that), but with how it may change the look of the house or the whole neighbourhood. Repairs, maintenance, refurbishment, and most other building work on existing homes do not need planning permission unless your home is a listed building or in a conservation area.
- ✓ **Building Control:** The local council Building Control department is responsible for making sure that work conforms with the Building Regulations. Building Regulations apply to all new construction work, including permitted developments, and cover such things as fire safety, structural stability, ventilation, drainage, thermal insulation, and electrical safety. You should check with your Building Control department whether your proposed work needs approval. If it does, then either you or your builder has to pay a fee to have the progress of the work inspected and approved, either by the local authority, or by a licensed private Building Inspector. Don't be afraid of this – these inspections are your best assurance that the work is done correctly, or at least meets minimum Government standards.

Special rules for special buildings

A *listed* building is a building placed on a special list by English Heritage (a Government body) because of its architectural or historical importance. The UK has nearly half a million listed buildings, and whilst castles and palaces are obvious candidates, some fairly ordinary-looking houses can find their way onto the list as well. Grade I is the top listing, and it means you can't change anything, inside or out, without listed building consent. Grade II* is the second listing. Ordinary houses are more likely to be Grade II listed, which just covers the outside.

It is not impossible to make alterations to listed buildings, but any changes have to be in character, and approved first (English Heritage 020

7973 3000, www.english-heritage.org.uk).

Conservation areas are historic areas – usually old town centres or medieval villages – where the whole area is protected from unfavourable development. This includes not just the houses, but the streets, trees, gardens, and phone boxes as well. Decisions over any proposed changes are made by the Conservation Department of the local council. If you live in a conservation area, then rejoice – it means your house is worth more than those in surrounding areas, and your neighbours can never bring down the neighbourhood by fitting replacement plastic windows.

Gearing Up for DIY Adventures

Can you expect to create miracles without a magic wand? Of course you can't. And by the same token, you can't expect to do projects around the house without reliable tools.

If you think of every tool you buy as a long-term investment, you'll gradually acquire a reliable stash that can get you through most home repairs and improvements. In this chapter, we walk you through the basic tools that are essential to any toolbox, but we can't resist also tempting you with some of our favourite gadgets and gizmos designed to delight any do-it-yourselfer.



Most people are hard-pressed to find space for a workshop but at a bare minimum, find room for a workbench somewhere in your house, garage, cellar, or shed. Designate this space as a work area, where you can take a door lock apart or stir a tin of paint, lay out a window frame that needs repairing, or stow your tool kit and rechargeable power tools (and read the paper with no interruptions). Your workspace doesn't have to be fancy; anywhere with good lighting and electrical power will do. Lay a length of kitchen worktop across two sawhorses or, if space is at a premium, get a portable bench that you can fold up and store out of the way.

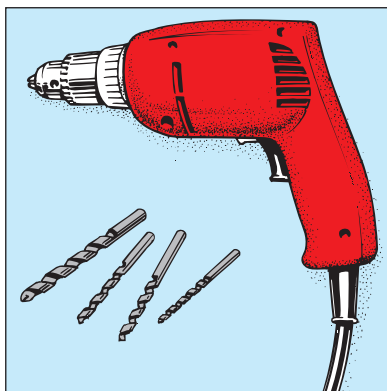
Totting Up the Top Tools

Shop for the tools you need in builders' merchants, hardware shops, or any large DIY warehouse. Don't try to buy all the tools that you'll ever need at one time; instead, buy tools as you need them. Focus on quality rather than quantity and buy the best-quality tool you can afford.

So here it is, our list of the basic tools you need to get on the road to home improvement adventures:

- ✓ **13 mm variable-speed reversible drill:** This tool, available as a plug-in or cordless, uses steel blades called bits to drive in or remove screws, drill holes, mix piña coladas, and do other important home improvement tasks. See Figure 1-1.
- ✓ **Claw hammer:** We recommend a 16-ounce hammer with a fibreglass handle to cushion the blow to your hand. Watch out for carpal tunnel syndrome, an injury that can occur from repetitive motions, such as constantly hitting your thumb and then hopping around the room.

Figure 1-1:
An electric
drill with a
variety of
bits.



- ✓ **Pliers:** Vice-grip pliers, or *mole grips*, have toothed jaws that enable you to grip various-sized objects, such as a water pipe, the stuck-on top of a container of PVA adhesive, or the tape measure that you accidentally dropped into the toilet. Because the jaws are adjustable, pliers give you leverage to open and firmly grip an object.
- ✓ **Tenon saw:** A small, easy-to-use handsaw is useful for cutting such materials as panelling or shelving.
- ✓ **Assorted pack of screwdrivers:** Be sure that you have both slotted (flat-head) and Phillips and Posidrive (cross-head) screwdrivers in a variety of sizes. The slotted type has a straight, flat blade; the cross-head blade has a cross or plus-sign that fits into the grooves of Phillips-head or Posidrive screws.
- ✓ **Trimming knife:** Also called a *Stanley knife* or *craft knife*. Choose a compact knife with replaceable blades that's strong enough to open heavy cardboard boxes and precise enough for trimming wallpaper.

Buy the type with a retractable blade; you'll appreciate it the first time that you squat down with the knife in your pocket. (Ouch!)
- ✓ **Staple gun:** You can use this tool for a variety of jobs, like securing insulation, carpet underlay, plastic sheeting, and fabrics.
- ✓ **Spirit level:** A straightedge tool that has a series of glass tubes containing liquid with a bubble of air. When the bubble in a single tube is framed between marks on the glass, it shows that the surface is level (horizontal) or plumb (vertical). See Figure 1-2.
- ✓ **Metal file:** Filing tools, such as those shown in Figure 1-3, are flat metal bars with shallow grooves that form teeth. Metal files are useful for sharpening the edges of scrapers, putty knives, and even shovels and garden trowels.

Figure 1-2:
A standard
spirit level
for finding
level and
plumb lines.

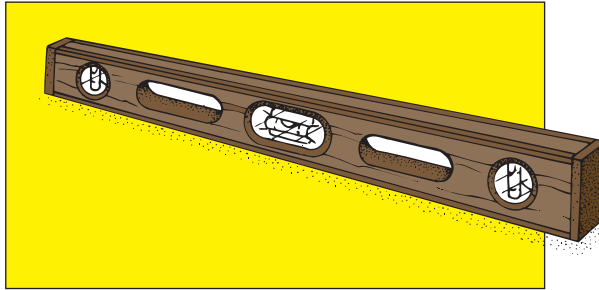
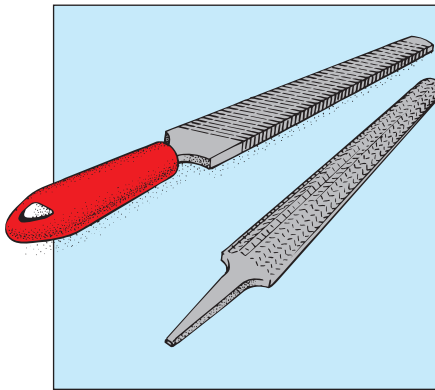
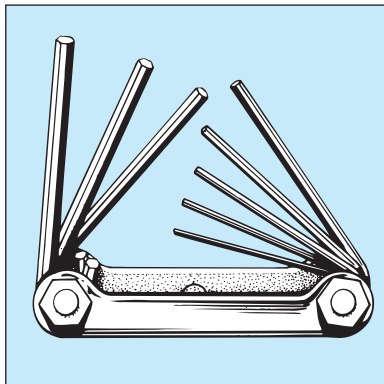


Figure 1-3:
Metal files
are good for
more than
breaking out
of prison.



✓ **Allen keys:** These L-shaped metal bars, often sold in sets (see Figure 1-4), are designed for turning screws or bolts that have hexagonal sockets in their heads. This tool also goes by the name *hex-key wrench*. Used to assemble everything from flat-pack furniture to bicycles, this tool was invented by a man named, umm, let's see . . . we'll have to get back to you on that one.

Figure 1-4:
Flat-packed
furniture
often
requires
Allen keys
for assem-
bly.

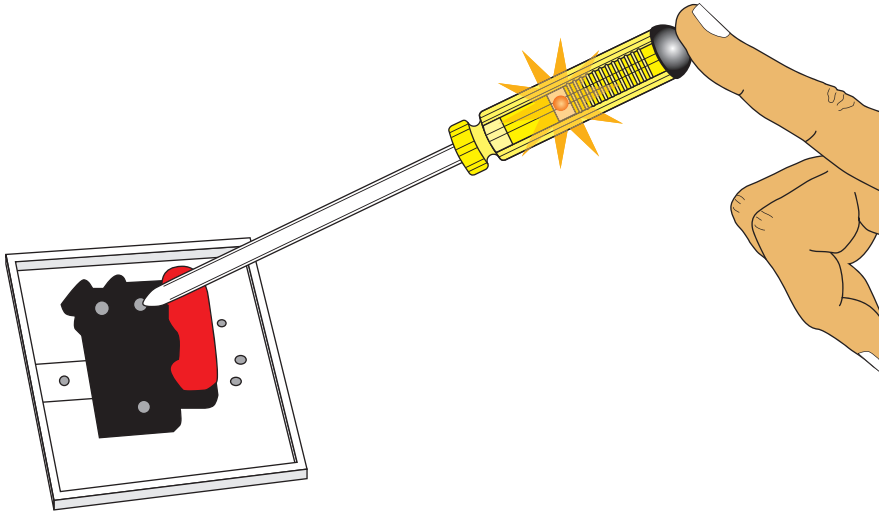


Gizmos and Gear

Tools alone don't lead to a life of joyful home improvements. You gotta have gadgets, too. Some really great gadgets are available to keep you organised, efficient, safe, and comfortable:

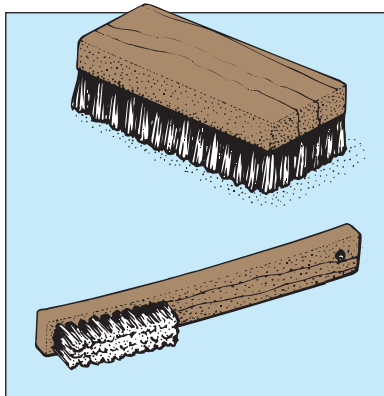
- ✓ **Teeny-tiny pocket notebook:** Keep a reference of your home improvement needs in your car or pocket and refer to it when you shop. Instead of jotting down notes on scraps of paper that you're more likely to lose than use, keep all this stuff in one place. Buying a new table? Jot down the dimensions of the old one. Need new vacuum bags? Make a note of the model number of your vacuum cleaner. Keep a record of paint colours and wallpaper patterns and a zillion other details in this little notebook.
- ✓ **Tool kit:** Keep a stash of the tools that you reach for most often in some kind of portable toolbox or crate. Be sure to include a stock of string, a pair of scissors, tough protective gloves, a tape measure, a torch, and other common household accessories. Many DIY jobs must be done on site, so having a tool kit that you can take with you to the project is invaluable.
- ✓ **Kneepads:** Cushioned rubber pads, held in place with elastic straps, protect your knee joints when you're crawling around on hard, debris-strewn surfaces.
- ✓ **Goggles or safety specs:** Wear goggles or safety specs when you're chipping away at loose brick or plaster, or anything that could make a rather nasty dent in your eye.
- ✓ **Dust mask:** Use a dust mask when you're sanding wood or plaster, or laying mineral wool insulation, to protect yourself from breathing in the particles.
- ✓ **Neon circuit tester:** Also known as a *mains-test screwdriver*, this cheap-as-chips item, pictured in Figure 1-5, can be a lifesaver whenever you have to work on an electrical switch, socket, or power source. Before you begin tinkering with a device, use this circuit tester to make sure that power isn't flowing to it.

Figure 1-5:
Electricity
can be
deadly. Use
a mains-test
screwdriver
to make
sure sock-
ets are safe
to work on.



✓ **Wire brush:** This item, shown in Figure 1-6, looks like a lethal toothbrush. It's useful for scraping blistered paint, removing rust from metal, and taking corrosion off spark plugs.

Figure 1-6:
Wire
brushes are
particularly
useful for
removing
rust.



✓ **Stud finder:** No, this tool isn't for finding hunky blokes (unless they're trapped in your walls). Wall studs are the vertical wood framing to which plasterboard is fastened. A stud finder, shown in Figure 1-7, is an electronic device that locates the studs behind finished walls, which enables you to find a sturdy place to hang pictures, mirrors, and shelves. Get a stud finder that also doubles as a pipe and cable detector.

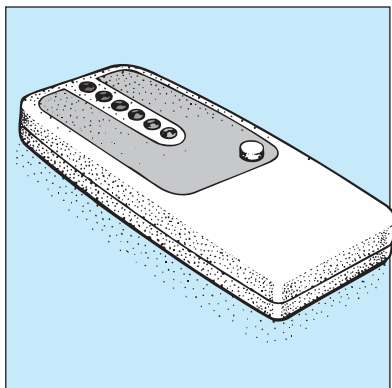


Figure 1-7: Use a stud finder to avoid hanging heavy items over hollow plasterboard.

✓ **Ladders:** Get a stepladder for household chores, such as changing light bulbs and painting rooms; and get a taller self-supporting or extension-type ladder for outdoor maintenance like cleaning gutters and trimming trees. In general, aluminium ladders are lightweight and strong; wooden ladders are solid, heavy, and economical; and fibreglass ladders are strong, electrically nonconductive, and expensive. If you can afford it, fibreglass is the best choice.



Every ladder is given a *duty rating* – its maximum safe-load capacity. This weight includes you plus the weight of any tools and materials you wear and haul up the ladder with you.

Tools: To Buy or To Hire?



The top UK tool hire shop is HSS Hire, which has over 400 branches stocking over 2,000 tools. Get a copy of their free catalogue (08457 282828, www.hss.com), and you can compare the hire costs with tool purchase costs, enabling you to make an informed decision. Weekend hire rates are cheaper than mid-week, which is useful for home-improvers, and HSS can deliver bulky tools and equipment to wherever you need them.

Chapter 2

Being Safe and Prepared

In This Chapter

- ▶ Preventing household fires
- ▶ Protecting your home
- ▶ Tightening up security
- ▶ Ensuring electrical safety

In this chapter, we offer time-honoured, proven safety practices blended with a host of new innovations, contemporary concepts, and the very best of today's high-tech electronic wizardry. When used all together, these measures ensure greater peace of mind for homeowners.

Practising Fire Safety



Fire has been a number one household danger ever since the day, many eons ago, when our prehistoric ancestors got the idea of bringing fire indoors for cave heating and dinosaur cooking.

The following points are worth noting with regard to residential fires:

- ✓ Careless smoking is the leading cause of residential fire deaths.
- ✓ Children playing with fire cause 25 per cent of fires with child fatalities.
- ✓ Household fire hazards include overloaded electrical circuits, faulty wiring, unsafe appliances, wood- and coal-burning stoves and boilers, electric and paraffin space heaters, unattended fireplaces, and the careless use of candles, lighters, and matches, especially by children.

Common sense can prevent fires

So what's your best defence against this household killer? Good old common sense:

- ✓ Exercise great care with all flammable materials, including fabrics (like curtains and furniture) near heat sources (like stoves, heaters, and open fireplaces) and especially combustible liquids (like solvents, cleaners, and fuels) – when both using and storing them.
- ✓ Don't overload electrical circuits or put too great a burden on individual sockets or lightweight extension cords. Overloading causes overheating, which leads to wire fatigue and a possible fire. Dimming or flickering lights, a power cord that's warm or hot to the touch, fuses that repeatedly burn out, and circuit breakers in the consumer unit that frequently trip are sure signs of an overloaded circuit.
- ✓ Don't use bulbs with a higher wattage than a lamp or fixture is rated for because the lamp can seriously overheat. Most modern light fixtures and lamps have a label on the fixture that rates the maximum recommended bulb wattage for that fixture. If you can't find the label, bring the lamp or information on the fixture to a lighting shop for recommendations on the wattage of bulb that you should use.
- ✓ Watch for faulty electronic equipment, malfunctioning appliances, frayed electrical cords, flickering lights, or fuses that blow and circuit breakers that trip repeatedly – they're all potential fire hazards.
- ✓ Never smoke in bed – or when you're tired or lying down.
- ✓ Never leave burning candles unattended.
- ✓ Make sure that any ashes have cooled before you throw them away. The careless dumping of ashes that are not fully extinguished starts many fires. This includes ashes from ashtrays, fireplaces, and barbecues. Hot embers can smoulder undetected in the bin for hours before igniting.
- ✓ Keep heaters at least a metre (3 feet) away from flammable items. Only buy portable units with tip-over shut-off switches and never have a heater on while you're asleep.

Smoke alarms: Gotta have 'em

A smoke alarm is considered to be one of the least expensive and best forms of life protection insurance you can buy. A working smoke detector doubles your chance of surviving a fire by warning you of a dangerous situation before it's too late.



Dealing with fire emergencies

After a smoke detector sounds a quick response and preplanned actions are your two best lifesavers.

Before opening any doors, look for smoke seeping around edges and feel the surface with your hand. The doorknob is another reliable indicator as to whether fire exists on the other side because metal conducts heat faster and more efficiently than wood does.

If it feels safe, open the door slowly and be prepared to close it quickly if heat and smoke rush in. Don't stop to get dressed, find pets, or collect valuables. Wasted seconds can cost lives. Shout loudly to alert as many people as possible to the fire. Gather your family members and exit immediately. If smoke is extremely dense, crawl on your knees and keep your mouth covered

with a towel or cloth, if possible. Once outside, use a mobile, neighbour's phone, or public phone box to call 999 for the fire brigade.

Families should develop and rehearse a home escape plan, with two ways out of every room. Store a fold-up fire escape ladder in every upstairs bedroom. Also include plans for a designated meeting place where everyone should gather once safely outside. After you're out, stay put until help arrives and never re-enter the house under any circumstances.

Rehearse your family escape plan regularly. After everyone knows what to do, perform run-throughs with your eyes closed – simulating darkness or smoke-filled passages – counting and memorising the number of steps to each and every turn and ultimately to safety.



For minimum coverage, have at least one smoke detector or alarm on every level of your home and in every sleeping area. You can also add alarms to hallways outside every bedroom, the top and bottom of all stairways, and often-forgotten places such as cellars, lofts, utility rooms, and garages.

Smoke detectors can be either

- ✓ **Battery-operated:** These inexpensive units can easily be installed anywhere. They require frequent inspection to determine the condition of the battery.
- ✓ **Mains-powered:** Installed by a qualified electrician, these units are much more dependable over the long term due to their direct-wired power source. But they should have an independent battery back-up so that they continue to operate during a blackout or an electrical fire that temporarily interrupts power.



Most smoke alarms have a hush-button feature that silences a nuisance false alarm and desensitises the unit for a few minutes until the air clears, when it resets itself.



PASSing on a fire

If you ever need to use a fire extinguisher, use the PASS method:

- ✓ Pull the pin.
- ✓ Aim at the base of the fire.
- ✓ Squeeze the handle.
- ✓ Sweep the base of the fire from side to side, starting with the closest edge and working away from yourself.

Testing alarms and detectors

All smoke detectors and alarms have a test button that, when pushed, causes the alarm to sound. Also, most detectors have either a blinking or a solid light that glows to let you know that the alarm is getting power.

Once a month, get up on a chair or use a broom handle for extra reach and push the test button. If you don't hear anything, then your battery is dead. If after changing the battery, the smoke detector is still not working, immediately replace it with a new alarm, which you can buy from a hardware or DIY shop. Some battery-operated units have a built-in device that chirps when batteries get low, signalling the need for replacement.

The button test ensures that the batteries are working. However, it doesn't tell you whether the detector is operating properly. To find out, put two or three lighted matches together and then blow out the flame, holding the matches so that the smoke wafts up towards the unit.



Never remove a battery from your smoke alarm for use in another item, such as a radio, toy, or TV remote – it's too easy to forget to replace it!

While you're up checking your battery every month, also brush or vacuum the alarm to keep dirt and dust out of the mechanism. Never use cleaning sprays or solvents that can enter the unit and contaminate sensors.

Replacing alarms and detectors

After a period of ten years, a smoke detector has endured more than 87,000 hours of continuous operation, during which time the internal sensors have probably become contaminated with dust, dirt, and air pollutant residues. If your alarm or detector is more than ten years old, consider replacing it to maintain optimal detection capabilities of deadly smoke in your home.