

Read what our customers are saying!

Wayne, I've read many books on finish carpentry and particularly installation of crown/trim molding that claim to be for "do-it-yourselfers". Your book far surpasses anything I've seen. As an engineer myself, I can appreciate the level of detail that you provide for installing crown/trim molding. Many books promise "easy techniques" for installing molding, but the instructions are usually vague and the illustrations confusing. Not so with your book. Your instructions and illustrations are crystal clear. I've put off for years installing crown molding in our house because I was simply intimidated by it. With your book and the True Angle® tools, I now have the tools/techniques and the confidence I need to do a professional job. Thanks for a wonderful product. Chris

Wayne, I purchased an 18 inch True Angle® tool and Crown Moulding Table. They were a great value, and proved invaluable installing the crown moulding in our 80 year old home. This was a total do-it-yourself project from start to finish. The True Angle® tool and Crown Moulding Table© made cutting the crown moulding precise and resulted in flawless joints. This was truly a case of having the right tool for the job and I have to emphasize again the cost of your tools were amazingly inexpensive. Frank R Syracuse, NY

Wayne, I installed 5¼ inch crown in my large family room, living room and master bedroom all in 3 days! Thanks to your SIMPLE instructions and tools, I'm sure I saved thousands of dollars in carpenter's costs and gained the respect and admiration of my husband and male chauvinist friends! All my husband had to do was hold up the ends of the moldings while I nailed them into place. The look of amazement on his face when all the corners matched was priceless! If I can do it, anyone can! Thanks to your great products, I was able to beautifully upgrade my home for the Price of the materials alone. Thank you! Mary

Wayne, Thanks a million! You have saved me a lot of \$\$\$ with your great products and directions for installing crown molding. Of all the guides and directions I've tried, yours is the only one that has worked. Dwayne T.

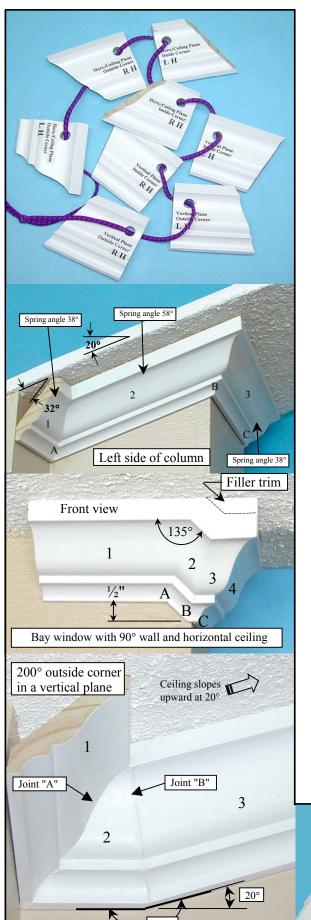
Wayne, I am sorry I didn't email you earlier today, but I was done so quickly I had time to install 1/4 round molding as well. Using your book <u>Crown Molding & Trim Install It like a Pro</u> and True Angle® tools made short work of my crown molding project. When I started this project I thought that I would never figure out how to install the Crown Molding. I wasted 2, 12 foot pieces before I gave up. But one search engine later, I found your web site and the rest is History. Thank You for putting together such a well thought out and precise product for us do-it-yourselfers. Regards, Manny

Wayne, I now have installed crown molding in a couple of areas and it sure was nice to make every cut a good one. I tried to figure out how to cut crown molding, but after going through about 15 board feet I still had no hope of getting it right. I then purchased the set of True Angle® tools and compound miter products which made it almost too easy. Kelly D.

Wayne, I just wanted to take the time to say that you saved my life! Not really, but I don't know what I would have done without your tools and compound miter information. This was my first attempt, and I had heard some nightmare stories from both family members, and by reading on the internet about the problems with installing crown molding. I did an excellent job on my first try! My father-in-law accused me of hiring a professional! Sincerely, Jerry B.

Wayne, I spent the better part of a day trying to install some crown molding in the dining room. Well, after 4 hours and wasting about 12 feet of molding, I decided to call a professional. To my dismay, no one returned my calls. I had seen your website previously, but was really skeptical. When I received your products, I figured I would "test" it by cutting an outside corner that was consistently giving me a one inch gap at the top. I then took the two pieces upstairs for a trial fit and....I almost fell off the ladder, an outside corner without any gaps!!! I really couldn't believe it. I then proceeded to finish the rest of the room and it looks GREAT. I just had to say THANK YOU WAYNE!!!! Larry

Wayne, I received the book today and it looks great. The chapter describing how to square-up the miter saw is a much needed item since most people, not me of course;-), don't know how or why to do that. This is the first book or document that I have seen that truly gives the novice a strong starting point and a great reference tool to becoming successful the very first time, including the little touches to finish off the project. It makes no assumptions about skill level or abilities which is a plus! Thanks again, Mike.



Crown Molding & Trim Install It Like A PRO!

Master any compound miter angle.

Created and designed by

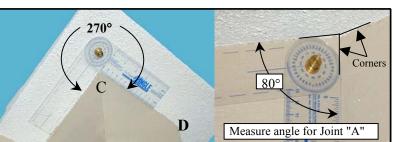
Wayne and Kathy Drake www.compoundmiter.com a Quint Group company

Special thanks to my editors

Richard Quint (Technical Editor) Carol Quint Debra Clinger John Gardner Ned Westerlund

No portion of this book may be reproduced/copied, used as a teaching aid, or for any other activities other than your own personal use, without written permission from www.compoundmiter.com, a Quint Group company.

Edition 1A, Copyright 2003 Published and distributed exclusively by Quint Measuring Systems, Inc. All rights reserved. Printed in the U.S.A.



HOW TO USE THIS BOOK

I have written this book with the novice *do-it-yourselfers* in mind who would like to add beauty and value to their homes. I have developed a simple 3-step method that will allow even the most inexperienced homeowner to easily cut and install crown molding and trim. Nothing you do will improve the appearance and value of your home more than beautifully installed crown molding/trim. Hiring a professional will cost 5 to 10 times more than doing it yourself. With my proven 3-step method, you will be able to easily cut and install crown/trim and save thousands of dollars.

The professional carpenter will also benefit from this book because of the simple approach I have developed for cutting crown for a cathedral ceiling. Even some of the most experienced carpenters have difficulties with cathedral ceilings.

A major portion of this book is devoted to explaining how to make certain types of turns with crown molding or trim. I have followed up with numerous examples to further demonstrate these concepts. Once you understand these simple concepts, you will be able to use your Original True Angle® tools, as well as the tables and charts included in this book, to easily make the cuts needed.

There is nothing difficult about installing crown molding or trim. All you need are the right tools and information to do the job. Complete instructions are included for both types of saws, a **miter saw** or a **compound miter saw**. I **strongly** encourage you to read this book from cover to cover before you begin making any cuts. If you can hammer a nail, you **can** Install Crown Molding & Trim Like A Pro! Become a master of compound miter cuts.

Easy 3-Step Method to Install Crown Molding & Trim

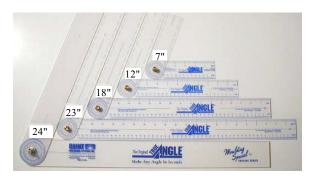
- 1. Measure the corner angle with your True Angle® tool.
- 2. Get the miter and blade tilt angles from the charts/tables in this book.
- 3. Set your saw and make the perfect cut.

Visit our website at www.compoundmiter.com and check out the many testimonials and project pictures that have been received from our customers.

About the Author:

Wayne Drake has been a mechanical engineer by profession since 1973. He has an extensive background in advanced mathematics and engineering graphics. He received his Bachelor of Science degree in Mechanical Engineering from Georgia Institute of Technology in Atlanta, Georgia in December 1972 and his Master of Science degree in Aeronautical Systems Engineering from the University of West Florida in 1976. His interest in cutting and installing crown molding and trim stems from his many years as a woodworking hobbyist. The event that led to the founding of www.compoundmiter.com (March 2000) was the construction of six of the large birdfeeders shown on his website and in Chapter 16 of this book. While making these as Christmas presents, he discovered, after cutting all 24 gazebo roof pieces, the birdfeeder plans had the wrong miter and blade tilt angles. He then sat down and graphically derived what is now called the Compound Miter Chart© which illustrates the relationship between corner angle and crown slope angle for a compound miter cut. Today, www.compoundmiter.com is the best and only one-stop-source for information on how to cut any compound miter angle.

Contents



Chapter 1 – Getting Ready/Gathering Materials

Laying out your work area using The Original True Angle® tool with examples of how to estimate the amount of crown molding or trim needed.

Getting Ready/Gathering Materials	9
Using Your True Angle® Tool	
Which True Angle® Tool Do I Need?	1(
Estimating Crown Molding/Trim to Purchase	
Summary and Review	



Chapter 2 – Squaring Your Saw

Before you begin any project, you must check your saw for accuracy. Most new saws have not been precisely aligned and may not be square.

Squaring Your Saw	13
Saw Adjustment Locations	13
Square the Blade-tilt	
Square the Fence	
Summary and Review	15



Chapter 3 – Baseboards and Trim

The Baseboards and Trim chapter applies to any type of trim installed flat on a surface (usually the wall). This includes baseboards, chair rails, quarter and half-round trim, cove molding, corner molding, fireplace trim, and door and window casings.

Baseboards and Trim	
Using a Miter Saw	17
Using a Compound Miter Saw	
Inside Corners - Horizontal Turn	
Outside Corners - Horizontal Turn	20
Upward/Downward Turns (e.g., Stairs)	21
Summary and Review	22



Chapter 4 – Horizontal Ceilings

There are two types of corner cuts for a horizontal ceiling -- inside corners and outside corners. Detailed examples are provided with step-by-step instructions on how to cut your crown, regardless of your corner angle, using either a miter saw or a compound miter saw.

Horizontal Ceilings	25
Inside and Outside Corners	25
Laying Out the Work Area	
Do I Need to Install Nailing Blocks/Strips?	
Crown Angles	27
Using a Miter Saw	
Using a Compound Miter Saw	
Templates for Inside and Outside Corners	
How to Measure and Mark Crown Molding	31
Installing Your Crown Molding	32
Summary and Review	



Chapter 5 – Cathedral/Vaulted Ceilings

Crown molding on a cathedral ceiling made easy. Here we will cover practically any situation you might encounter. There are several techniques demonstrated, as well as the pros and cons for each.

Cathedral/Vaulted Ceilings	39
Turning Your Crown in the Ceiling Plane	
Crown Angles for Cathedral/Vaulted Ceilings.	
Cathedral/Vaulted Ceiling Templates	
Basic Cathedral/Vaulted Ceilings	
Pros and Cons for Cathedral/Vaulted Ceiling Turns	47
Summary and Review	





Chapter 6 – Bullnose (Radius) Corners

Bullnose corners are detailed for any corner angle and any bullnose corner radius. With the information in this chapter, you will be able to easily install your bullnose corners.

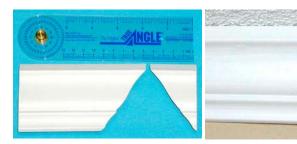
Bullnose (Radius) Corners	59
Using 1, 2 or 3 Crown Pieces	59
Width to Cut Each Crown Piece	
Summary and Review.	63



Chapter 7 – Splicing/Joining Crown or Trim

Often you will have a wall that is longer than a full length of crown/trim. Or you may have several long pieces remaining that you want to use instead of buying more full-length pieces. This chapter shows you how to best splice/join crown or trim.

Splicing/Joining Crown or Trim	65
Cutting the Splice/Joint	65
Installing the Splice/Joint	
Summary and Review	



Chapter 8 – Crown Return Occasionally, you will need to return

Occasionally, you will need to return the crown to the wall and stop, instead of continuing into a corner.

Crown Returns	67
Cutting a Crown Return	67
Installing a Crown Return	
Summary and Review	



Chapter 9 - Caulking Your Crown/Trim

Caulking your crown or trim will make the difference between a good-looking job and a fantastic-looking job. Learn the proper way to caulk.

C	aulking Crown Molding/Trim	69
	Items You Will Need	69
	Using a Caulking Gun	
	Caulking Top and Bottom of Crown/Trim	
	Spackling Nail Holes	. 71
	Summary and Review	. 72



Chapter 10 – Crown Cornices/Shelves

These decorative cornices and shelves will accent any room. Easily make cornices, shelves, shadowboxes, fireplace mantels, or other ornate items from the same crown installed in your house.

D	ecorative Cornices and Shelves	73
	Crown Molding Cornices	. 73
	Crown Molding Shelves - (Fireplace mantels are built using the same procedure)	. 79
	Summary and Review	. 83



Chapter 11 – Coping

How to properly cope a joint. This chapter covers both trim that is placed flat on the wall and crown molding.

Coping	85
Coping Trim	85
Coping Crown Molding	
Summary and Review	



Chapter 12 – Miter Boxes

There are several types of miter boxes available. We will show you how to use these and explain some of their advantages and disadvantages.

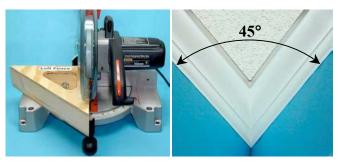
Miter Boxes	89
Cutting Templates Using a Miter Box	89
Wood Miter Box -12"	
Yellow Plastic Miter Box - 12"	94
Clamping Miter Box	95
Build Your Own Miter Box	96
Summary and Review	98



Chapter 13 – Adjustable Miter Boxes

An interim step between the previously mentioned fixed miter boxes (Chapter 12) and the adjustable electric miter and compound miter saws (Chapters 3, 4, and 5) is the adjustable steel miter box that comes with an attached saw. I will cover two types that are available and how to use them.

Adjustable Miter Boxes	99
Protractor Miter Box	99
Compound Miter Box	
Summary and Review	



Chapter 14 - Miters for Acute Corners

In today's construction architecture, many homes are built with acute corners. To cut a miter for these acute corners requires that you set your saw beyond the saw's $\pm 45^{\circ}$ adjustment capability. I will show you how to cut any miter for acute corners using a simple-to-build portable fence.

Miters for Acute Corners: 0°-90°	
Portable Fence	103
Crown Molding - 45° Inside Corners	105
Crown Molding - 315° Outside Corners	
Compound Miter Acute Angles	
Summary and Review	107



Chapter 15 – Flowerpots

Create any size flowerpot you want. Three sides to 20 sides (or more), any size and any wall angle you want. Cut your material with confidence. Every joint will fit perfectly. Use your scrap crown with fantastic results.

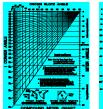
Decorative Flowerpots	109
Large Multi-sided Flowerpots	109
Medium/Small Flowerpots	
Summary and Review	121

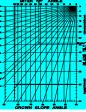


Chapter 16 – Birdhouses and Gazebos

Everyone will love these birdhouses. You can build any style imaginable. Three to 20 sides, small or large. Step-by-step instructions show you how.

Birdhouses and Gazebos	123
Cutting the Material for a Birdhouse/Gazebo	
Summary and Review	





Chapter 17 - Definitions, Tables, and Charts

In this chapter, I have included all the definitions, tables, and charts that you will frequently refer to while installing your crown molding or trim. I have also included two conversion tables. One converts fractions of an inch to decimals of an inch, and the other converts roof pitch to roof slope.

ennitions, Tables and Charts	1 <i>2</i> /
Spring Angle	127
Horizontal Plane	
Vertical Plane	
Ceiling Plane	127
Crown Slope Angles	127
Miter Table©	129
Crown Molding Table©	
Compound Miter Chart©	132
Conversion Table - Fractions to Inches	135
Conversion Table - Rise/Run (Pitch) to Roof Slope (Degrees)	

Chapter 1

Getting Ready/Gathering Materials

The first step to installing crown molding or trim is to gather your materials. You will need the usual items such as saw, hammer, nails, caulk, putty knife, etc. In addition to the usual items, you will need a set of The Original True Angle® tools (to measure corner angles), Miter Table© (for trim/crown using a miter saw), Crown Molding Table© (for horizontal ceilings), Compound Miter Chart© (for cathedral/vaulted ceilings), and/or Miter Excel Program© (available through our website). Let's start by providing information about the True Angle® and how to use it.

Using Your True Angle® Tool

The Original True Angle® is the "world's fastest, easiest angle maker." It can be used to measure any inside or outside corner from 0° to 360°. The tools are manufactured to very close tolerances, resulting in accuracy equal to or greater than any other angle-measuring tool that might cost 5 times as much. The True Angle® tools are unbreakable and carry a **lifetime free replacement warranty**.



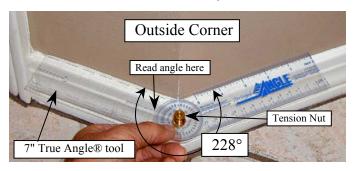
The True Angle® replaces every triangle, protractor, try square, bevel square, rafter square, framing square, combination square, or any other angle making template presently manufactured anywhere in the world. To use the tool, just place the two blades against the two surfaces you want to measure and tighten the tension nut. Then, read the angle on the scales printed directly on the tool. If you have difficulty loosening the tension nut on the True Angle®, hold the lower blade of the tool in your left hand, then rotate the upper blade counter-clockwise (CCW). All of the True Angle® tools can be purchased through our website.

Why do I need to measure my corners? Aren't they all square?

It is not uncommon to have corners out of square as much as 3°. If you are cutting 5" crown molding, a 3° error will result in a 3/8" gap in the joint. (The larger the crown, the bigger the gap.) With a true corner angle measurement, you will be able to get the exact saw settings to make the perfect cut.

Measuring an Outside Corner – (Corners that measure between 180° and 360°)

This photo shows how to measure an outside corner using the 7" True Angle®. The shorter tools are needed for corners that will not accommodate the longer tools. Use the longest tool that will fit the corner for greatest accuracy. The 7" True Angle® is used to measure this outside corner (photograph to the right) because of the doorframe casing to the left. To measure the corner angle, place the blades of the tool snugly against the two

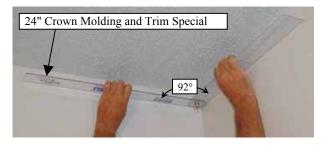


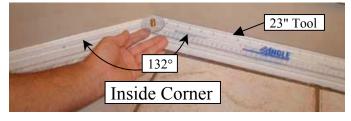
walls, then tighten the tension nut so the two blades do not move. Remove the tool from the corner and read the angle at the hairline as shown. There are two angles indicated on the tool. The outer scale is for inside corners and the inner scale is for outside corners. The corner in the above picture measures 228° (outside corner).

Note: When cutting any type of crown/trim, the two indicated angles on the tool (inside or outside corner) will have the same miter and blade tilt angles found in the Miter Table© (Chapter 3), the Crown Molding Table© (Chapter 4) or the Compound Miter Chart© (Chapter 5). The only differences are in the way you place the crown/trim on your saw and in which direction you adjust your miter and or blade tilt angles. To make it easy, just use the correct template as a guide for the type of cut you want to make (See Chapters 4 and 5 on how to make your own templates or simply purchase a set through our website).

Measuring an Inside Corner – (Corners that measure between 0° and 180°)

Here I am using my 23" True Angle® to measure an inside corner. In this example, the inside corner is 132°. For an inside corner, read the angle from the outside scale on the True Angle®.

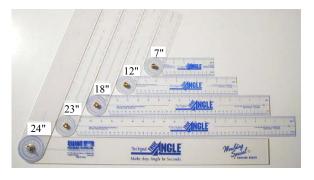




I am using my 24" (heavy-duty) True Angle® *Crown Moulding Special* to measure the angle of an inside corner. Always measure the corner angle at the location you are going to install your trim or crown. Do *not* measure 4' off the floor and use that angle for baseboards or crown.

Which True Angle® Tool Do I Need?

We offer a wide selection of True Angle® tools available on our website. The tools range in size from 7" to 96" in length. The sizes shown in the photo to the right (7" through 24") are ideally suited for trim and crown molding applications. Use the longest tool that will fit the corner. The shorter tools will be needed for those short walls that the longer tools will not fit. The larger tools (30" through 96") are great for construction/foundation layout applications, including cabinets, countertops, and flooring.



For the do-it-yourselfer, the best tools for crown molding and trim application are the 7", 12", 18", and 23" tools. These can be purchased as a **Best Value Tool Package** (get the 7" tool free), or they can be purchased individually. The 24" tool is contractor-grade, heavy-duty (blades are 0.125" thick). The Original True Angle® tool is a precision manufactured tool that has many uses. You and your family will discover hundreds of other uses for the True Angle® tools in both your workshop and around the house. My wife uses hers for sewing and crafting, while our children use theirs for schoolwork.

The minimum size we recommend is the 18" tool (unless the wall is too short for the tool). Why? When drywall is installed in your house, a metal cap is placed on the outside corner. Drywall mud is then applied to smooth the corner. If you measure an outside corner with a 7" tool, because of the corner cap and the mud, you will not have an accurate corner angle measurement of the two walls. We recommend you extend past one wall stud (typically 16" on center) to measure the corner angle. The 18" tool will take you past the first wall stud and provide a more accurate measurement of the angle between the two walls.

Try this: Place a 3' straight edge horizontally, starting on any outside (drywall) corner in your house. Now look at the straight edge and the wall about 6" to 8" from the corner. You will see approximately 1/8" to 1/4" gap between the wall and the straight edge. If you use a 7" tool to measure this corner, you will not have the true angle measurement of the walls (it will be about 3° to 4° less than the true wall angle). The 23" or 24" True Angle® tools will provide the best accuracy for outside corners. The 7" and 12" tools are ideally suited for close corners where the larger tools will not fit.

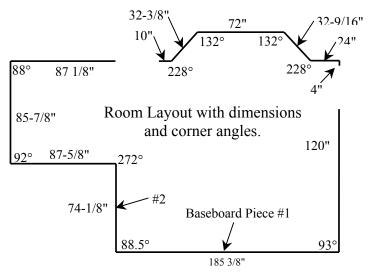
Estimating Crown Molding/Trim to Purchase

To estimate the amount of material to purchase, make a sketch of your work area using your True Angle® tool. This will not take long to do, but it could save you another trip to the building supply store because you ran out of material or you bought too much.

Measure each wall length and corner angle and place these dimensions on your sketch. To estimate how much crown/trim you need, add the lengths needed for each wall to get a total. Because there is always some scrap left over from every cut, you will need to add extra length to each piece. For trim, round the wall lengths up to the next whole inch, then add 3" for each piece. For crown, round the wall lengths up to the next whole inch and add 1.5 times the crown width to each piece (e.g., 4" crown width x 1.5 = 6" extra for each piece).

Let's do this example as though we were installing baseboard. Baseboard piece #1 would be 186"+3" = 189" (186" was obtained by rounding 185-3/8" up to the next whole inch). Continue around the room for each piece. You should get a total of 855" of trim needed. Divide 855" by 12 to get the number of feet ($855 \div 12 = 71.25$ ft.). Round 71.25' to 72'.

Most crown/trim comes in 16' lengths. To obtain how many 16' pieces of trim you need, divide 72' by 16 ($72 \div 16 = 4.5$ pieces of trim). You will need to get 5 full lengths of trim. You should start on the longest wall. Try to use the



long, full lengths to place on the long walls of the room and use the shorter pieces cut from the long pieces to do the shorter walls. By planning this way, you will not need to make any splices in the trim unless, of course, you have a wall longer than 16' (See Chapter 7).

If you were installing 4" crown molding, you would round each wall length up to the next inch and add 6" $(4" \times 1.5 = 6")$ to each wall length. Wall #1 would be 186"+6" = 192". The total would be 891" of 4" crown molding or 4.7 pieces of 16' crown molding. You would need to purchase 5 full 16' lengths.

Let's run through a small exercise to determine which pieces to cut from each full length of trim. Start by numbering the longest wall in your layout sketch as wall #1, then continue counter-clockwise around the room. In our example, we have a total of 12 pieces (12 walls) of trim to cut from 5 full lengths (16' lengths) of trim. Next, number each piece of trim #1 through #5. (Always start a full length of trim with the longest wall remaining.) For full-length trim piece #1, mark the back of the trim "wall piece #1". As you determine which wall pieces you are going to cut from each full length of trim/crown, mark the back of that full length of trim until all of the crown/trim is marked.

- 1^{st} piece of 16' trim: Start with the longest wall. You will be able to cut wall #1.
- 2^{nd} piece of 16' trim: Start with the next longest wall. That will be wall #12 and then walls #7 and #9.
- 3rd piece of 16' trim: From this piece, you can get walls #3, #4 and #6.
- 4th piece of 16' trim: Next would be wall #5, #2 and #10
- 5th piece of trim: The remaining walls are #8 and #11.

After all of your trim is marked, start with wall #1 (the longest wall in the room) and work your way around the room installing each piece as you go. Cut and install crown/trim piece #1 (Chapter 3). Next, install trim piece #2. Locate the full length of trim you labeled for trim piece #2 and use this one to cut #2 from. Continue around the room until all of your trim is installed.

If you are working on a tight budget and want to keep costs down, ask an employee at the building supply store if you can cut only what you need from a full-length piece (e.g., trim pieces #8 and #11). The drawback to this is, that during the installation, if you make a wrong cut or split a piece of trim while nailing, you may not have enough trim to finish the job you had planned for the weekend.

Summary and Review

How to Use The Original True Angle® Tool

Place the two blades against the surfaces you want to measure and tighten the tension nut. Then read the angle on the scale printed on the tool. To loosen the tension nut, hold the lower blade in your left hand and turn the top blade counter-clockwise. There are several sizes of True Angle® tools available (7" through 24") for crown/trim application. Use the longest tool that will fit the corner. The shorter tools will be needed for the shorter walls.

How to Layout and Plan Your Work

Here we discussed how to make a sketch of the room where you will be working. Use your True Angle® to measure all the corner angles. To get the estimated length for each wall, round the wall length up to the next whole inch, then add 3" for trim, or for crown, 1.5 times the crown width. Add all of the estimated wall lengths to get the total amount of crown/trim needed. If you need crown longer than 16', call or visit some of your local building supply stores to see if they have longer lengths.

How to Mark Each Piece of Crown/Trim

Here we covered how to take each full length of crown/trim and decide which wall piece we will cut from it. Mark the first full length piece of crown/trim for the longest wall, then determine which of the shorter walls can be cut from the remainder of that first full piece. Do this until all of the full lengths of crown/trim are marked for the proper wall. Start installing the crown/trim on the longest wall. It is best to install your crown/trim sequentially as you work your way around the room either clockwise (CW) or counter-clockwise.

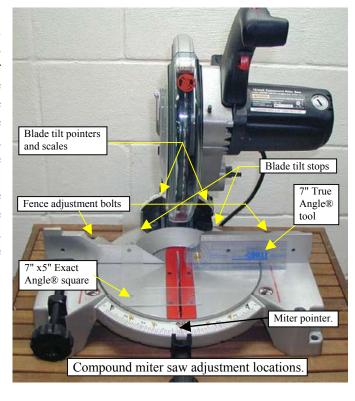
Chapter 2 13

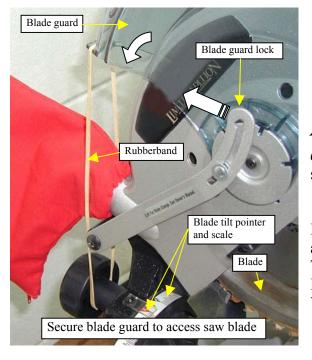
Squaring Your Saw

One of the most important, and often overlooked, things to do before starting your crown/trim project is to check the square and accuracy of your saw. I often get emails from customers who are having a difficult time making good compound miter joints. They have followed my instructions, but the joints just do not fit. This is often caused by not squaring your saw before you start. Since all compound miter joints are cut as a mirror image of each other, for each degree the saw is out of square, the joint has twice the error. It is not uncommon for the fence on your saw to be out of square as much as 3°. If you are using 5" crown molding, 3° out of square will result in a 3/8" gap in the joint. In this chapter, I will be covering the basic process of squaring a saw, using my 10" compound miter saw as an example.

Saw Adjustment Locations

Let's start by briefly describing the general locations of the adjustments. Check your owner's manual to find the location of all of your adjustments. Your saw may be different, but the adjustment process will be the same. Squaring the blade tilt on a compound miter saw will be done with the blade tilt stops, the blade tilt scale, and scale pointers. The miter will be adjusted using the fence adjustment bolts and the miter angle pointer. Be sure to check the overall tightness of all of the nuts and bolts on your saw. Check to make sure the blade will rise up and down smoothly. (If you have a miter saw, check to make sure the saw blade is square with the miter table.)



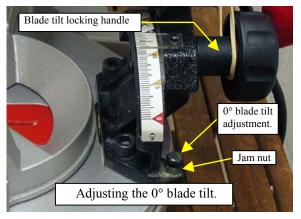


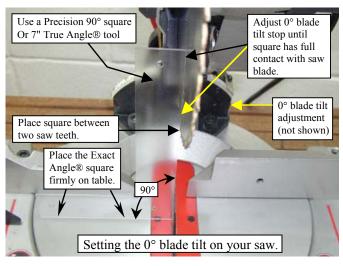
Always unplug your saw before making any adjustments! Follow your saw manufacturer's safety procedures carefully to avoid injury.

Release the blade guard lock and rotate the blade guard up and out of your way to gain free access to the saw blade. The blade guard is spring-loaded and will not stay in place. Here, I have used a rubber band to secure the blade guard. We will first square the blade tilt, then square the miter.

Square the Blade-tilt

You should use your Exact Angle® square or your 7" True Angle® tool. (A full line of Exact Angle® squares is available on our website.) Place your square as shown in the photograph to the right. Make sure the square is not resting on a saw tooth and that the base of the square is resting on the miter table. There are two adjustable blade tilt stops for a compound miter saw that must be checked. One of these is the 0° blade tilt adjustment. Adjust the 0° blade tilt stop until the saw blade has full contact with your 90° square.



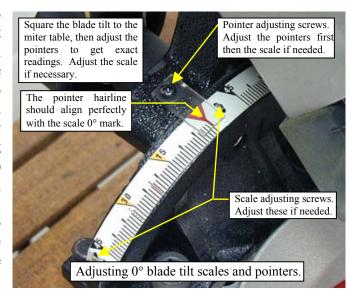


First loosen the blade tilt locking handle and tilt the blade all the way against the 0° blade tilt stop. (Leave the blade tilt locking handle loose.) Now check your 90° square to see if it is resting firmly against the saw blade. If there is a gap between the top of the square and your saw blade, the blade tilt stop needs to be adjusted so that the saw blade tilts more to the left. Loosen the jam nut on your 0° blade tilt adjustment and turn the adjustment counter-clockwise until the saw blade is in full contact with your square. If the gap is between the bottom edge of your saw blade and

your square, turn the blade tilt adjustment clockwise. When finished, lock the blade tilt jam nut and recheck the square to ensure it is in full contact with the miter table and your saw blade. If you are using a miter saw (blade will not tilt), you do not have blade tilt stops, but there will be some adjustments for squaring your saw. Check your saw manual. It is important that the saw blade makes a true 90° angle with the miter table.

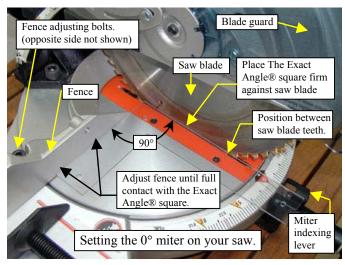
Adjusting Blade-tilt Scales and Pointers

You are now ready to set the blade tilt pointers so they read the correct angle. Loosen the screw that holds the pointer, then align it with the 0° mark on the scale. If there is not enough adjustment in the pointer to align the 0° mark, loosen the scale to make further adjustments. When finished, you should get a perfect 90° angle between the saw blade and the miter table with the saw head resting on the 0° stop. Both pointers (left and right side) should be in perfect alignment with the 0° mark on the blade tilt scales. On a compound miter saw. there are usually two blade tilt pointers and two blade tilt scales. All will need to be set. Now move the blade tilt to the 45° blade tilt stop and check the angle between the saw blade and the miter table. Adjust the 45° blade tilt stop if necessary.

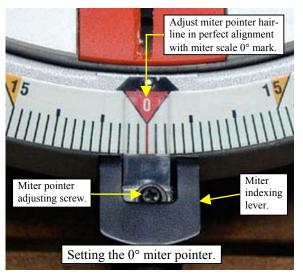


Square the Fence

Now that you have the blade tilt square with the table, you are ready to square the fence with the saw blade. Set the blade tilt in the 0° position and make sure the miter-indexing lever is set in the 0° position. Lower the saw head down so the blade is through the miter table. My 10" compound miter saw has a lock pin (not shown) to hold the saw in the down position for storage or transportation. Check your saw manual for the same feature and lock the saw blade down. Place your Exact Angle® square or your 7" True Angle® flat on the miter table against the saw blade and the fence. Make sure your square is not resting on any of the saw blade teeth. Hold the square firmly against the



saw blade, then check to see if there are any gaps between the square and the miter fence. If the square does not rest in full contact with the fence, loosen the fence adjusting bolts and align the fence. When finished, lock the fence adjusting bolts and recheck the square of the saw blade and the miter fence.



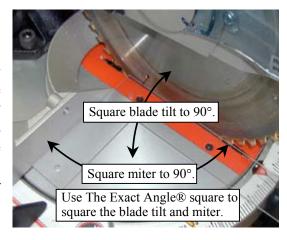
The last adjustment is to set the miter pointer. Loosen the miter pointer screw and adjust the pointer hairline so that it is in perfect alignment with the miter angle scale as shown. If you need more adjustment, check your saw manual for any additional adjustment locations.

Tighten all adjusting screws and bolts and recheck both the 0° blade tilt and the 0° miter setting with your Exact Angle® square. If both are still set to 90°, you are finished.

Congratulations! You have now set the square of your saw and are ready to start cutting your crown molding or trim.

Summary and Review

You *must* check the square of your saw before you begin. This is very important. There are a lot of differences between saws that are on the market. Check your saw manual for specific instructions. However, all saws will be squared in much the same manner. First square the saw blade (90°) to the miter table, then adjust the pointer hairlines to read 0° blade tilt. Square the miter fence to the saw blade and adjust the miter pointer hairline to the 0° miter setting. This simple alignment process will guarantee perfect miter joints for all your crown molding or trim work.



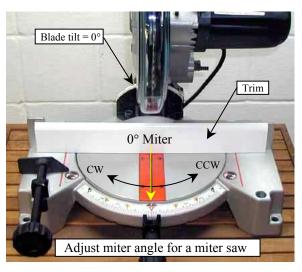
Chapter 3 17

Baseboards and Trim

In this chapter, we will address how to cut and install trim which is placed flat on the wall. We will use both a miter saw (blade will not tilt) and a compound miter saw. This type of trim includes baseboards, chair rails, quarter and half-round trim, cove molding, corner molding, fireplace trim, and door and window casings.

Trim is most often installed using horizontal turns and will either form an inside or an outside corner, such as when you are installing baseboards or chair rails. Trim can also turn vertically when you are trimming out a staircase or other areas that run at an incline or sloping angle. Let's start by demonstrating how to cut horizontal turns using a miter saw. Always check the square of your saw before you begin cutting (Chapter 2). As we work our way through these examples, you should make yourself a template for each example. Cut the templates about 3" long and label each one as shown. Using your set of templates will prevent you from cutting your trim wrong.

Using a Miter Saw Horizontal Turns

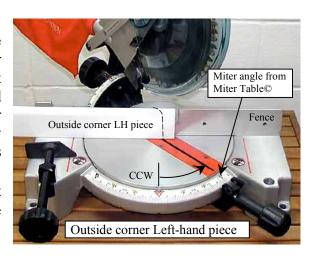


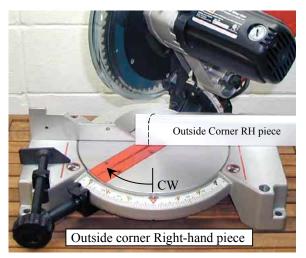
If you are using a miter saw to cut your trim, stand your trim up with the back of the trim placed firmly against the saw fence. The saw I am using here is a compound miter saw. A miter saw operates the same when you set the blade tilt to 0° and only adjust the miter angle either clockwise or counter-clockwise.

There are two common problems when using a miter saw. Often the trim is taller than the fence, or in the case of very large trim, the saw blade will not cut all the way through the trim. In the case of the fence being too short for the trim, you can attach a straight board to the fence to extend the height. The back (top and bottom) of the trim must rest firmly against the fence. If your saw will not cut through the trim, use a larger saw or smaller trim.

Outside Corner Left-hand Piece

Measure the corner angle where you want to install the trim using your True Angle® tool. Then obtain the miter angle setting you need from the Miter Table© located at the end of this chapter. For the outside corner left-hand piece, rotate your miter saw counter-clockwise to the miter angle for the corner you measured. Here I have set my miter for an outside corner cut for the left-hand piece. Let's say, as an example, the corner you measured is 268°. From the Miter Table©, for a corner angle of 268°, you get a miter angle of 44°. Set your saw as shown and make your cut.



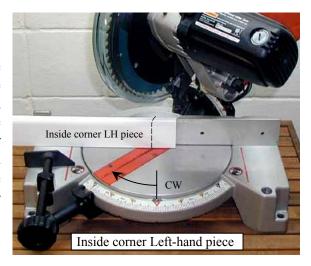


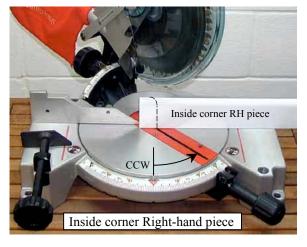
Outside Corner Right-hand Piece

To cut the outside corner right-hand piece, rotate the miter setting on your saw clockwise to the same miter setting as in the 268° outside corner example above. You will then have the right-hand piece of the outside corner. To get a perfect joint every time, you should always measure the corner with an accurate angle-measuring tool. The True Angle® will provide the accuracy you need to obtain perfect joints.

Inside Corner Left-hand Piece

Using your True Angle®, measure the corner angle where you want to install the trim. Then obtain the miter angle setting you need from the Miter Table©. For the left-hand piece, rotate your miter saw clockwise to the miter angle for the corner you measured. Here I have set my miter for an inside corner cut for the left-hand piece. Let's say, as an example, you measured an inside corner of 93°. From the Miter Table© you get a miter setting of 43.5°. Set your saw on 43.5° as shown and make your cut.





Inside Corner Right-hand Piece

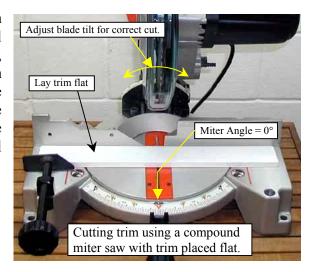
To cut the right-hand piece for an inside corner, rotate the miter setting on your saw counter-clockwise to the same miter setting as for the left-hand piece. You will then have the right-hand piece of the inside corner.

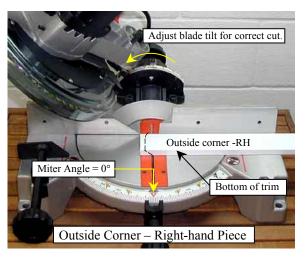
Upward/Downward Turns

Trim can also turn vertically when you are trimming a staircase or other areas that run at an incline or sloping angle. When you are making cuts for vertical turns using a miter saw, cut these exactly the same as when you are using a compound miter saw. See **Upward/Downward Turns** on page 21 for details on how to cut this type of turn using a miter saw.

Using a Compound Miter Saw Horizontal Turns

If you have a compound miter saw, you can lay your trim flat on the saw table. I prefer using this method to cut all trim and crown molding simply because it is easier to hold, especially when cutting very small pieces. To cut the trim laying flat, all you need to do is set the blade tilt to the correct angle obtained from the Miter Table©. Use the same settings as in the examples above, except tilt the blade instead of rotating the miter table. The miter will remain set to 0° .



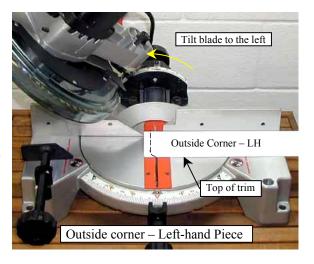


Outside Corner Right-hand Piece

Using the True Angle®, measure the corner angle where you would like to install the trim. To obtain the correct blade tilt, use the Miter Table© and read the angle which corresponds to the corner angle you measured. Place the trim flat on your saw with **the bottom of the trim towards** you and the blade tilted to the left to the correct angle.

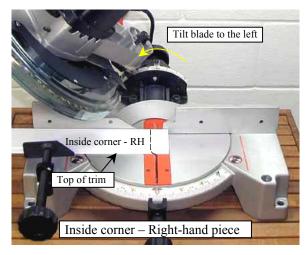
Outside Corner Left-hand Piece

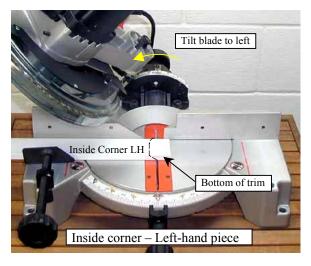
If you have already measured this corner angle in the previous step above and have not changed your saw settings, you are already set to cut the trim. Place the trim flat on your saw with the **top of the trim towards you** and the blade tilted to the left to the correct angle.



Inside Corner Right-hand Piece

Using the True Angle®, measure the corner angle where you would like to install the trim. To obtain the correct blade tilt, go to the Miter Table© and read the angle that corresponds to the corner angle you measured. Place the trim flat on your saw with the **top towards you** and the blade set to the correct angle tilted to the left.





Inside Corner Left-hand Piece

If you have measured this corner angle in the previous step above and have not changed your saw settings, you are already set to cut the trim. Place the trim on your saw flat with the bottom of the trim towards you and the blade tilted to the left to the correct angle.

Templates

Inside Corners - Horizontal Turn

I strongly recommend you make a set of inside and outside corner templates for horizontal turns. Label them as shown in these two photos. Keep these with your miter saw and use them each time you get ready to cut a piece of trim. If you want to cut an inside corner right-hand piece, place that template on your saw and adjust the miter or blade tilt to match it.



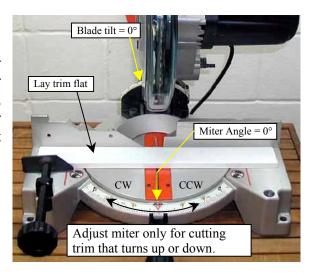


Outside Corners - Horizontal Turn

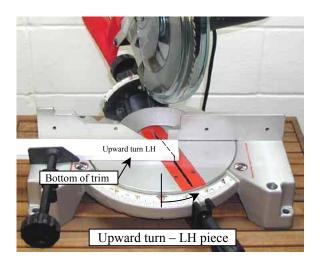
It does not matter what type saw you use (a miter saw, a compound miter saw, or a sliding compound miter saw), all left-hand and right-hand pieces for horizontal turns, inside and outside corners, will look just like these two templates.

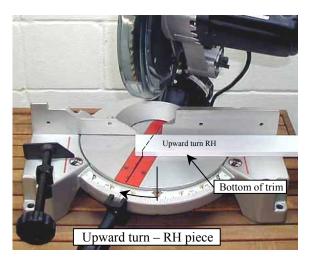
Upward/Downward Turns (e.g., Stairs)

If you need to turn your trim up or down, you can cut your trim using a miter or a compound miter saw. With either saw, only use the miter adjustment and cut the trim placed flat and face-up on your saw. Simply measure the corner angle with your True Angle® and use the Miter Table© at the end of this chapter to get the miter setting.

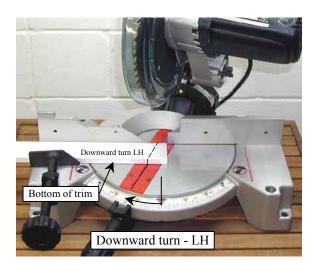


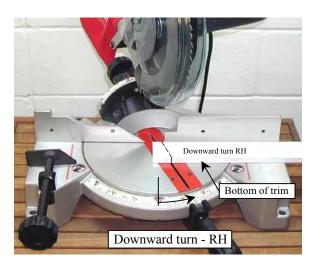
The next two pictures show how to set up your saw to cut trim if you want to turn upward. For the left-hand side, place the trim flat on the table with the top next to the fence, then set the miter counterclockwise. For the right-hand side, do the same except rotate the miter clockwise. Measure the corner angle and get the correct miter angle from the Miter Table©.

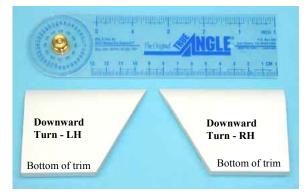




If you want to turn the trim downward, place the top of the trim next to the fence. For the left-hand side, rotate the miter clockwise. For the right-hand side, rotate the miter counter-clockwise.







Downward Turn Templates

I highly recommend you make a set of downward and upward turn templates. Use the previous instructions, and label as shown in these two photos. Keep these with your miter saw and use them each time you get ready to cut a piece of trim. If you want to cut a downward turn left-hand piece, place that template on your saw and adjust the miter to the setting from the Miter Table©.

Upward Turn Templates

It does not matter what type of saw you use (a miter saw, a compound miter saw that tilts to the left or in both directions, or a sliding compound miter saw), all left-hand and right-hand pieces for upward/downward turns will look just like these templates. Only the miter/blade tilt will change depending on the corner angle the trim makes.

Upward Turn - LH Bottom of trim Upward Turn - RH Bottom of trim

The Miter Table© is intended for use with a miter saw only. It will not work for making a compound miter cut.

The Miter Table© will provide the angles needed for cutting trim that is installed flat on the surface. You can also install crown molding using the Miter Table©, but the crown will need to be propped up against the fence as described on page 24.

Summary and Review

Before you start cutting your trim, make a sketch of your work area using your True Angle® tool. Then measure each corner angle and each wall length. From this sketch, you can estimate the amount of trim needed to do the job (Chapter 1). You should also check to make sure your saw is square (Chapter 2). If your saw is out of square, every joint you cut will have a gap.

While cutting your trim using a miter saw or a compound miter saw, it is very important to **use your templates**. Your templates will prevent you from cutting your trim backward. Label them as shown and keep them with your saw. There is nothing more frustrating than cutting your trim and finding out that one end is cut backward. If the piece you cut backward isn't usable elsewhere, it becomes expensive firewood. To use your templates, find the template that matches the corner you need to cut. Place the template on your saw and position the miter and/or the blade tilt to match. Then set the miter and/or the blade tilt using the Miter Table© to make the perfect cut.

The Miter Table© will provide the miter angle needed for your saw. Just measure the corner angle with your True Angle®. Look up the corner angle in the Miter Table©, read the corresponding miter angle setting, and adjust your saw using the correct template as a guide.

This was a preview of my book. The rest of the book (see table of contents) is full of details on how to easily cut and install your crown molding and trim along with many tips of how to make your job easy and enjoyable. In my book, I have also included the Miter Table©, Crown Molding Table©, and the Compound Miter Chart© which will provide all of the miter and blade tilt angle for cutting your crown molding or trim.

This is the *only* book that you will find anywhere that actually tells you how. All other books are either vague or unclear. Not so with my book. Build decorative gazebo birdhouses and multisided flowerpots with ease. Master any compound miter angle.

Do-it-yourself and save thousands \$\$\$\$.

I am now able to offer my book printed in *full color* (132 pages, 350+ color pictures) for the same price of \$19.95. I have also added four chapters to Edition 1A, May 2003.

Order your book and a full set of True Angle® tools today and make cutting and installing your crown molding and trim fun & easy. The complete package will provide you with the all you need plus all four laminated charts/tables, and the Miter Excel Program©.

If you can hammer a nail, you can install crown molding and trim like a PRO!