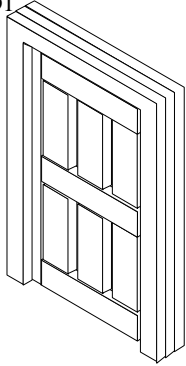
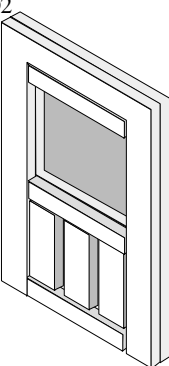
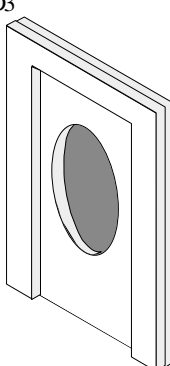
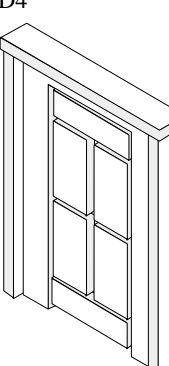
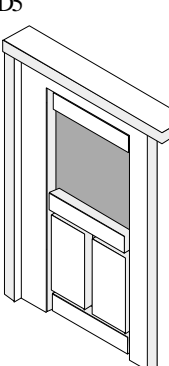
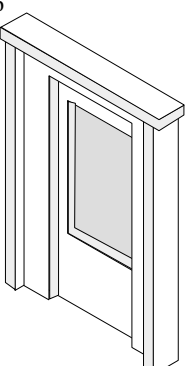
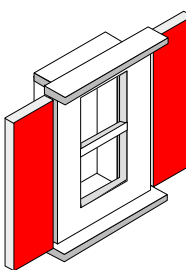
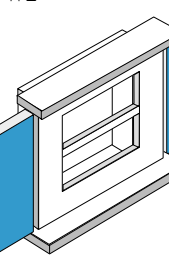
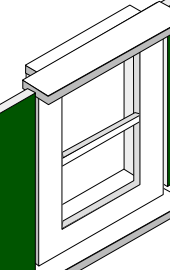
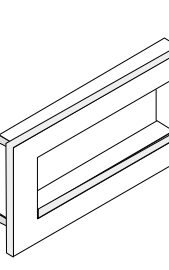
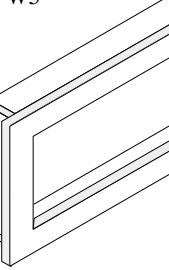
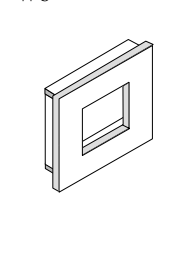


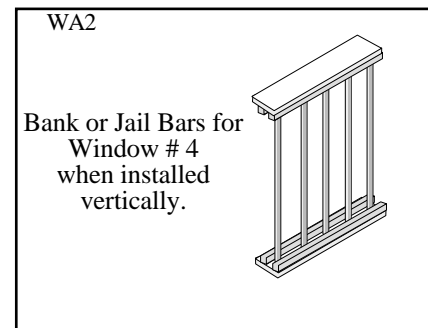
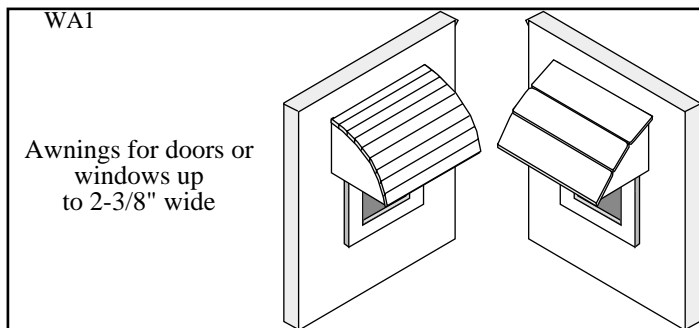
•Wood doors and windows  
you can make  
from 1/8" wood  
to fit Garden Town Buildings

•Easy to read patterns, templates  
and instructions for six each of non-opening doors and windows.  
Accessories for the windows are two different awnings  
and bars to fit window # 4 when the window is installed  
vertically.

The Garden Town Doors will easily install into a 1/4" thick building. If there is a window, the door template will show you exactly where to cut the opening in the frame. The wall template will guide you on the opening in the building.

 <p><b>Door #1</b> 3 Layers Solid with Panels</p>	 <p><b>Door #2</b> 2 Layers with Panels and Window</p>	 <p><b>Door #3</b> 2 Layers with Oval Window</p>	 <p><b>Door #4</b> Solid with Panels</p>	 <p><b>Door #5</b> with Panels and Window</p>	 <p><b>Door #6</b> with Window</p>
 <p><b>Window #1</b> 1-3/4" x 2-3/4" with optional shutters</p>	 <p><b>Window #2</b> 2-1/4" x 2-1/4" with optional shutters</p>	 <p><b>Window #3</b> 2-1/4" x 3-1/4" with optional shutters</p>	 <p><b>Window #4</b> 1-3/4" x 3" Small Display Can be installed Horizontally or Vertically</p>	 <p><b>Window #5</b> 2-1/4" x 3-3/4" Large Display Can be installed Horizontally or Vertically</p>	 <p><b>Window #6</b> 1-1/2" x 1-1/2" Dormer</p>

Window  
Accessories



## Introduction

Thank you for purchasing the Garden Town pattern. The door and window series was designed to fit our Garden Town buildings, which were inspired by the Garden Scale Railroads.

The doors and windows are non-opening. There will be no need to cut into the inside house frame which the walls are attached to. The 1/8" thick doors and windows will fit into the 1/4" thick wall. Display windows were originally intended to be used for a commercial type building.

Use the templates which show you exactly where to cut your openings in the walls if necessary. If you choose a door with no window, there will not be a window opening in the the wall. Simply assemble and finish the door and glue in place on the wall.

After several (dozen) experiments, we found that the scaled doors and windows are not that hard to make. The hardest part is the clamping of the small parts while the glue dries. After a couple of "goes", one gets the hang of it.

You can paint them in a solid color or multiple colors. We do suggest painting and sealing front and back. It helps to make them a little stronger.

The awnings will fit all the doors and all of the windows except Window # 6. For those windows which have optional shutters, leave off the shutters for use with an awning. Windows # 3 and 4 will have to be installed vertically for use with the awning.

The "bank or jail" bars will fit Window # 4.

We hope you enjoy your project!

### Tools and Supplies (General)

#### Tools Needed:

- For Balsa wood - X-ACTO knife and metal ruler for guide
- For Hardwood- Saw for cutting out small parts (such as a jigsaw or coping saw)
- Clamps - The X-ACTO clamps for small pieces are very helpful
- T-Square
- Ruler - A Plastic See-Thru ruler with 1/8" grid is a plus for small pieces
- Optional: Balsa Stripper - to make uniform strips of wood - saves a lot of time if you have a lot of windows to make. You can actually buy the strips already cut in various widths, (1/4", 3/8", 1/2" etc.) at a higher price.

#### Supplies:

Frames for Doors and Windows: All Wood is 1/8" thick. We suggest Balsa wood or a hardwood (such as Basswood) which can be found in hobby and craft stores and some lumberyards. The Balsa wood can be cut with a razor blade or X-ACTO knife. A common size of "board" of either type is 4" wide x 36" long.

Window Panes: You can use clear plastic glazing which is easy to cut with scissors and can usually be found in hobby and craft stores. Check the framing area. The sizes will usually correspond with ready made frames (5" x 7", 8" x 10", etc.). An 8" x 10" sheet will normally be large enough to accommodate all the windows in a building.

- Wood Glue suitable for outdoor use
- Paint or Stain - We recommend the water based acrylic paints which can be found in a multitude of colors at hobby and craft stores.
- Sealer: Either a water base varnish which is sold with the acrylic paints, polyurethane or equivalent.

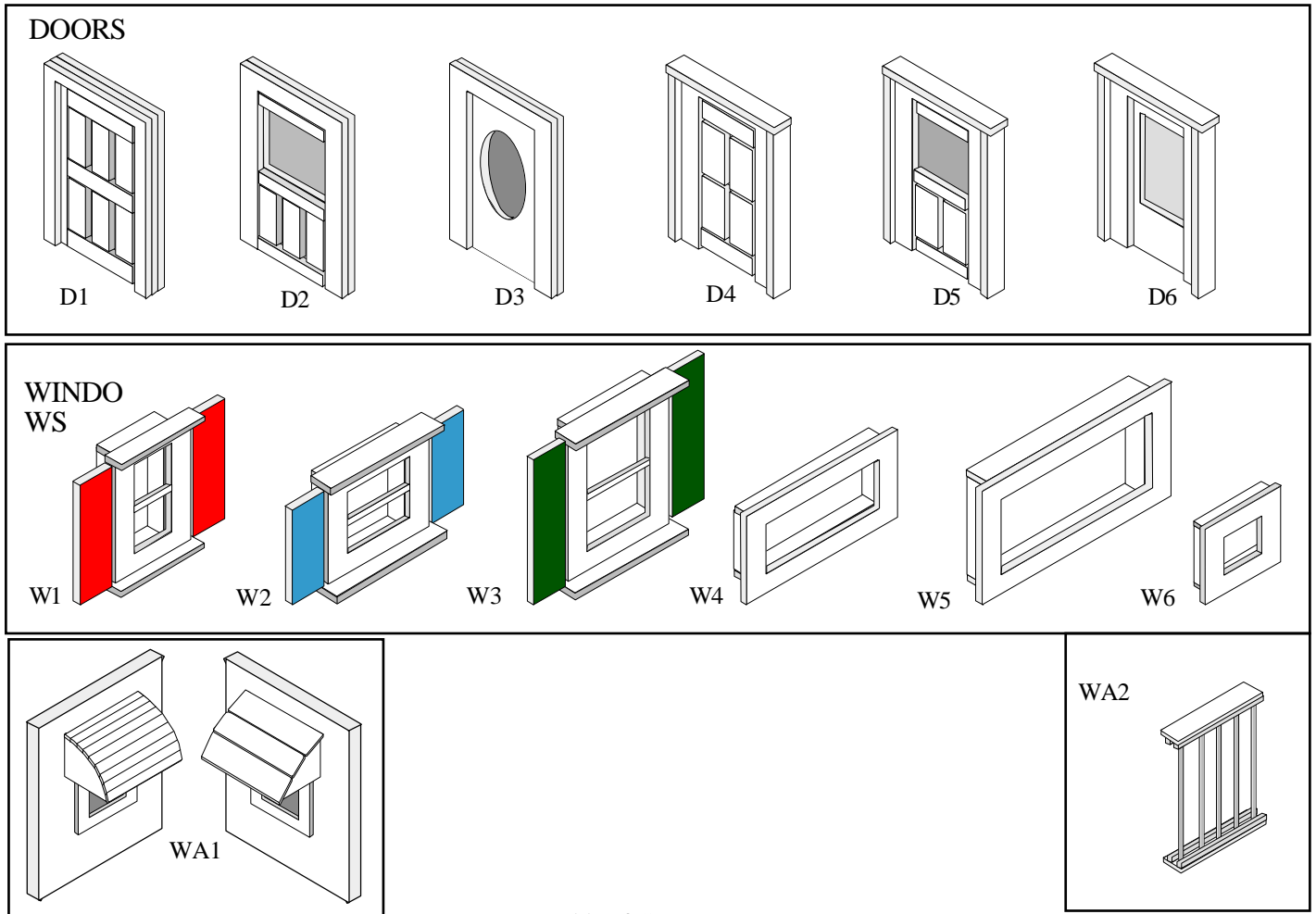
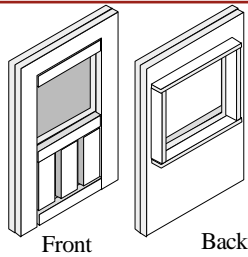


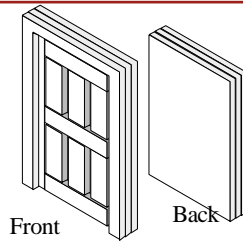
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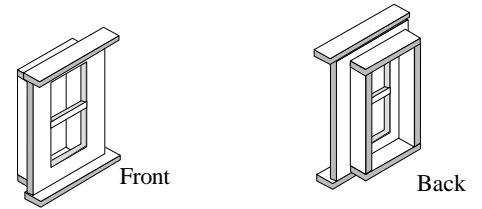
**Doors**

Any Door with a window will have two templates; one for the opening in the door and one for the opening in the wall in which the door will be installed.

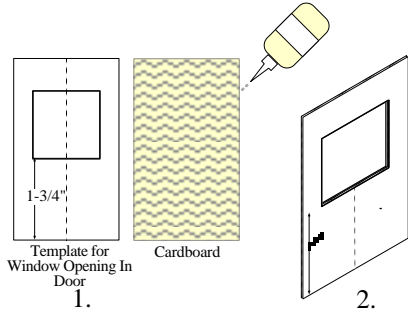


A door with no windows will not require a template. The door will be nailed and glued directly to the outside wall.

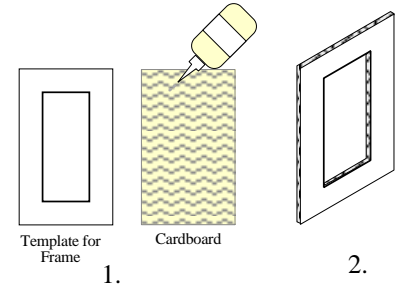
**Windows**



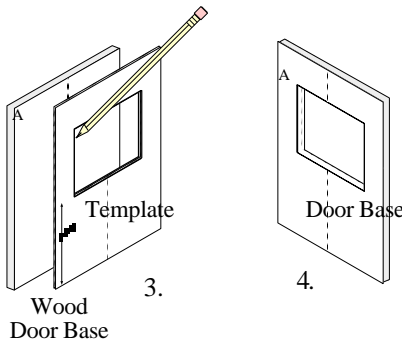
Windows have two templates; one for the opening in the frame and one for the opening in the wall in which the window will be installed.



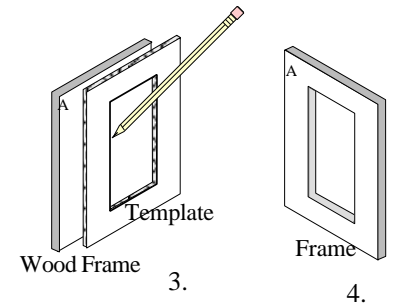
1. Cut out the entire template. Optional: Glue or tape template to a piece of thin scrap cardboard. This will allow the template to be used numerous times without damage.
2. Cut out the opening in template and cardboard on the dark cutting line. We suggest using an X-ACTO knife and metal ruler. Double check that template and opening sizes are accurate with measurements. (Use a ruler to check)



**Templates for Window Opening in Door or Window**

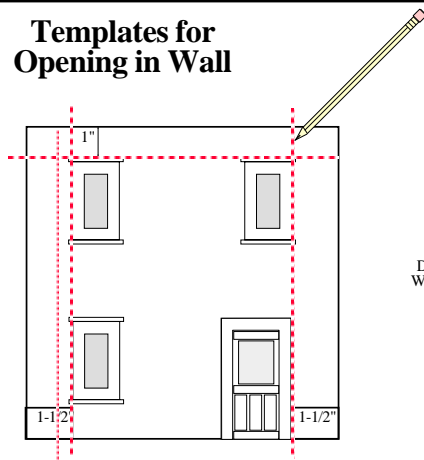


3. Place template on Part A (Door Base or Window Frame) Using template and pencil, mark the window opening on the wood.



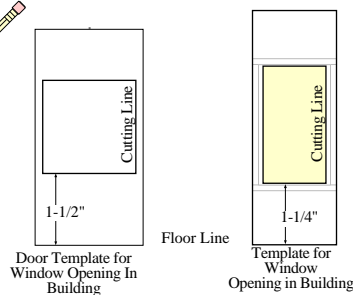
4. Cut out opening on Part A  
You can now finish assembly of the door or window.

**Templates for Opening in Wall**



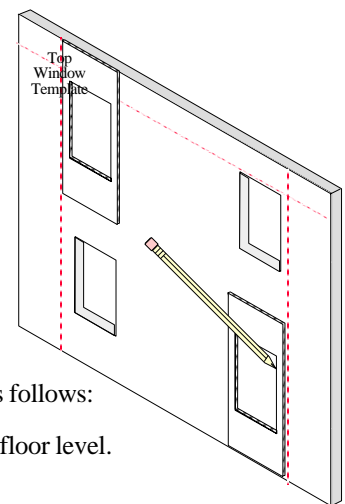
Decide where you want to place door and windows on the cut-out wall

With pencil and ruler, lightly draw guide lines on the wall. you will need the 1" horizontal line for a 2 story with windows on the upper floor



Using your side guide lines, place the template as follows:

- Ground floor:** Bottom of template will be on bottom of wall at floor level.
- 2nd floor** Top of template will be on top of wall.



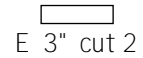
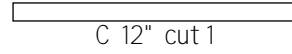
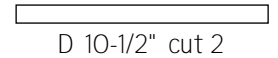
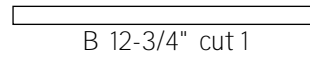
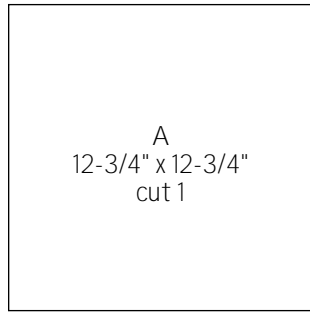
Using template and pencil, mark the window opening on the building. Cut out opening in building. The opening is now ready for the finished window. (Note: Windows should be painted or stained before you actually insert and secure them into the building)

**Assembly Frame for Small Items**

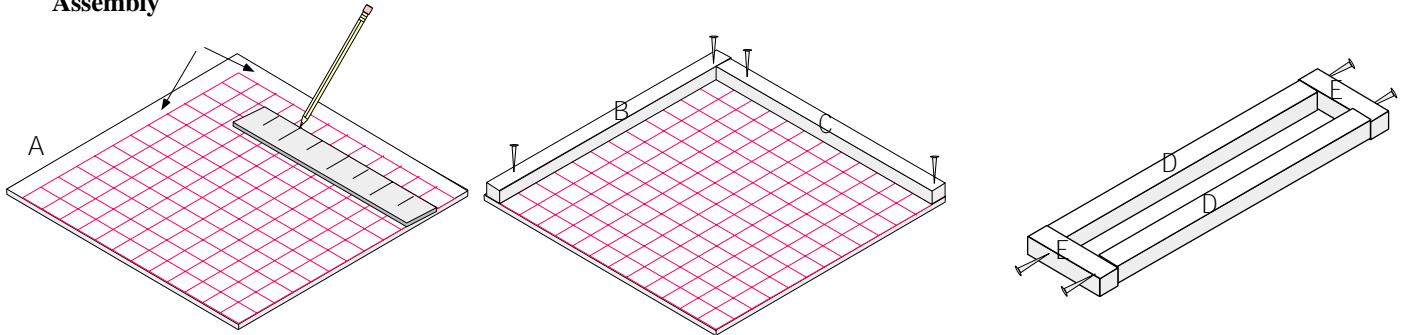
Cut from plywood -1/4" thick or any scrap

Cut from 1 x 1 Framing (nominally 3/4" x 3/4")

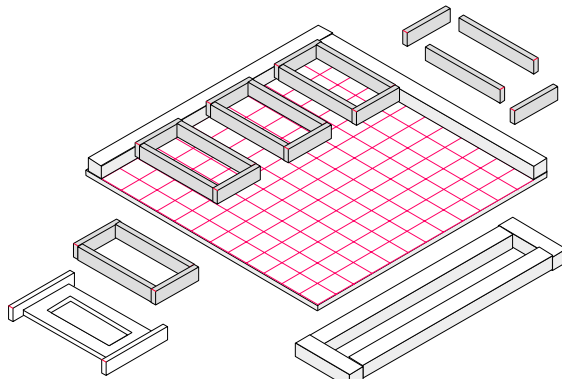
**Patterns**



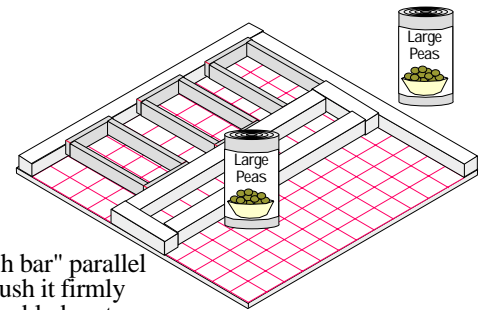
**Assembly**



- Using pencil or pen and ruler, draw lines 3/4" inside of 2 adjacent sides of the base. The frame will be placed in this area. From those 2 lines, draw lines at 1" intervals, forming a 1" grid.
- Nail and glue frame parts B and C in place, as shown, maintaining a square corner.
- Using glue and nails, assemble the frame "push bar", as shown. Again, make sure that the corners are square.

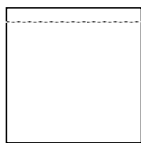


- Glue parts and assemble inside the frame. The grid will help you keep the pieces straight. You can assemble several "like" pieces at one time.

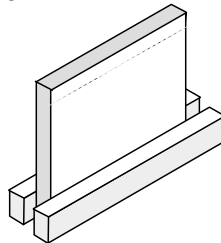


- Keep the "push bar" parallel to side C and push it firmly against the assembled parts. Use anything with weight to hold the push bar in place until parts are dry. Canned goods you didn't want for dinner work well.

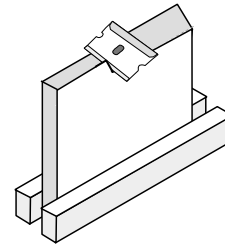
**Trimming 1/8" Balsa wood or hardwood**



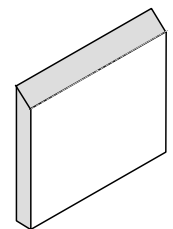
- Using ruler and pencil make a line 1/8" from the inside edge to be mitered



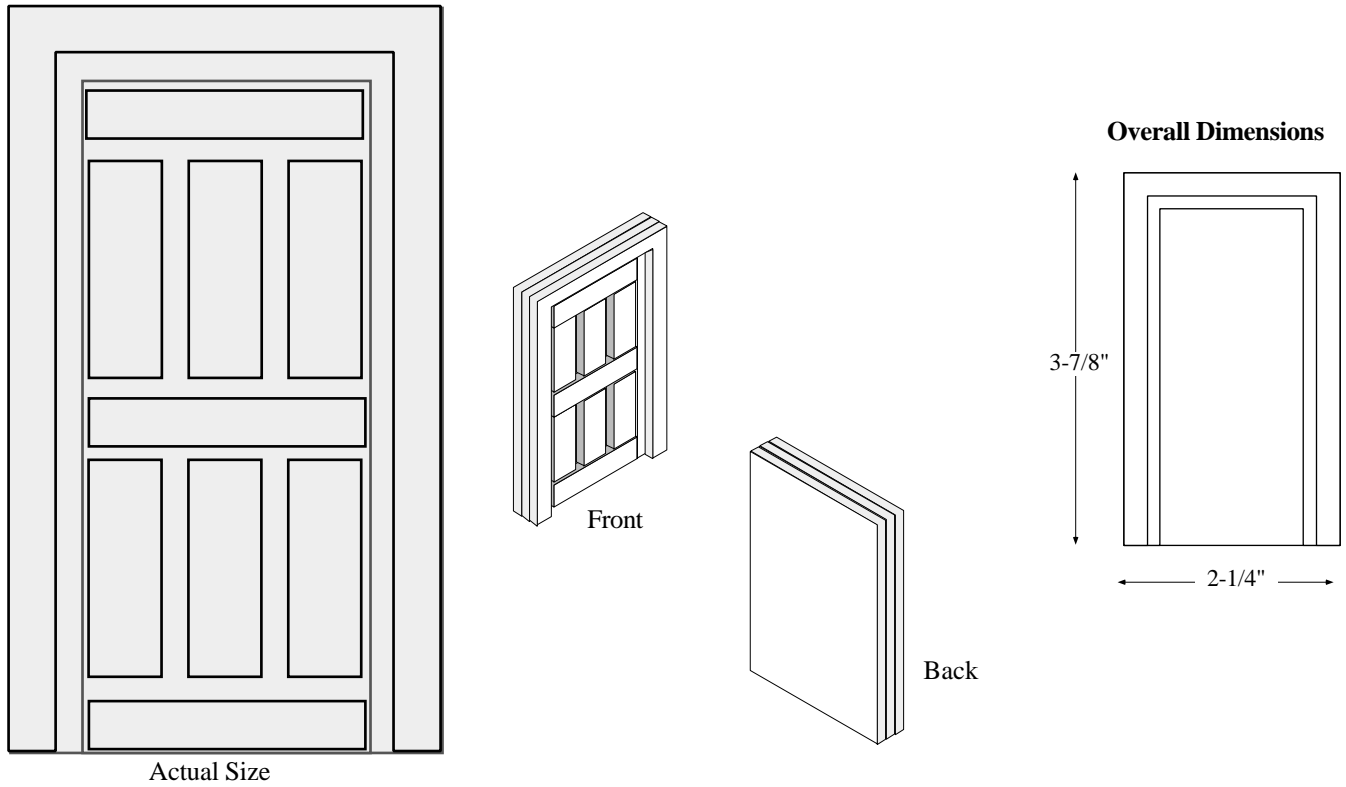
- Stabilize the piece to be mitered with a clamp or other means



- With blade, carefully trim from the top outside to the marked line. Alternately, the piece can planed or sanded.



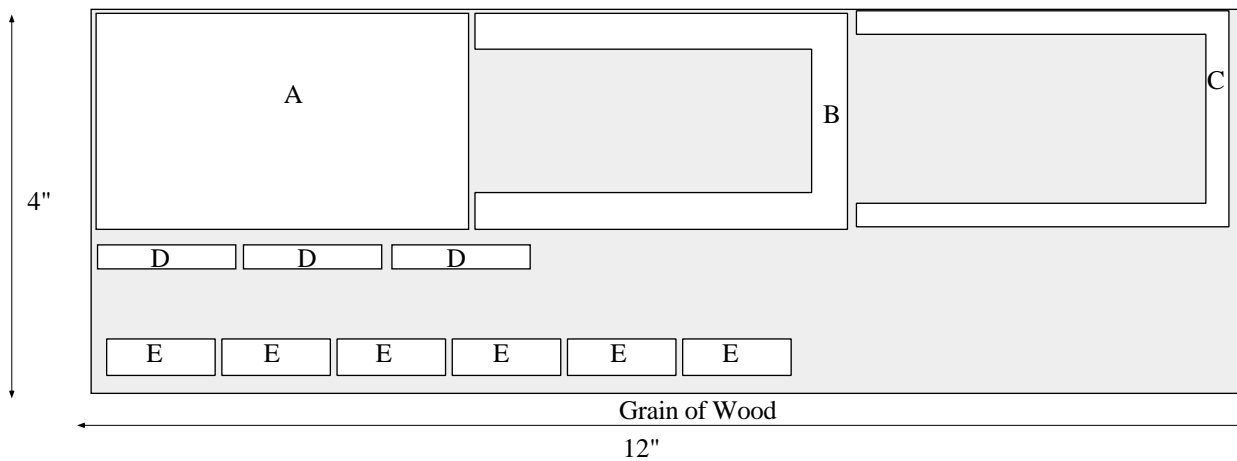
Trimmed on the inside



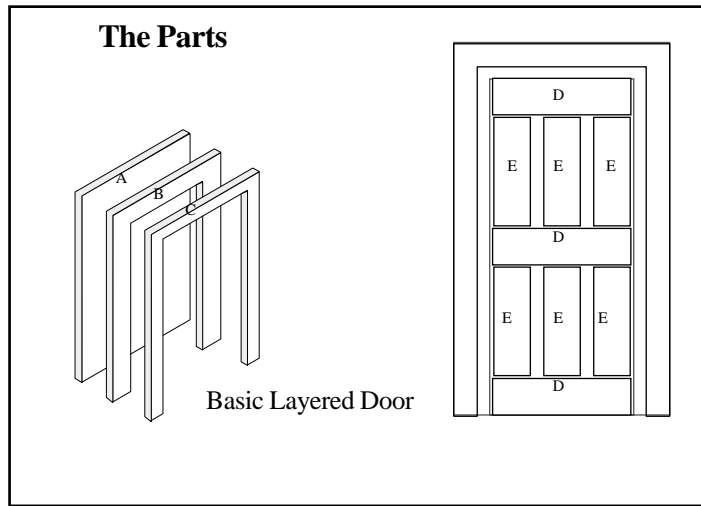
No templates are needed for Door # 1.  
A door with no window can simply be glued in place on the wall.

Suggested Layout Door 1

If you are using Balsa wood, it is much easier to cut out the pieces if they are cut out on the grain of the wood, as illustrated.

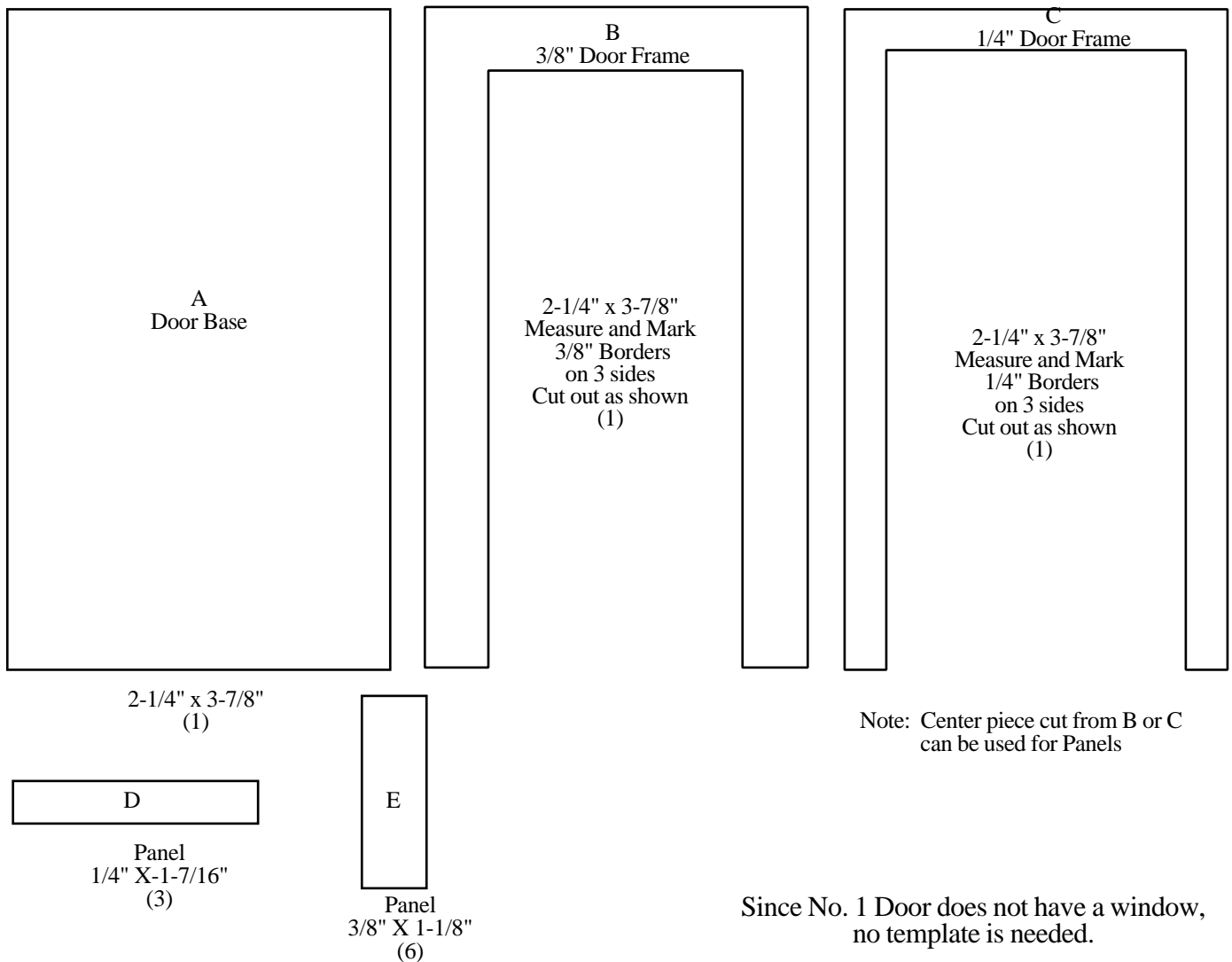


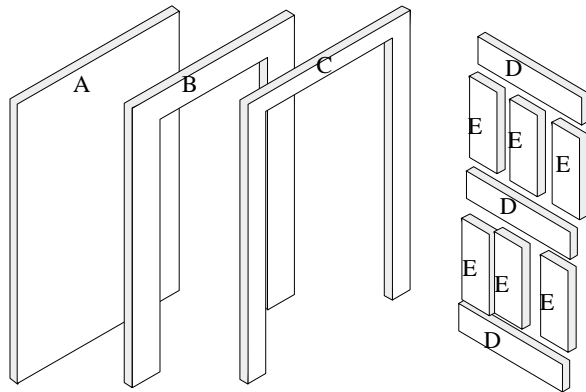
**Optional Supplies for Multiple Doors See Page 55  
and worksheet on Page 57**



**The Patterns - All Wood is 1/8" thick**

Patterns are actual size

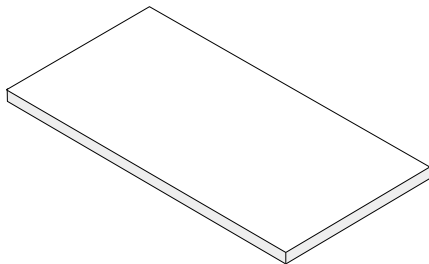




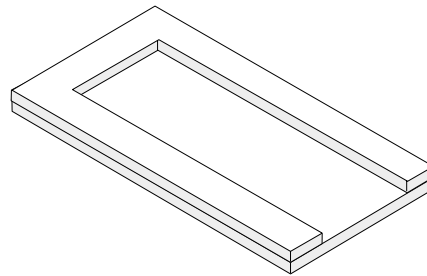
Hints:

- After cutting out the parts, lightly sand any rough edges.
- Check for squareness and that the parts fit together before gluing.
- When gluing the parts together, always clamp the pieces in place and allow the glue to dry before going to the next step. (Or lay a heavy flat object on the door until the parts are dry.)

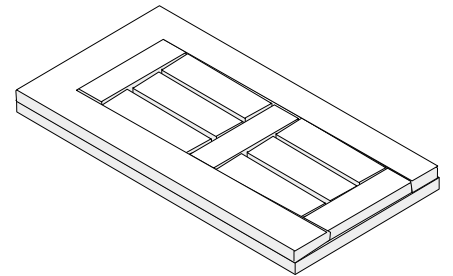
1. Cut out all the parts.



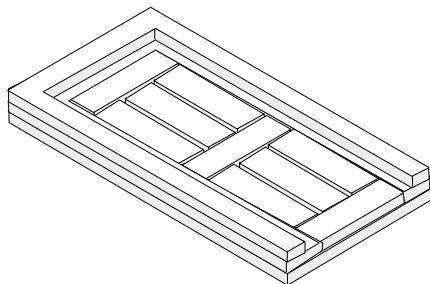
2. Lay the Door Base (A) on it's back.



3. Glue Door Frame (B) to the Door Base.



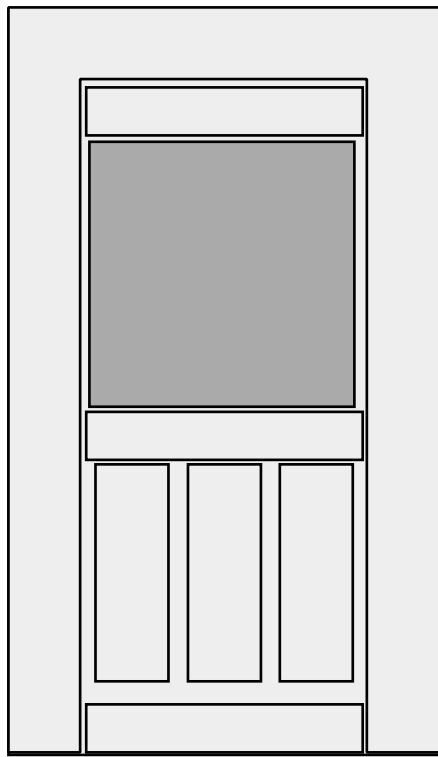
4. Glue Panels (D and E) in place.



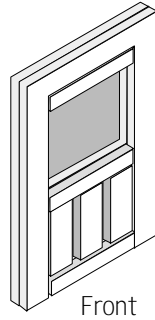
5. Glue Door Frame (C) to the top of Frame B.

The door is now ready to paint or stain and seal

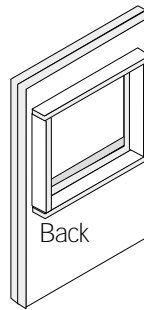




Actual Size

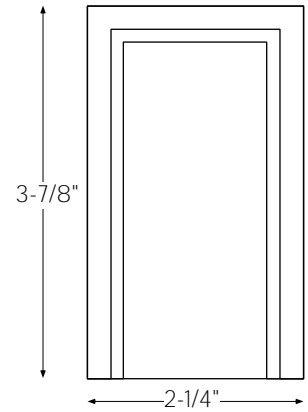


Front



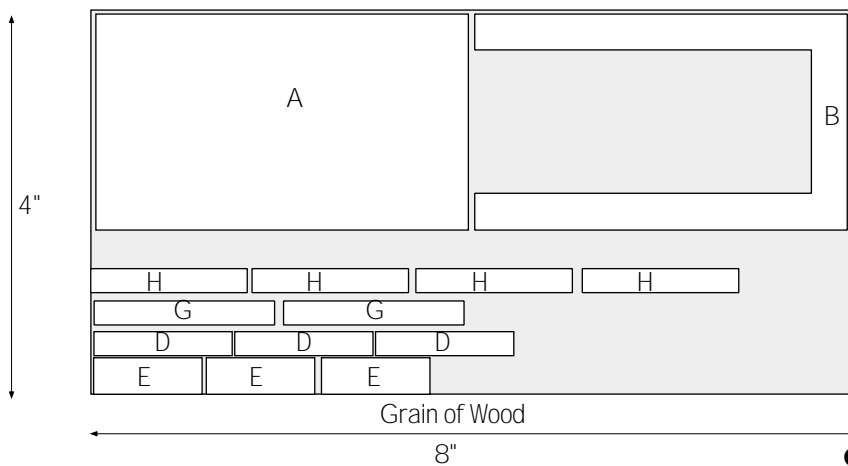
Back

Overall Dimensions

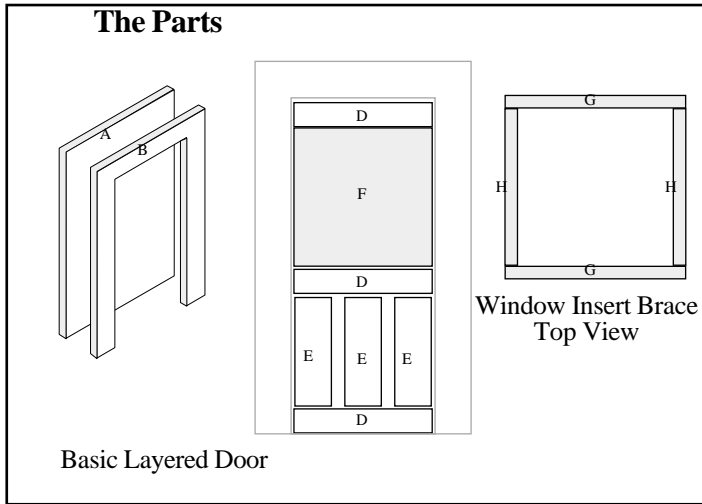


Suggested Layout Door 2

If you are using Balsa wood, it is much easier to cut out the pieces if they are cut out on the grain of the wood, as illustrated.

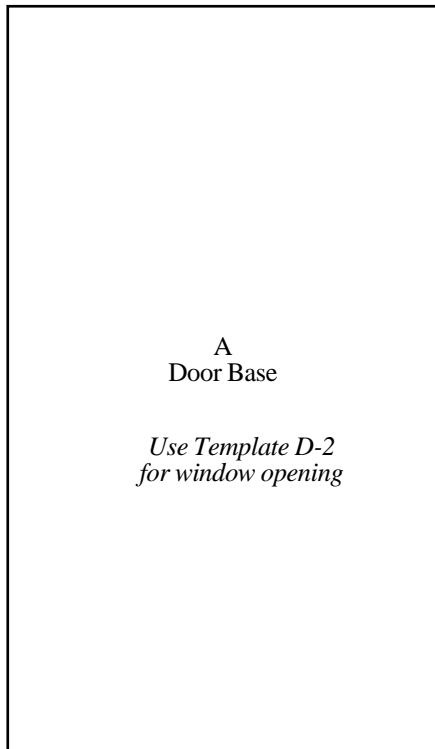
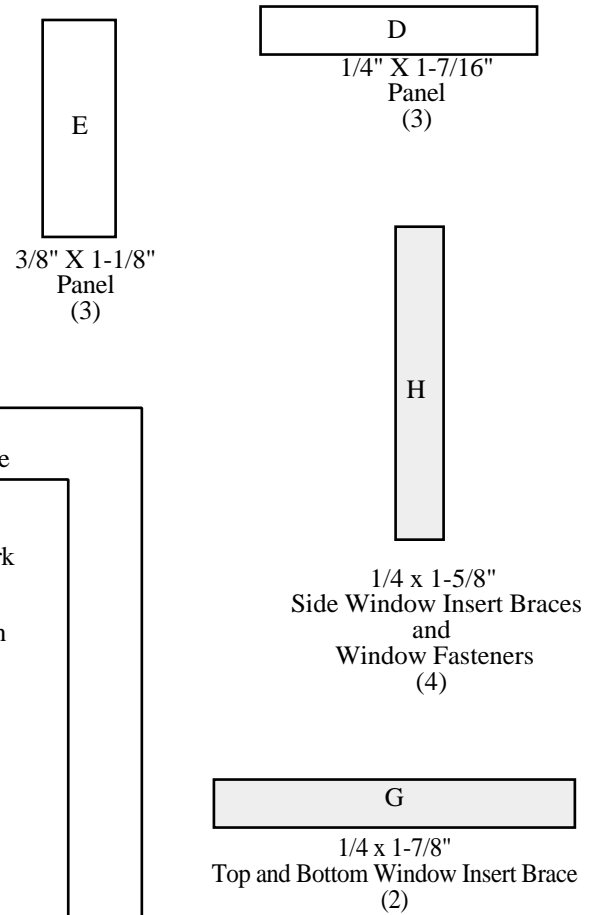


**Optional Supplies for Multiple Doors**  
Cut complete assembly from boards, as shown  
or  
Cut basic frames from boards and use uniform  
ready made strips for braces and trims.  
See Page 55  
and worksheet on Page 57

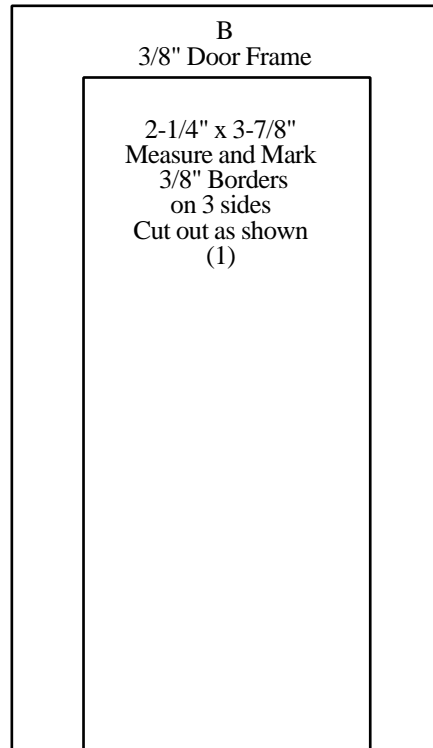


**The Patterns - All Wood is 1/8" thick**

Patterns are actual size

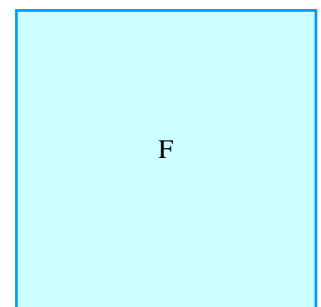


2-1/4" x 3-7/8"  
(1)



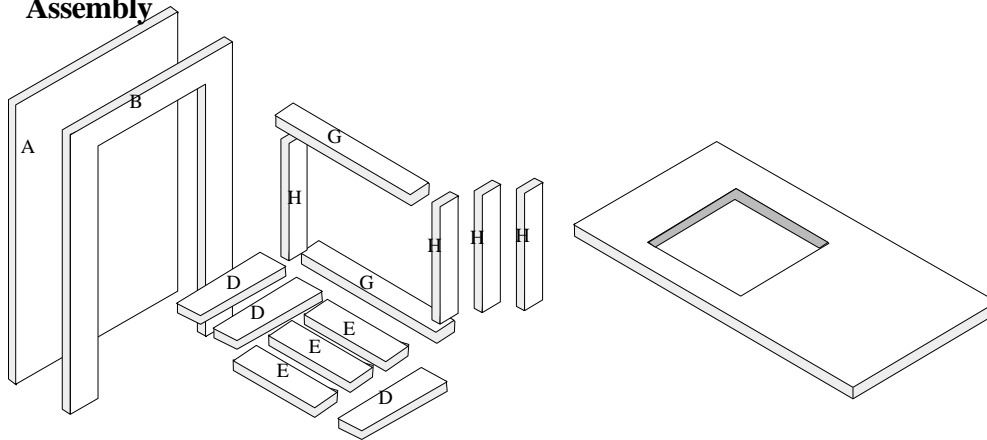
Note: Center piece cut from B  
can be used for Panels or  
Window Insert Braces

See Template D-2A  
for Opening in  
Building



1-9/16" x 1-9/16"  
Window Glass or  
Plastic  
(1)

**Assembly**

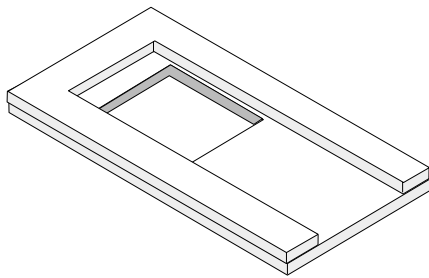


**Hints:**

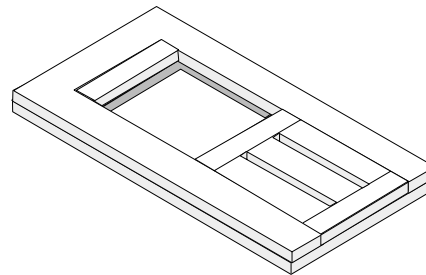
- After cutting out the parts, lightly sand any rough edges.
- Check for squareness and that the parts fit together before gluing.
- When gluing the parts together, always clamp the pieces in place and allow the glue to dry before going to the next step. (Or lay a heavy flat object on the door until the parts are dry.)

1. Cut out all the parts.

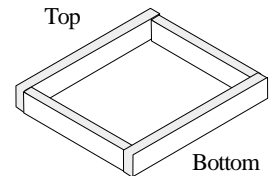
2. Use the Template D-2 to mark the window. Cut out the window opening in the Door Base (A).



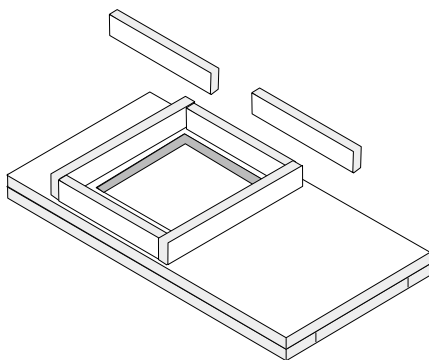
3. Glue Frame (B) to front of Base.



4. Glue the panels (D and E) in place.

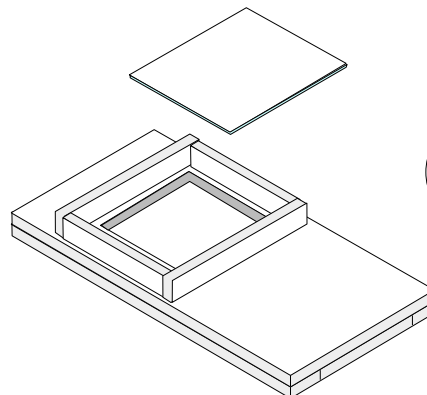


5. Glue the Insert Brace (G & H) together. Note the sides are assembled inside the top and bottom.

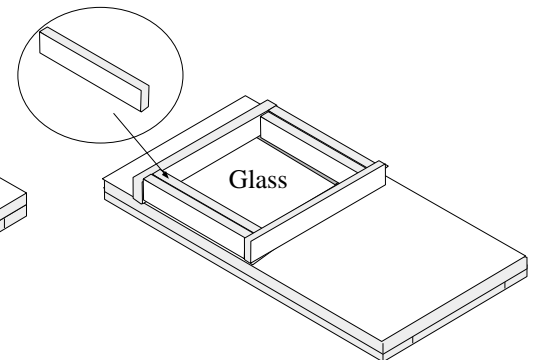


6. Turn the door over. Center the finished Window Insert Brace over the window opening and glue to the back of the Door Base.

After the glue has dried, paint and seal the door and the two Window Fasteners.



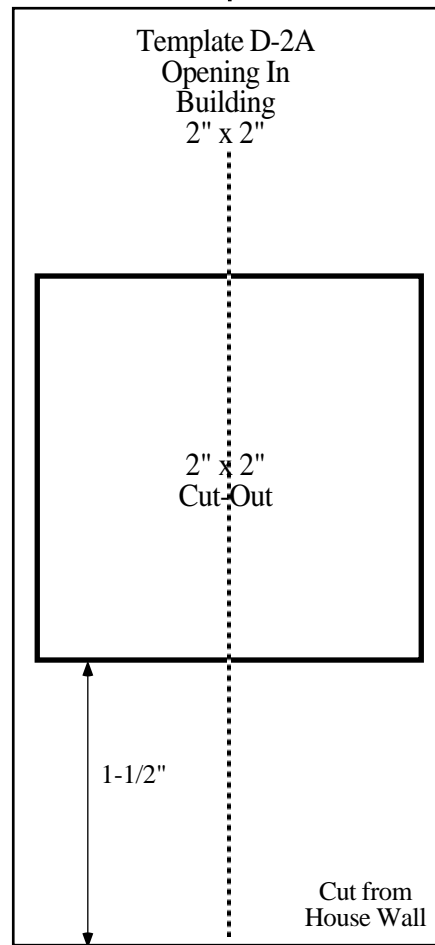
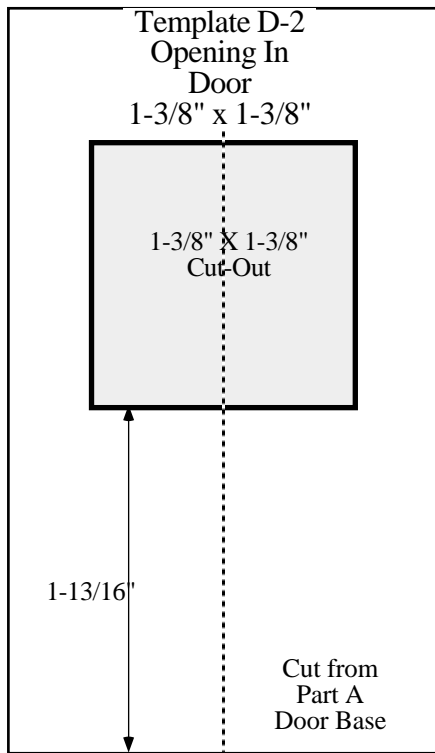
7. Drop the window in place. Be sure that the window covers the opening with a margin overlapping.

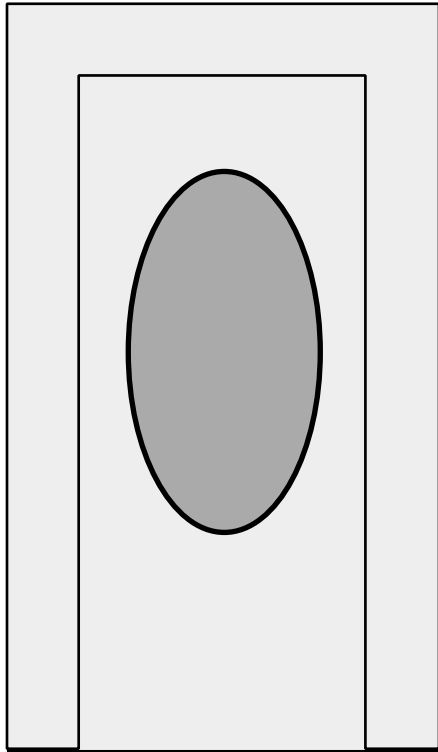


8. Run a bead of glue on one side of the window fasteners. Glue the fastener to the inside of the Side Window Brace, securing the glass or plastic in place.

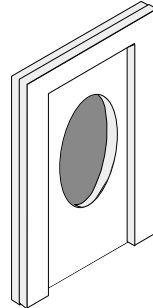
**The Templates**  
**Glue to Cardboard and Cut Out**  
**per "Using the Templates" instructions.**

You may wish to copy the templates  
and cut out the copies, leaving the  
originals intact with instruction booklet.

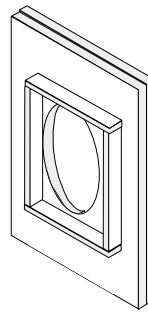




Actual Size

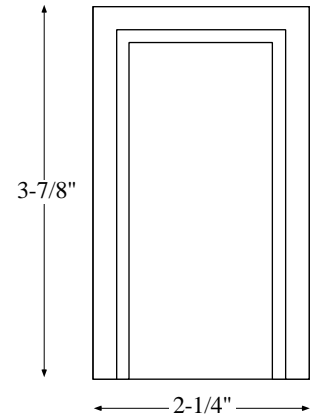


Front



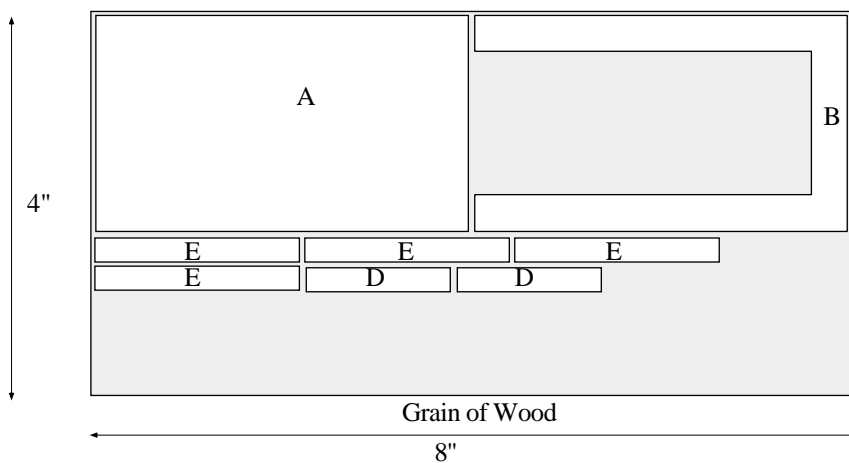
Back

**Overall Dimensions**

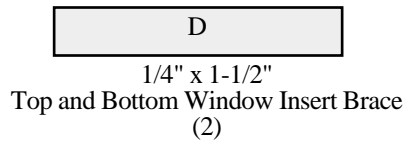
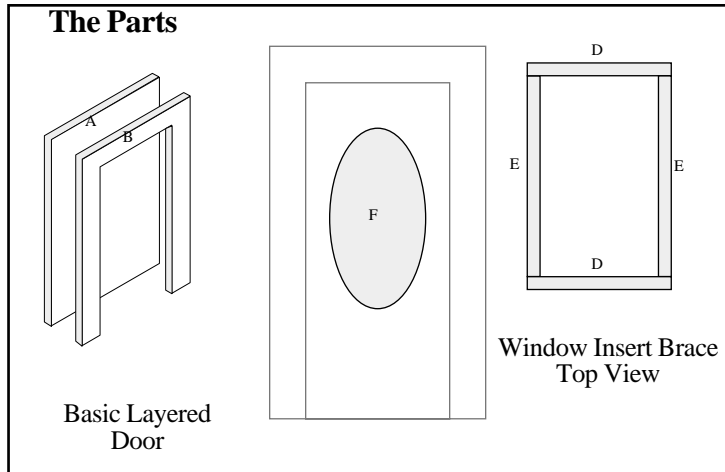


Suggested Layout Door 3

If you are using Balsa wood, it is much easier to cut out the pieces if they are cut out on the grain of the wood, as illustrated.

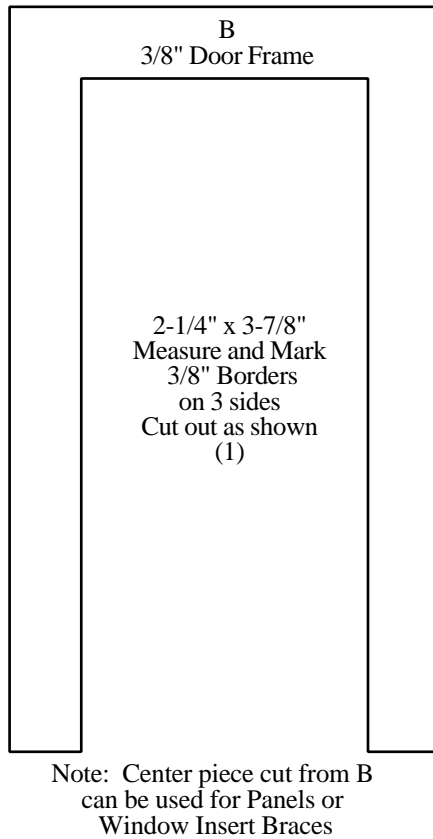
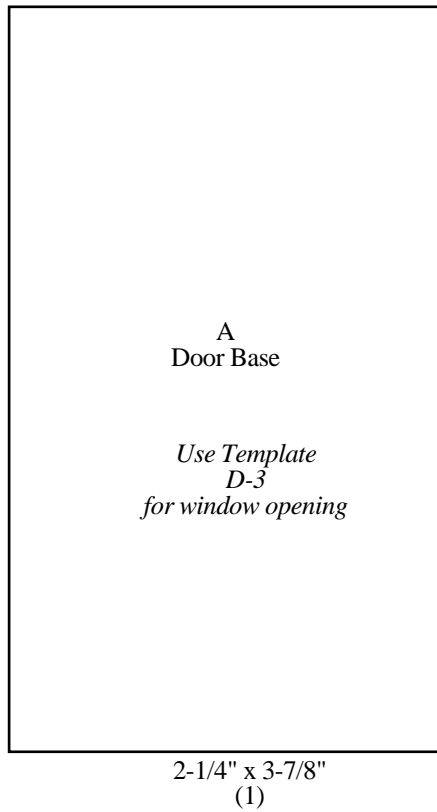
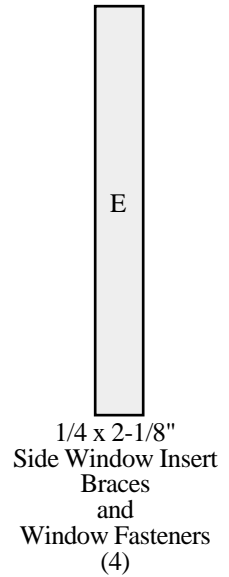


**Optional Supplies for Multiple Doors**  
Cut complete assembly from boards, as shown  
or  
Cut basic frames from boards and use uniform  
ready made strips for braces and trims.  
See Page 55  
and worksheet on Page 57

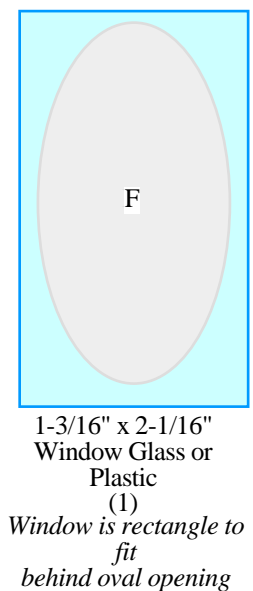


**The Patterns - All Wood is 1/8" thick**

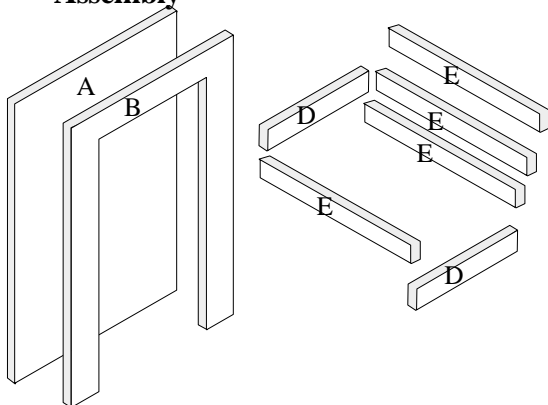
Patterns are actual size



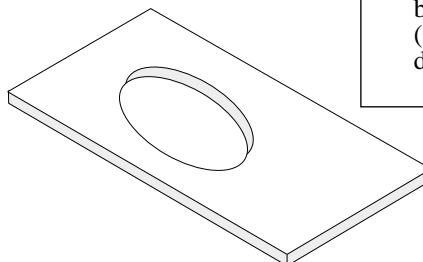
See Template D-3A  
for opening in building.



**Assembly**



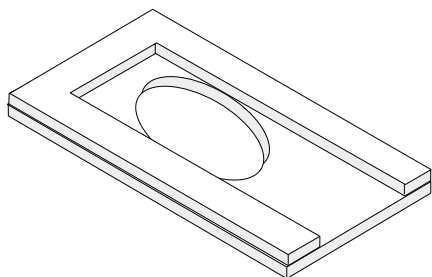
1. Cut out all the parts.



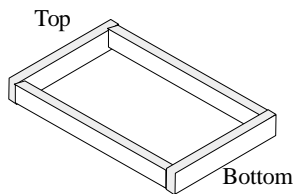
2. Use the Template D-3 to mark the window. Cut out the window opening in the Door Base (A).

**Hints:**

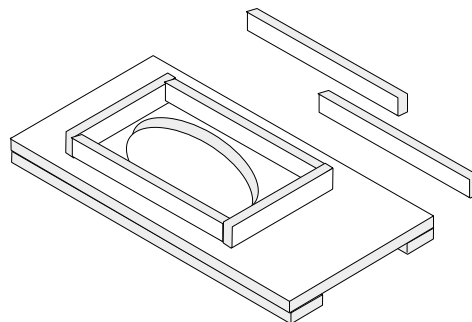
- After cutting out the parts, lightly sand any rough edges.
- Check for squareness and that the parts fit together before gluing.
- When gluing the parts together, always clamp the pieces in place and allow the glue to dry before going to the next step. (Or lay a heavy flat object on the door until the parts are dry.)



3. Glue Frame (B) to front of Base.

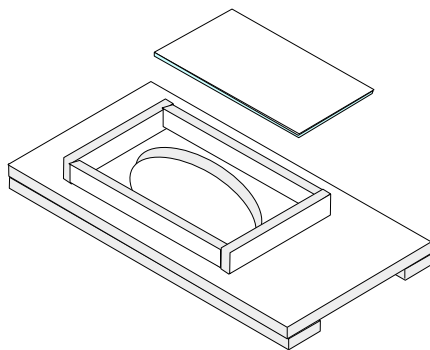


4. Glue the Insert Brace (D and E) together. Note the sides are assembled inside the top and bottom.

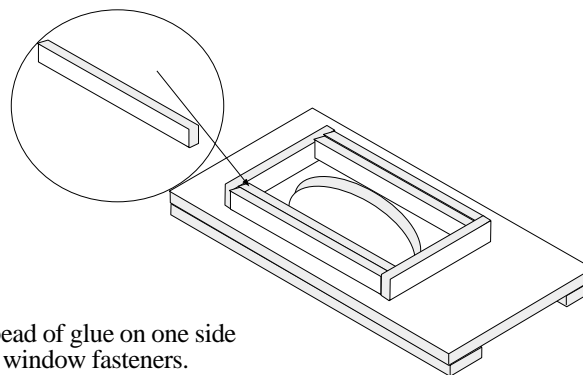


5. Turn the door over. Center the finished Window Insert Brace over the window opening and glue to the back of the Door Base.

After the glue has dried, paint and seal the door and the two Window Fasteners.



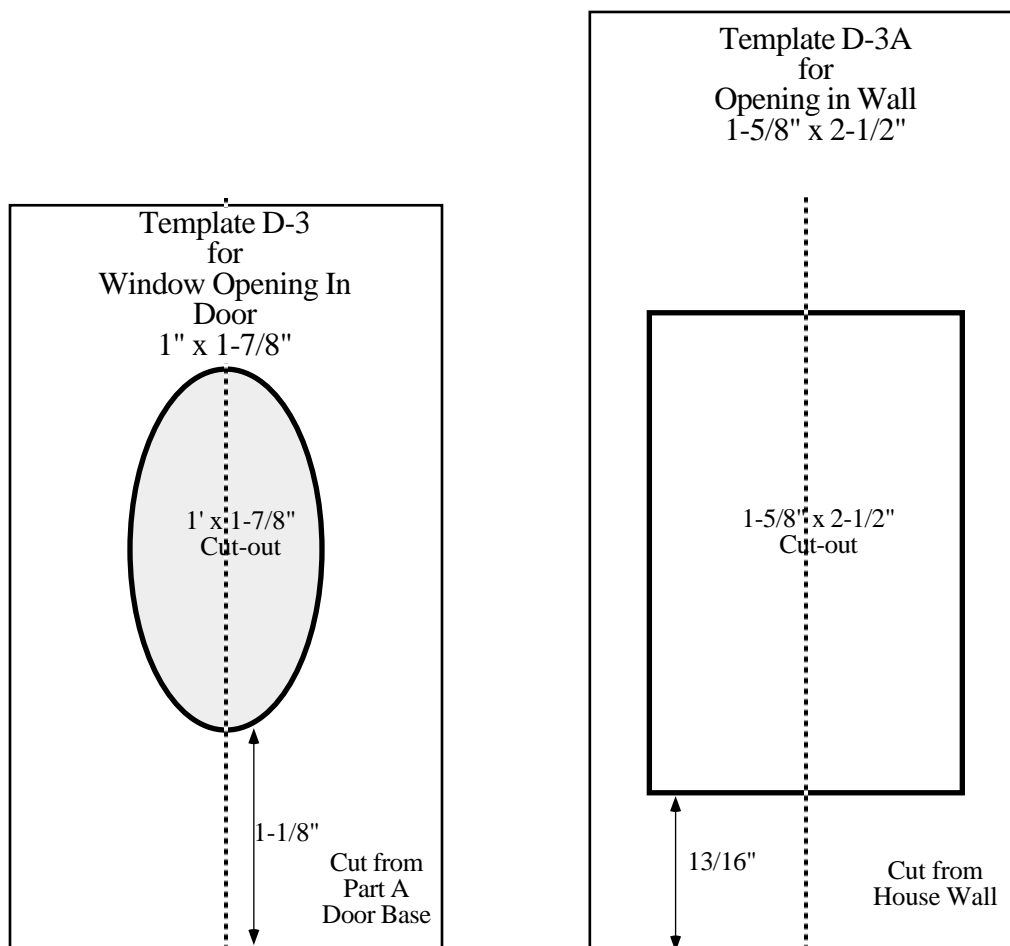
6. Drop the window in place. Be sure that the window covers the opening with a margin overlapping.



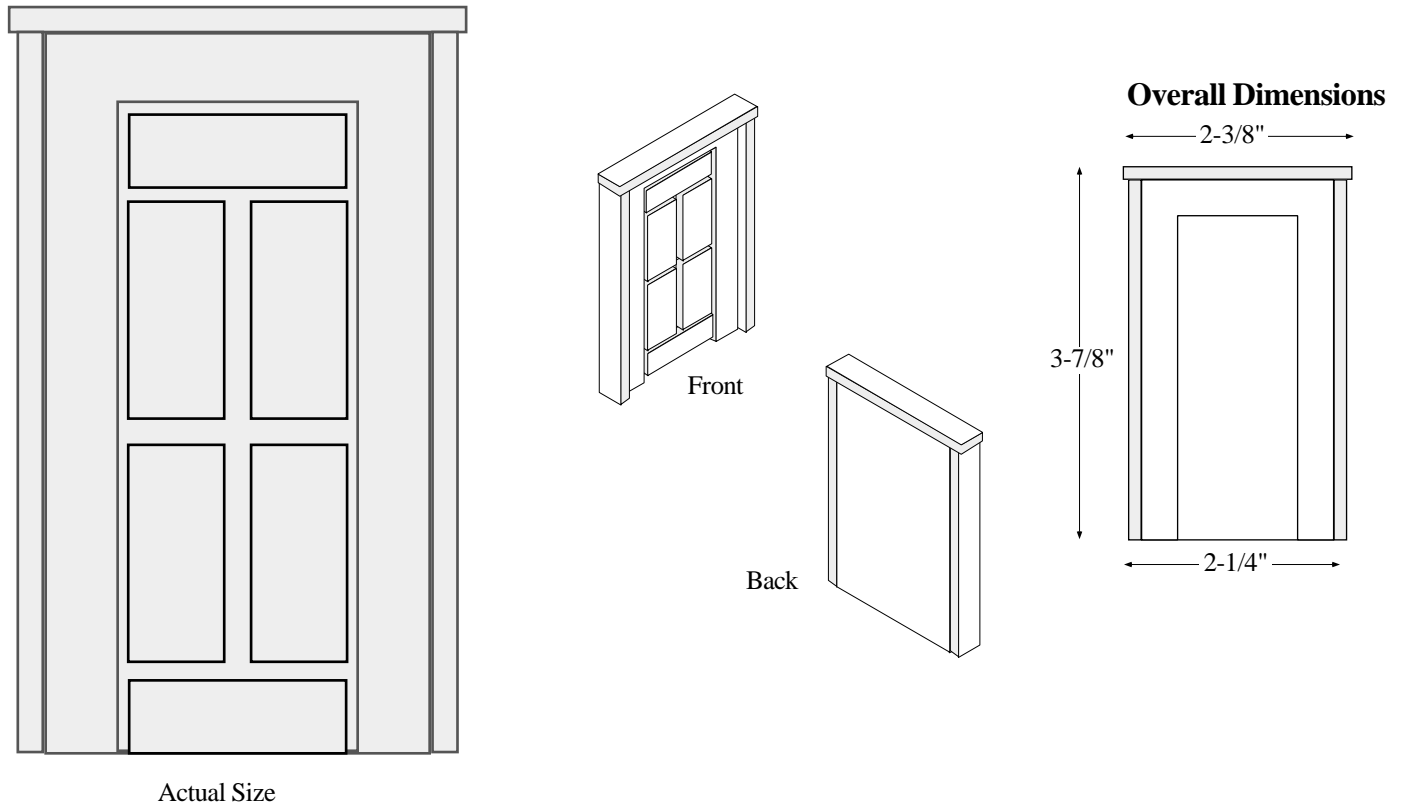
7. Run a bead of glue on one side of the window fasteners. Glue the fastener to the inside of the Side Window Brace, securing the glass or plastic in place.

**The Templates**  
**Glue to Cardboard and Cut Out**  
**per "Using the Templates" instructions.**

You may wish to copy the templates  
and cut out the copies, leaving the  
originals intact with instruction booklet.



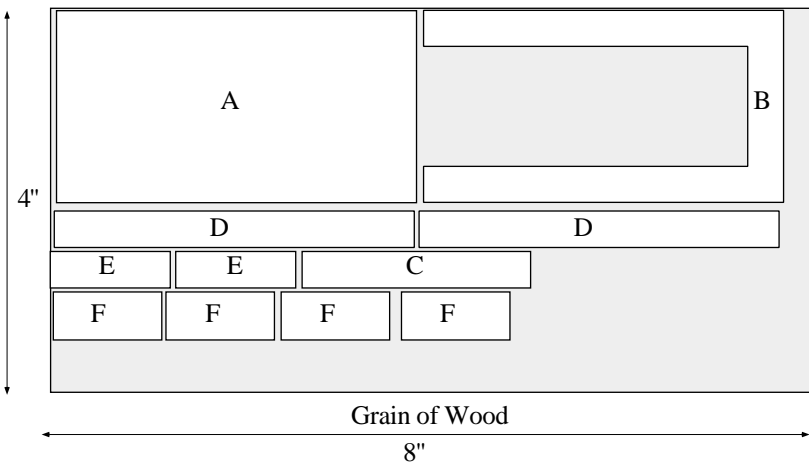




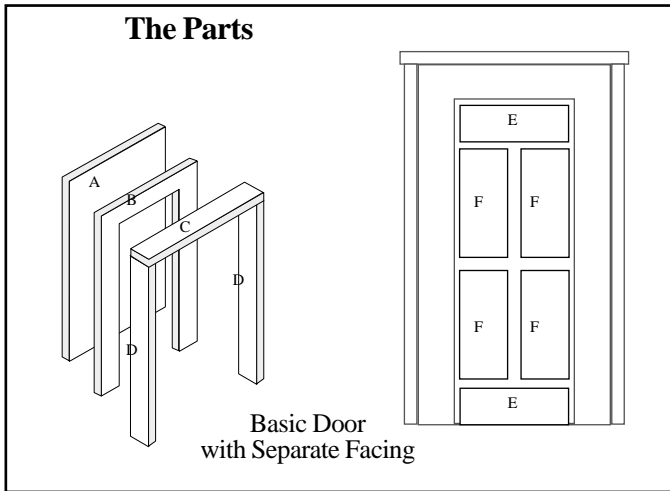
No templates are needed for Door # 4  
A door with no window can simply be glued in place on the wall.

Suggested Layout for Door # 4

If you are using Balsa wood, it is much easier to cut out the pieces if they are cut out on the grain of the wood, as illustrated.

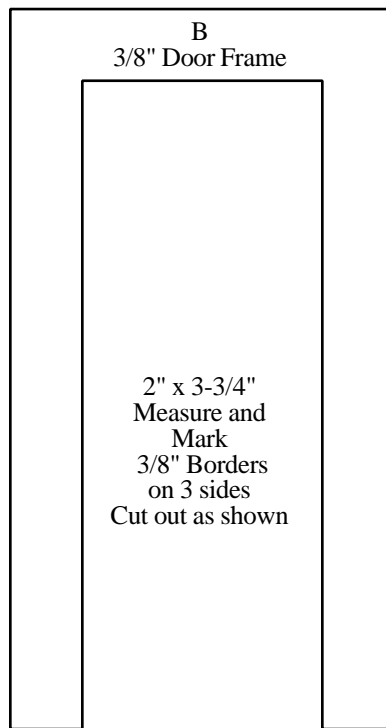
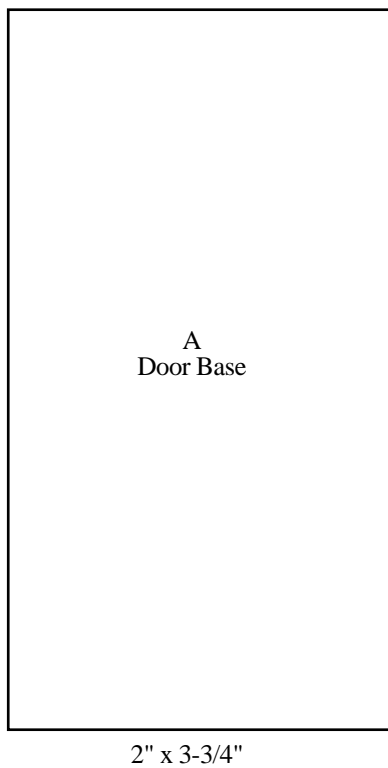


**Optional Supplies for Multiple Doors**  
Cut complete assembly from boards, as shown  
or  
Cut basic frames from boards and use uniform  
ready made strips for braces and trims.  
See Page 55  
and worksheet on Page 57

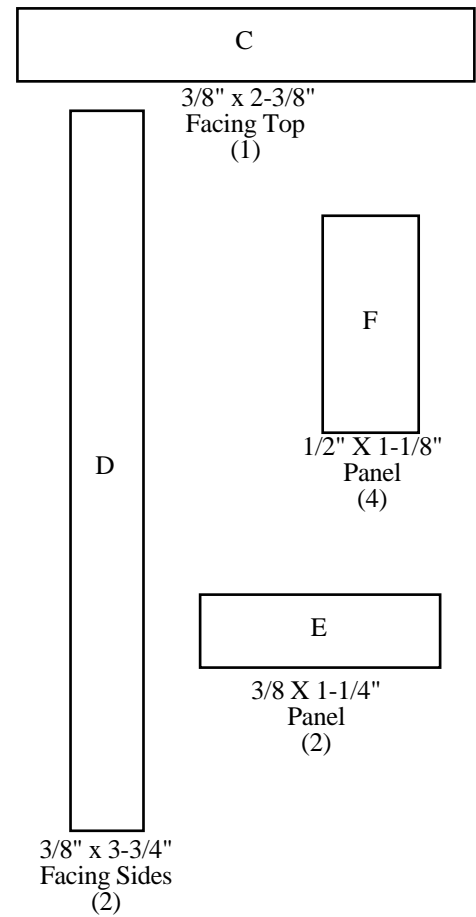


Patterns are actual size

**The Patterns - All Wood is 1/8" thick**

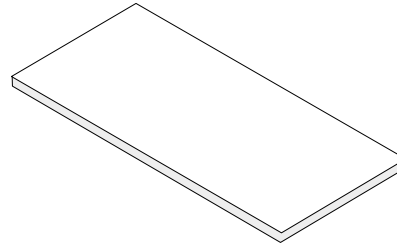
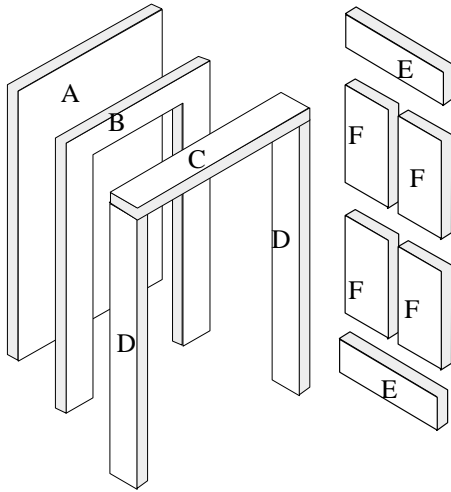


Note: Center piece cut from B can be used for Panels



Since No. 4 Door does not have a window, no template is needed.

**Assembly**

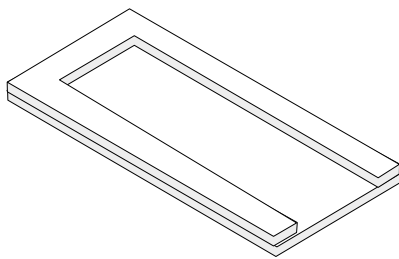


**Hints:**

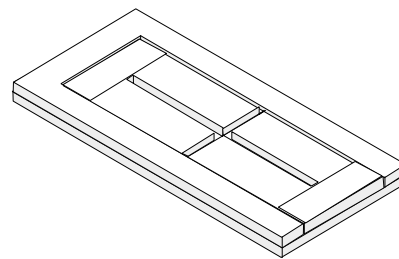
- After cutting out the parts, lightly sand any rough edges.
- Check for squareness and that the parts fit together before gluing.
- When gluing the parts together, always clamp the pieces in place and allow the glue to dry before going to the next step. (Or lay a heavy flat object on the door until the parts are dry.)

1. Cut out all the parts.

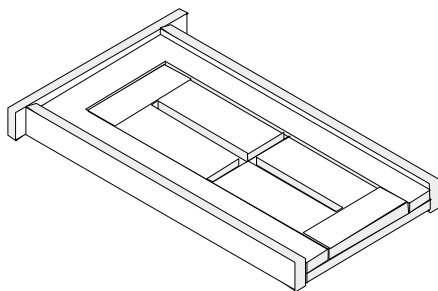
2. Lay the Door Base (A) on it's back.



3. Glue Door Frame (B) to the Door Base.

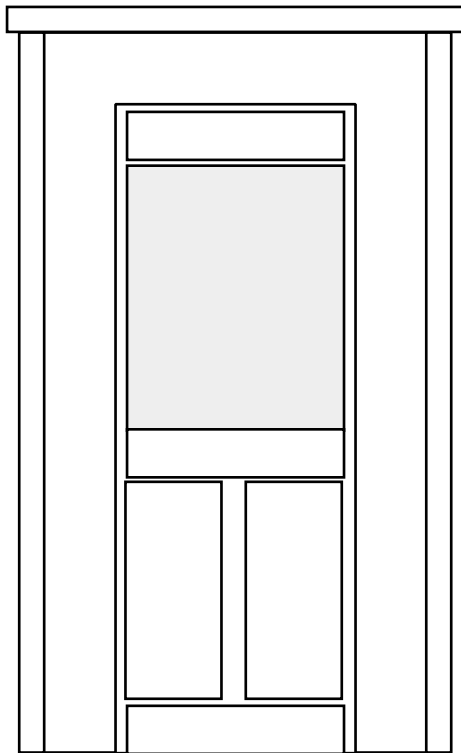


4. Glue Panels (E and F) in place.

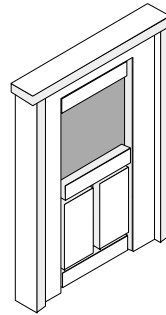


5. Center Door Frame Top (C) to the top of the door and glue in place.  
Glue Door Frame Sides (D) to the sides of the door.

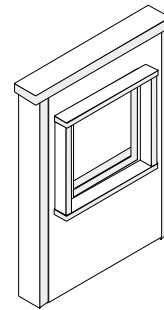
The door is now ready to  
paint  
or stain and seal



Actual Size

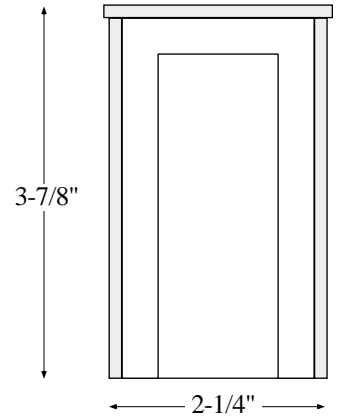


Front



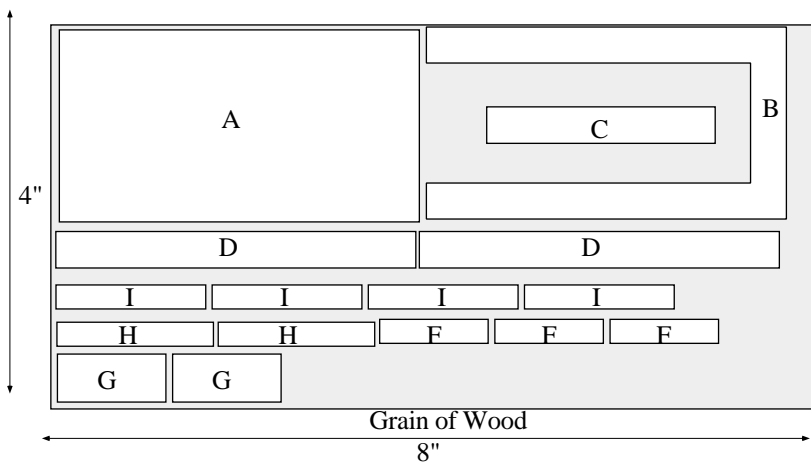
Back

**Overall Dimensions**

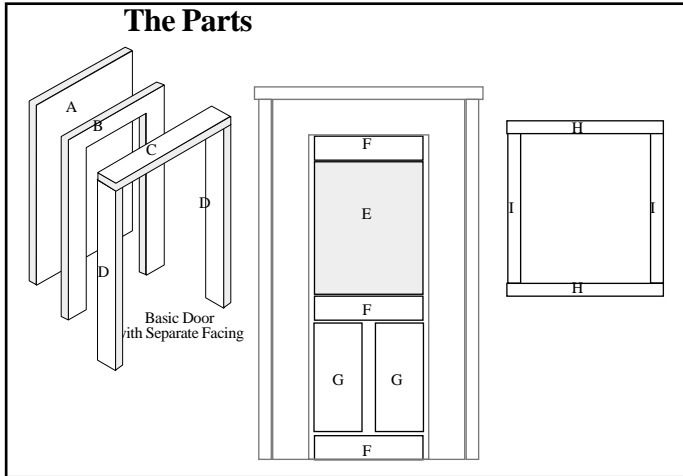


Suggested Layout Door # 5

If you are using Balsa wood, it is much easier to cut out the pieces if they are cut out on the grain of the wood, as illustrated.

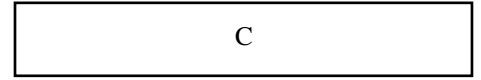


**Optional Supplies for Multiple Doors**  
Cut complete assembly from boards, as shown  
or  
Cut basic frames from boards and use uniform  
ready made strips for braces and trims.  
See Page 55  
and worksheet on Page 57

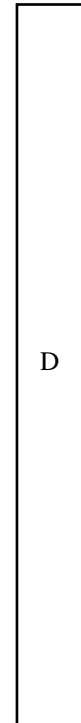


**The Patterns - All Wood is 1/8" thick**

Patterns are actual size



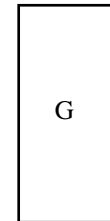
C  
3/8" x 2-3/8"  
Facing Top  
(1)



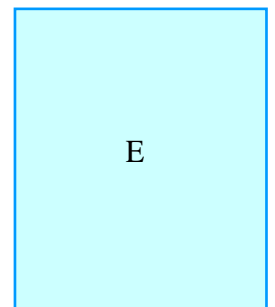
D  
3/8" x 3-3/4"  
Facing Sides  
(2)



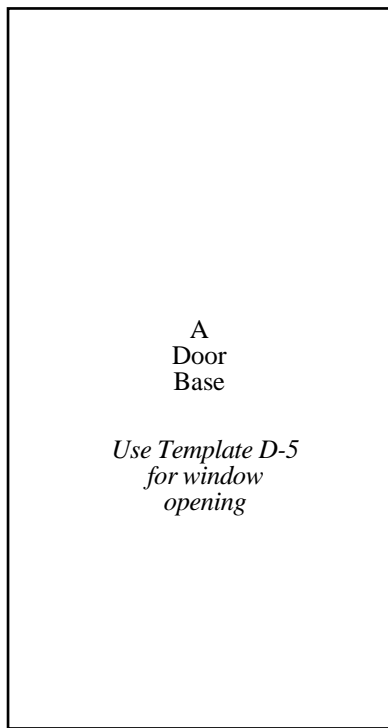
F  
1/4" X 1-1/8"  
Panel  
(3)



G  
1/2" X 1-1/8"  
Panel  
(2)

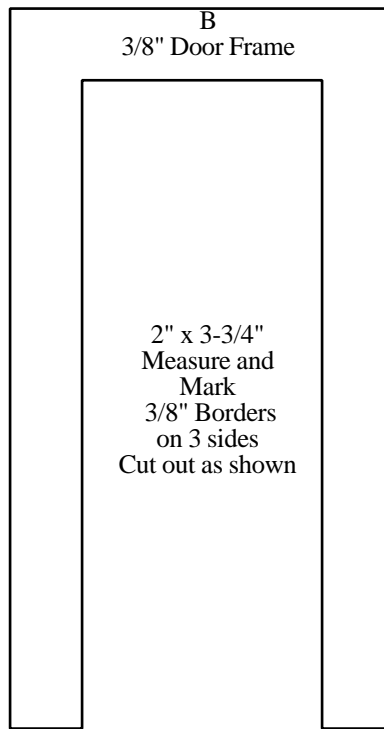


E  
1-5/16" x 1-9/16"  
Window Glass or  
Plastic  
(1)



A  
Door  
Base  
  
Use Template D-5  
for window  
opening

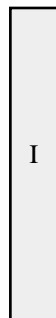
2" x 3-3/4"



B  
3/8" Door Frame

2" x 3-3/4"  
Measure and  
Mark  
3/8" Borders  
on 3 sides  
Cut out as shown

Note: Center piece cut from B  
can be used for Panels or  
Window Insert Braces

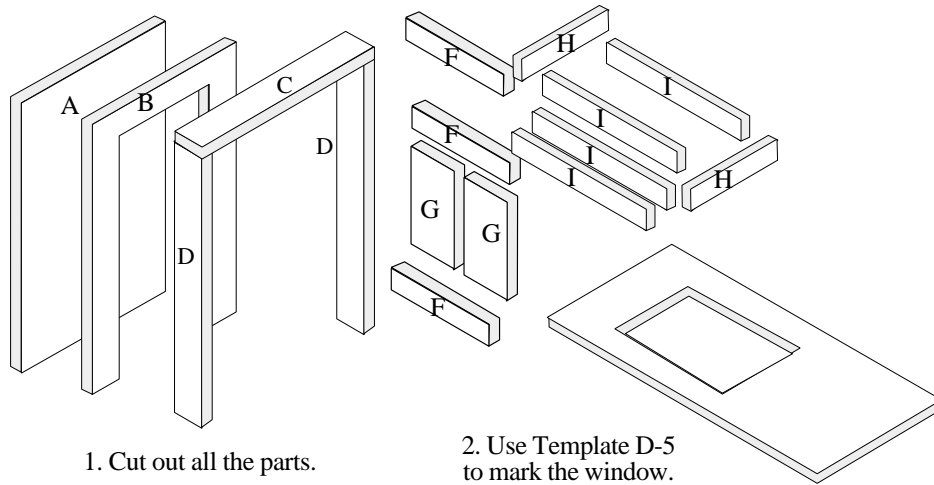


I  
1/4" x 1-5/8"  
Side Window Insert  
Braces  
and  
Window Fasteners  
(4)



H  
1/4" x 1-5/8"  
Top and Bottom  
Window Insert  
Brace  
(2)

See Templates D-5A  
for opening in building

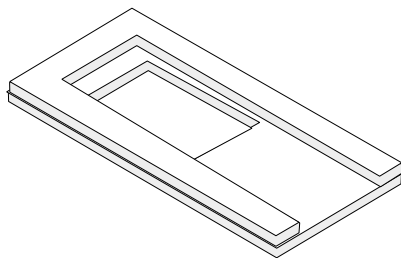


1. Cut out all the parts.

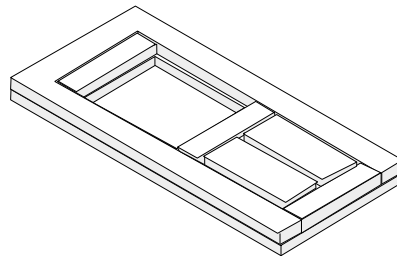
2. Use Template D-5 to mark the window. Cut out the window opening in the Door Base (A).

Hints:

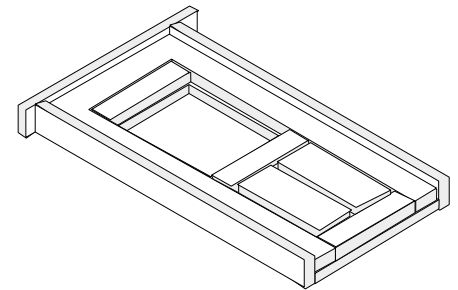
- After cutting out the parts, lightly sand any rough edges.
- Check for squareness and that the parts fit together before gluing.
- When gluing the parts together, always clamp the pieces in place and allow the glue to dry before going to the next step. (Or lay a heavy flat object on the door until the parts are dry.)



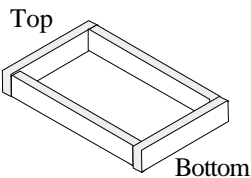
3. Glue Door Frame (B) to the Door Base.



4. Glue Panels (F and G) in place.



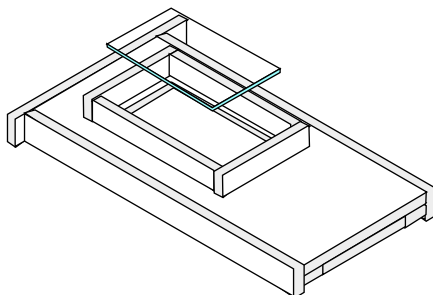
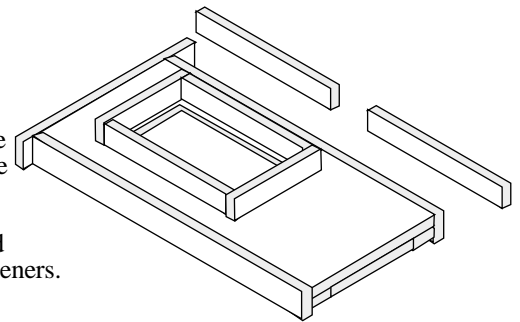
5. Center Door Frame Top (C) to the top of the door and glue in place. Glue Door Frame Sides (D) to the sides of the door.



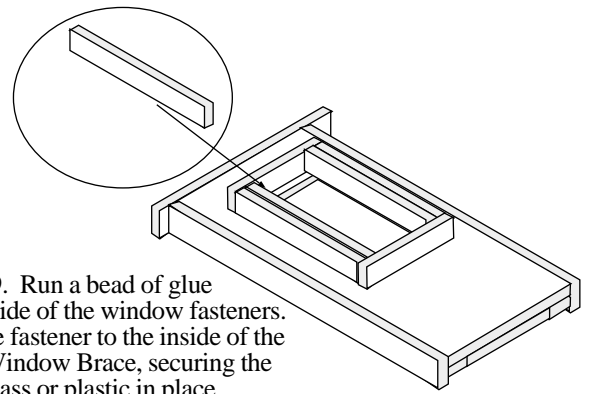
6. Glue the Insert Brace (H and I) together. Note the sides are assembled inside the top and bottom.

7. Turn the door over. Center the finished Window Insert Brace over the window opening and glue to the back of the Door Base.

After the glue has dried, paint and seal the door and the two Window Fasteners.



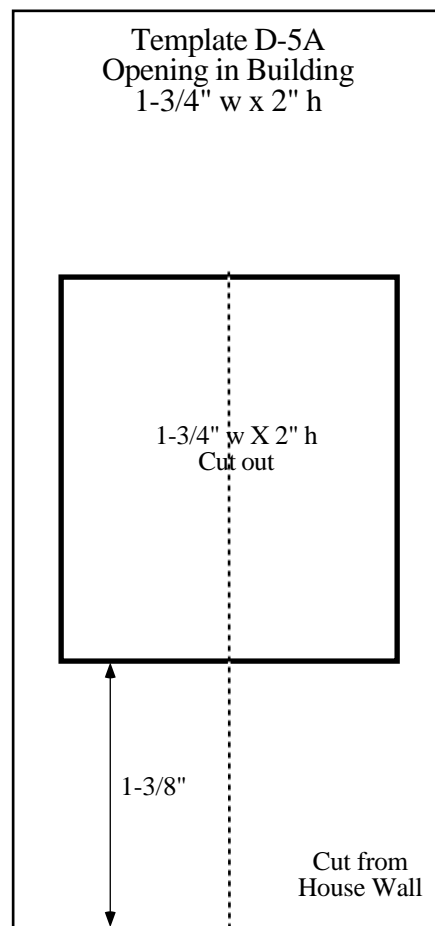
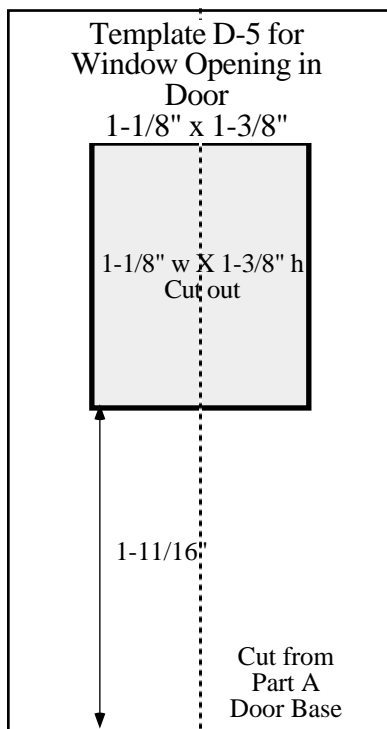
8. Drop the window in place. Be sure that the window covers the opening with a margin of overlapping.

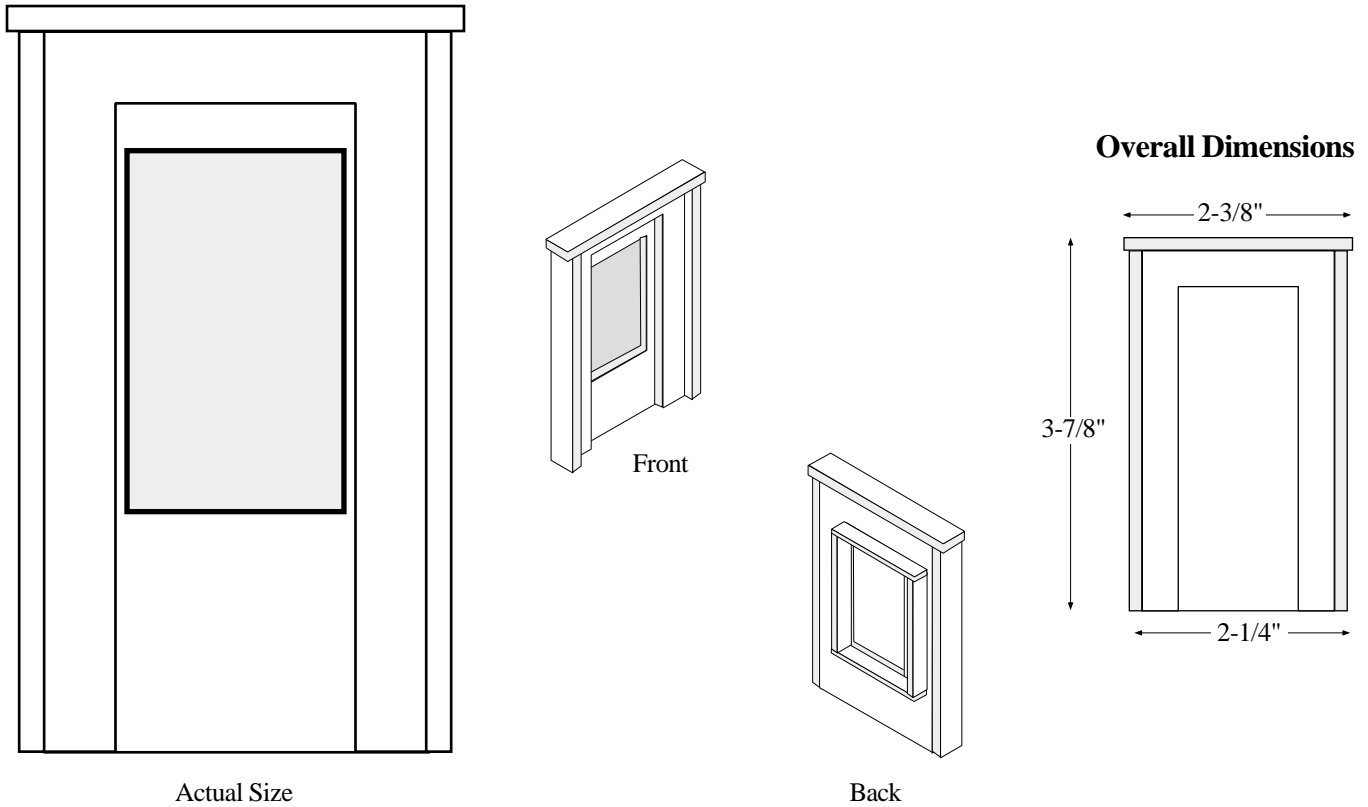


9. Run a bead of glue on one side of the window fasteners. Glue the fastener to the inside of the Side Window Brace, securing the glass or plastic in place.

**The Templates  
Glue to Cardboard and Cut Out  
per "Using the Templates" instructions.**

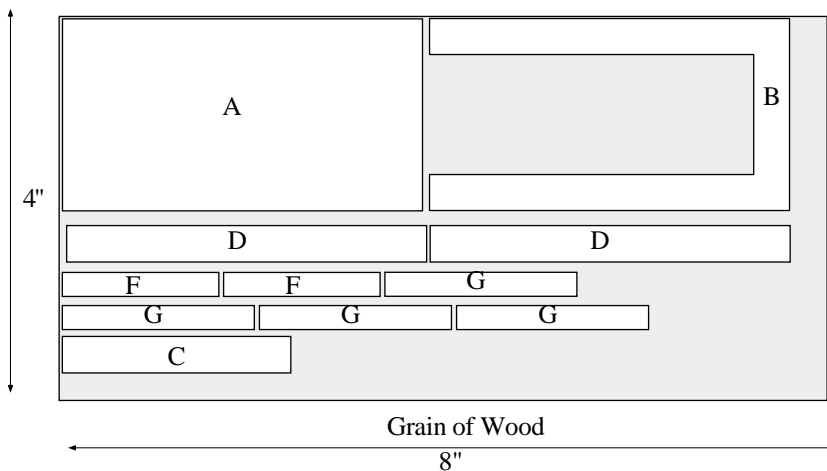
You may wish to copy the templates  
and cut out the copies, leaving the  
originals intact with instruction booklet.





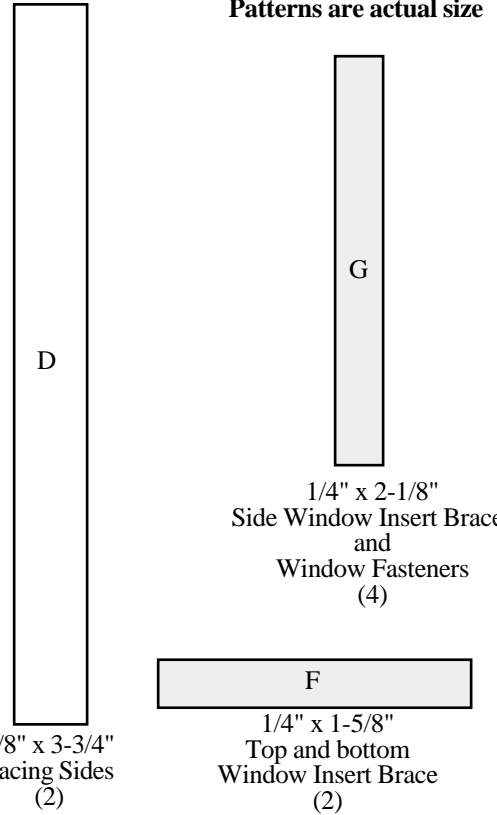
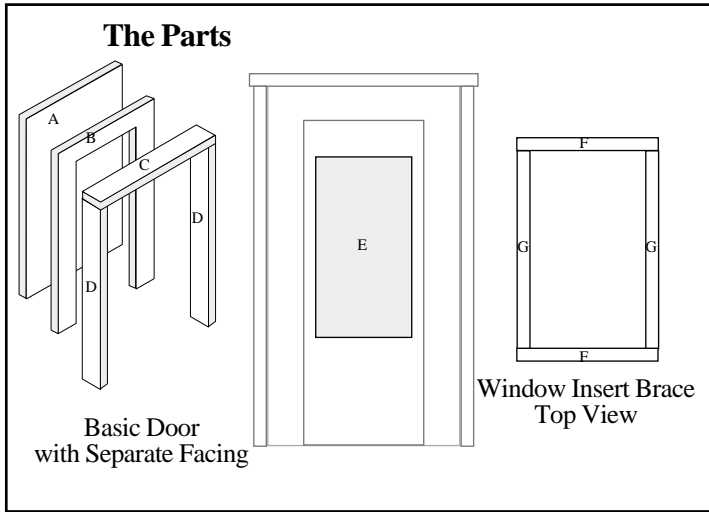
Suggested Layout Door # 6

If you are using Balsa wood, it is much easier to cut out the pieces if they are cut out on the grain of the wood, as illustrated.

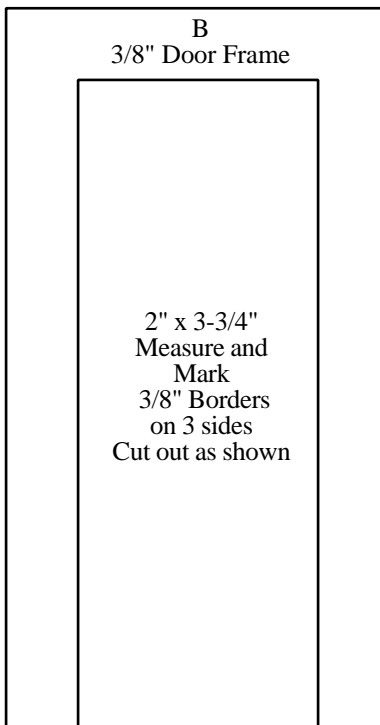
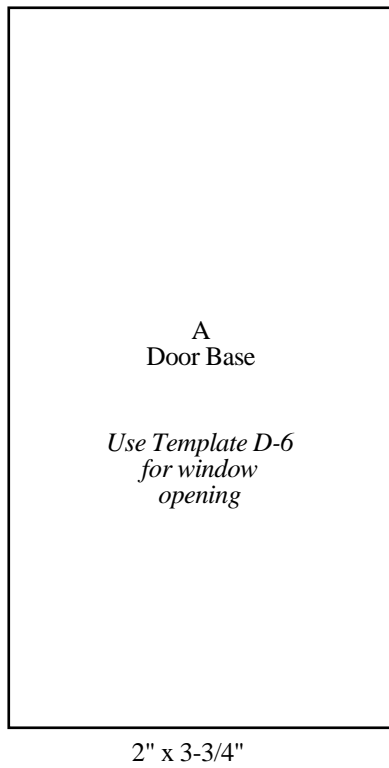


**Optional Supplies for Multiple Doors**  
Cut complete assembly from boards, as shown  
or  
Cut basic frames from boards and use uniform  
ready made strips for braces and trims.  
See Page 55  
and worksheet on Page 57

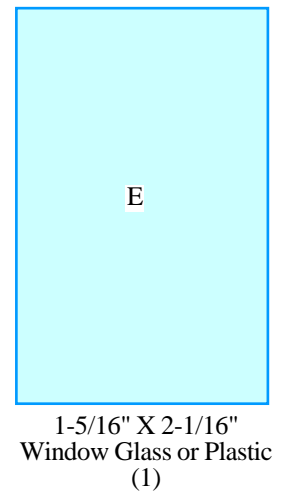
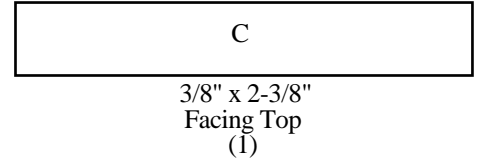




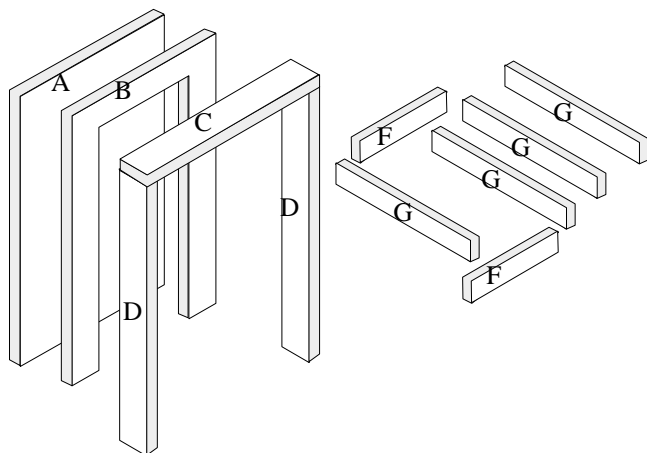
**The Patterns - All Wood is 1/8" thick**



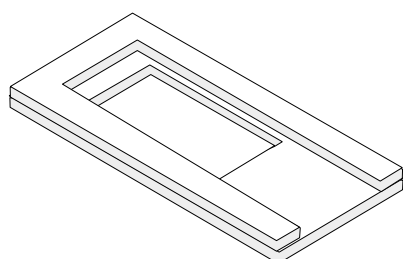
Note: Center piece cut from B  
can be used for Panels or  
Window Insert Braces



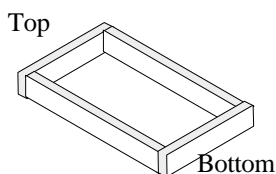
See Template D6-A  
for opening in building



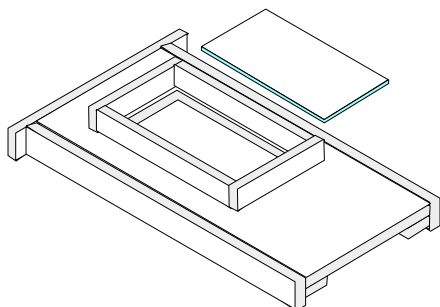
1. Cut out all the parts.



3. Glue Door Frame (B) to the Door Base.



5. Glue the Insert Brace (F and G) together. Note the sides are assembled inside the top and bottom.

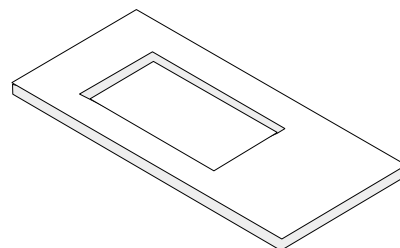


7. Drop the window in place. Be sure that the window covers the opening with a margin of overlapping.

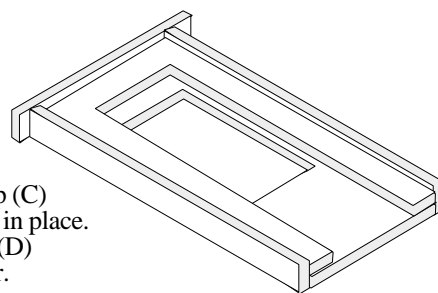
Hints:

- After cutting out the parts, lightly sand any rough edges.
- Check for squareness and that the parts fit together before gluing.
- When gluing the parts together, always clamp the pieces in place and allow the glue to dry before going to the next step. (Or lay a heavy flat object on the door until the parts are dry.)

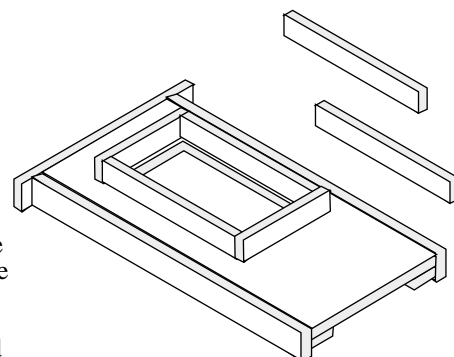
2. Use Template D-6 to mark the window opening in the Door Base (A).



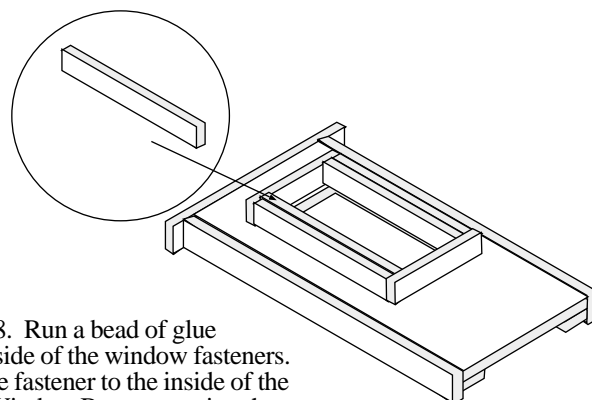
4. Center Door Frame Top (C) to the top of the door and glue in place. Glue Door Frame Sides (D) to the sides of the door.



6. Turn the door over. Center the finished Window Insert Brace over the window opening and glue to the back of the Door Base.



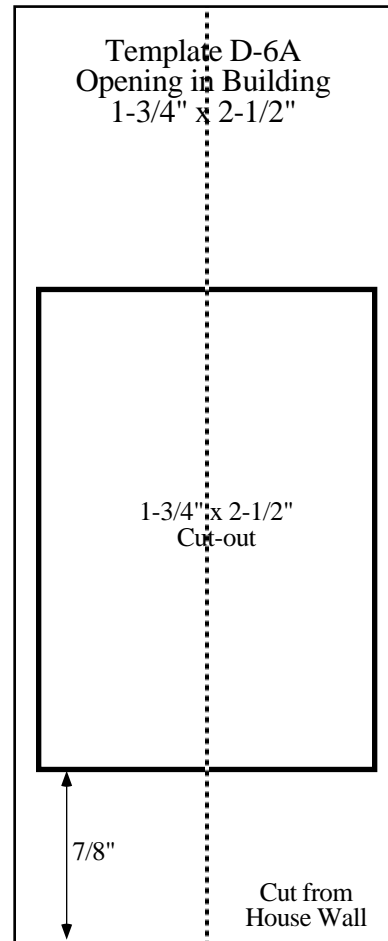
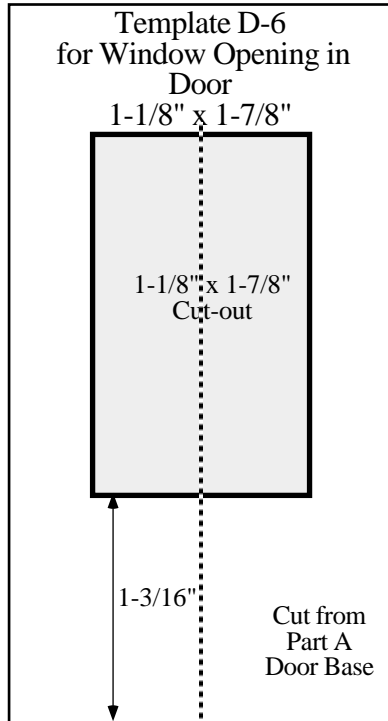
After the glue has dried, paint and seal the door and the two Window Fasteners.

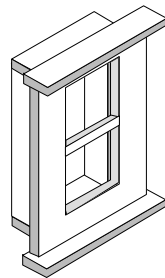
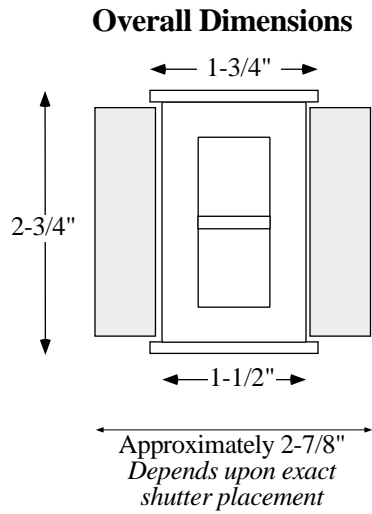
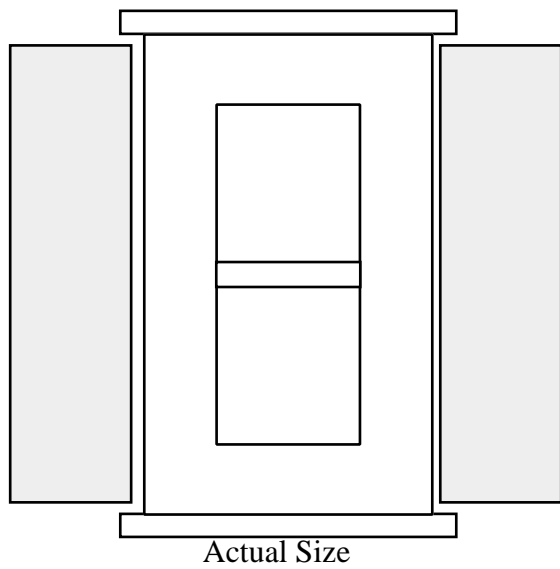


8. Run a bead of glue on one side of the window fasteners. Glue the fastener to the inside of the Side Window Brace, securing the glass or plastic in place.

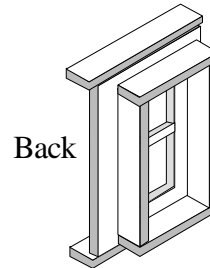
**The Templates**  
**Glue to Cardboard and Cut Out**  
**per "Using the Templates" instructions.**

You may wish to copy the templates  
and cut out the copies, leaving the  
originals intact with instruction booklet.





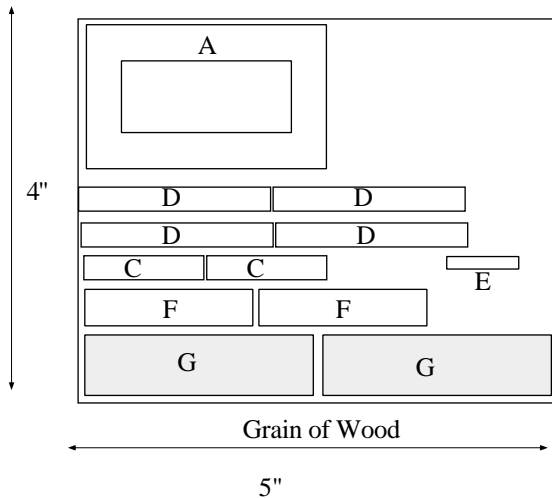
Front



Back

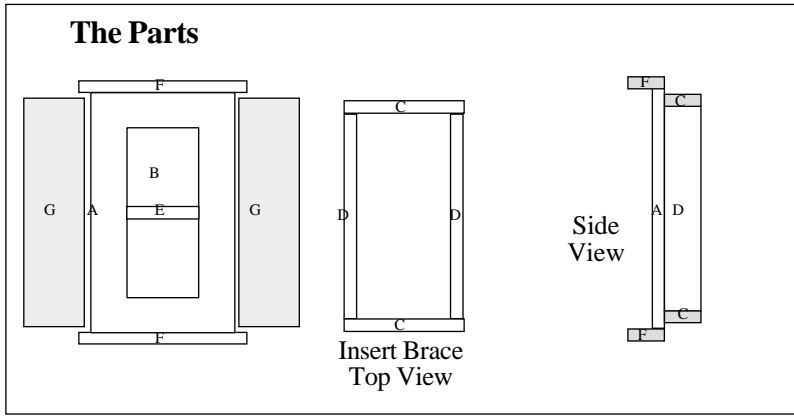
Suggested Layout Window # 1

If you are using Balsa wood, it is much easier to cut out the pieces if they are cut out on the grain of the wood, as illustrated.



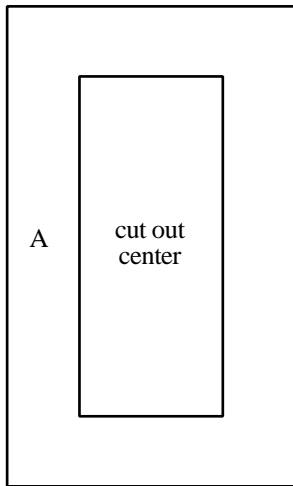
You can make at least 7  
# 1 Frames from  
one 4" x 36" Board

**Optional Supplies for Multiple Windows**  
Cut complete assembly from boards, as shown  
or  
Cut basic frames from boards and use uniform  
ready made strips for braces and trims.  
See Page 56  
and worksheet on Page 57

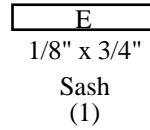


**The Patterns - All Wood is 1/8" thick**

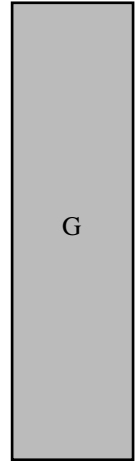
**Note: Patterns are actual size**



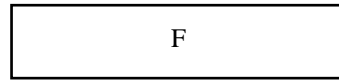
**Frame**  
1-1/2" w x 2-1/2" h  
Mark off 3/8" inside border and cut out center  
or use Template W-1



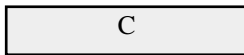
**E**  
1/8" x 3/4"  
**Sash**  
(1)



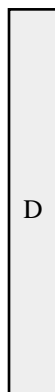
**Shutters**  
2 per window  
5/8" X 2-3/8"



**F**  
3/8" x 1-3/4"  
**Window Trim**  
(2)

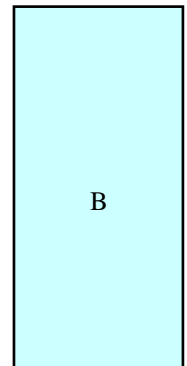


**C**  
1/4" x 1-1/4"  
**Top and Bottom Insert Brace**  
(2)



**D**  
1/4" x 2"  
**Side Insert Braces and Window Fasteners**  
(4)

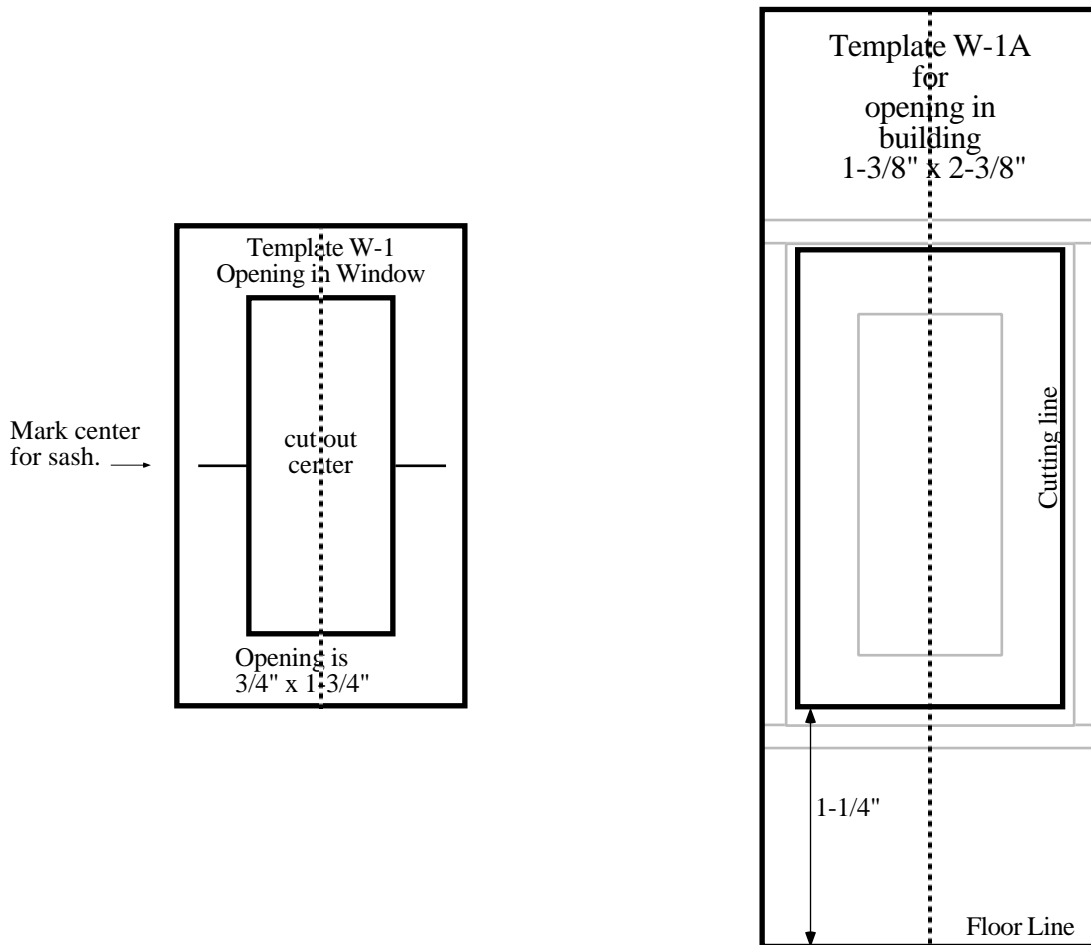
Use Template W-1A for opening in building



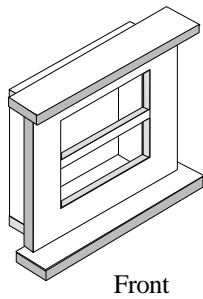
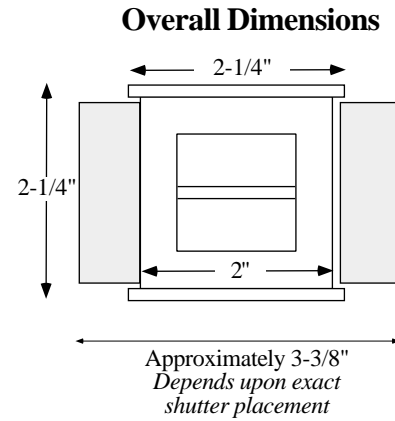
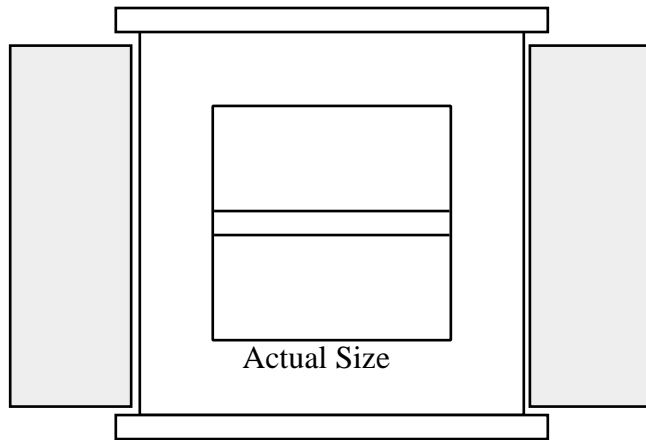
**B**  
7/8" x 1-7/8"  
**Window Glass or Plastic**

**The Templates - Glue to cardboard and cut out per "using the Template instructions**

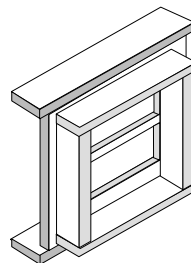
You may wish to copy the templates and cut out the copies, leaving the originals intact with instruction booklet.



Assembly for Window #1,2 or 3  
See Page 37



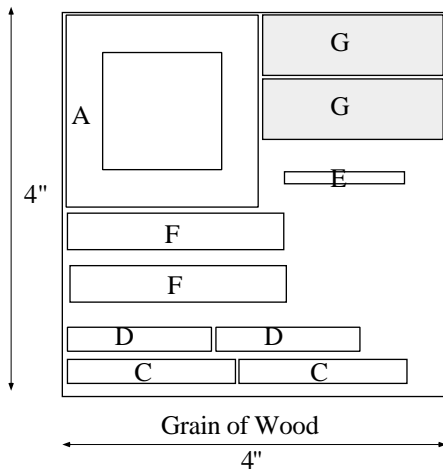
Front



Back

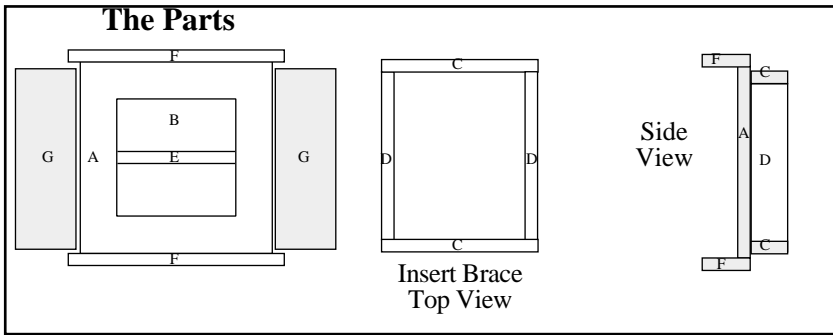
Suggested Layout Window # 2

If you are using Balsa wood, it is much easier to cut out the pieces if they are cut out on the grain of the wood, as illustrated.



You can make at least 9  
# 2 Frames from  
one 4" x 36" Board

**Optional Supplies for Multiple Windows**  
Cut complete assembly from boards, as shown  
or  
Cut basic frames from boards and use uniform  
ready made strips for braces and trims.  
See Page 56  
and worksheet on Page 57

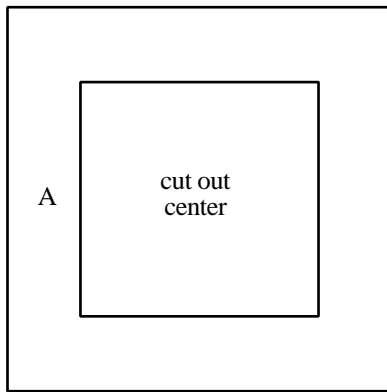


**The Patterns - All Wood is 1/8" thick**

**Note: Patterns are actual size**

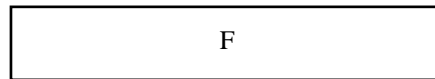


**Shutters**  
2 per window  
5/8" x 1-7/8"



Frame  
2" w x 2" h  
Mark off 3/8" inside  
border and cut out center

or use Template W-2



F  
3/8" x 2-1/4"  
Window Trim  
(2)



E  
1/8" x 1-1/4"  
Sash (1)

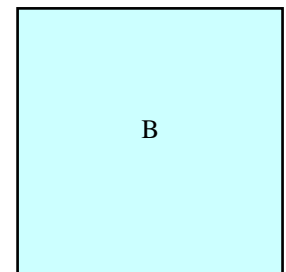


1/4" x 1-1/2"  
Side Insert Braces  
and  
Window Fasteners  
(4)



C  
1/4" x 1-3/4"  
Top and Bottom  
Insert Brace  
(2)

Use Template W-2A  
for opening in building

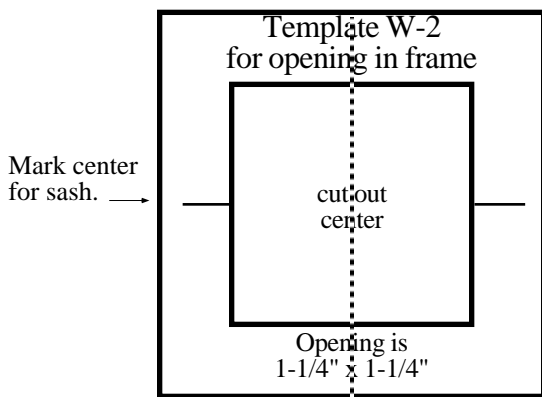


1-3/8" X 1-13/8"  
Window Glass  
or Plastic

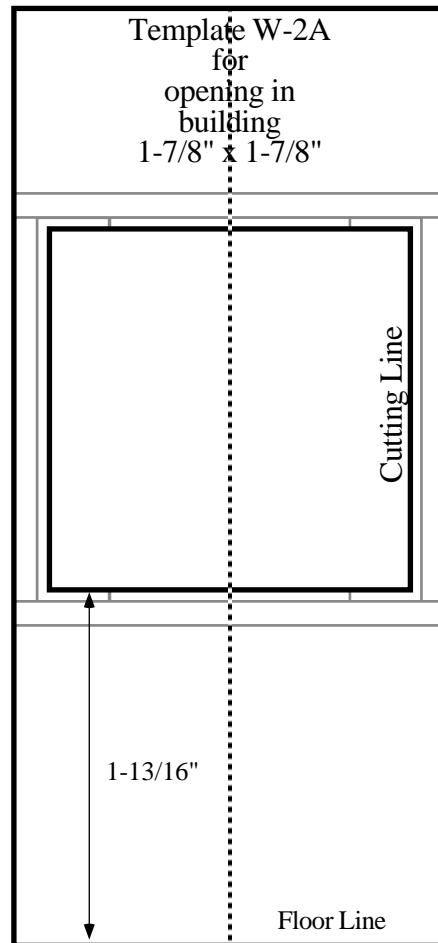


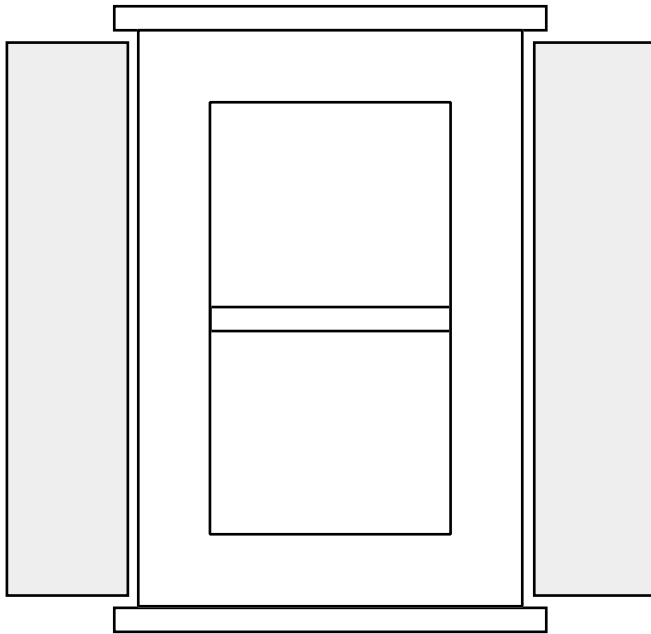
**The Templates - Glue to cardboard and cut out per "using the Template instructions**

You may wish to copy the templates and cut out the copies, leaving the originals intact with instruction booklet.

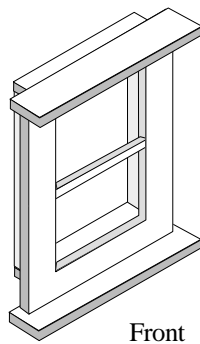
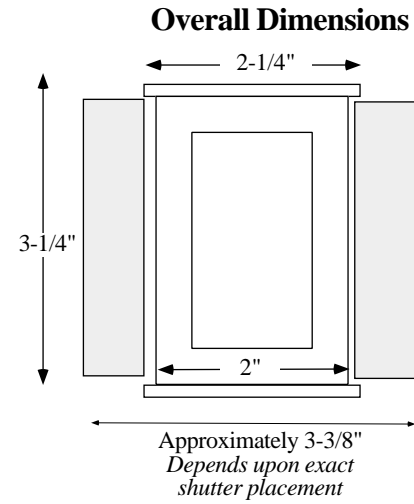


Assembly for Window #1,2 or 3  
See Page 37

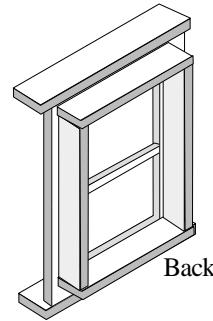




Actual Size



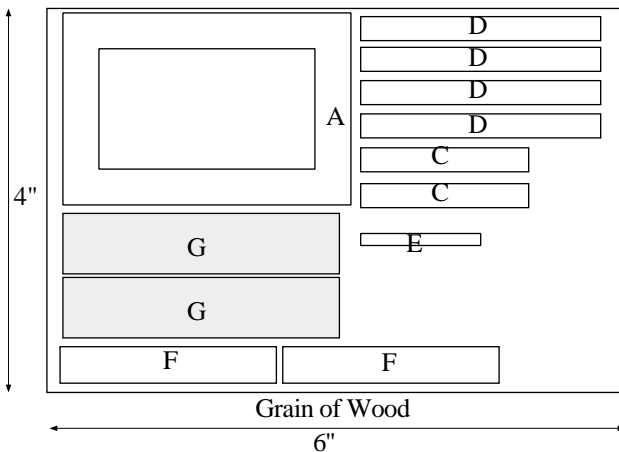
Front



Back

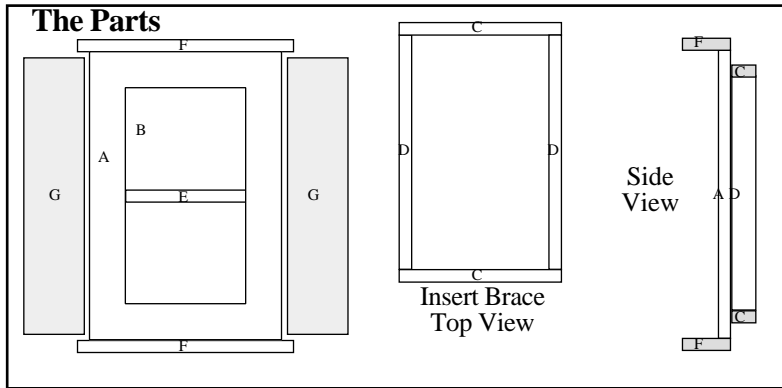
Suggested Layout Window # 3

If you are using Balsa wood, it is much easier to cut out the pieces if they are cut out on the grain of the wood, as illustrated.



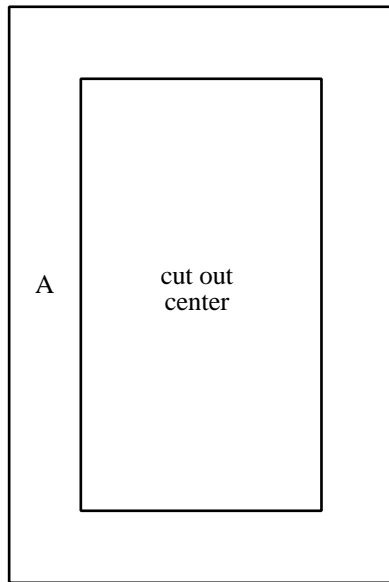
You can make at least 6  
# 3 Frames from  
one 4" x 36" Board

**Optional Supplies for Multiple Windows**  
Cut complete assembly from boards, as shown  
or  
Cut basic frames from boards and use uniform  
ready made strips for braces and trims.  
See Page 56  
and worksheet on Page 57

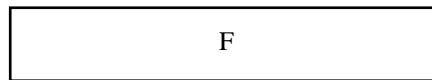


**The Patterns - All Wood is 1/8" thick**

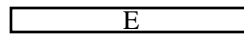
Note: Patterns are actual size



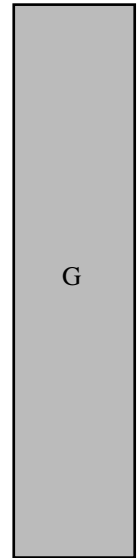
Frame  
2" w x 3" h  
Mark off 3/8" inside  
border and cut out center  
use Template W-3



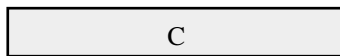
3/8" x 2-1/4"  
Window Trim  
(2)



1/8" x 1-1/4"  
Sash (1)



Shutters  
2 per  
window  
5/8" x 2-7/8"

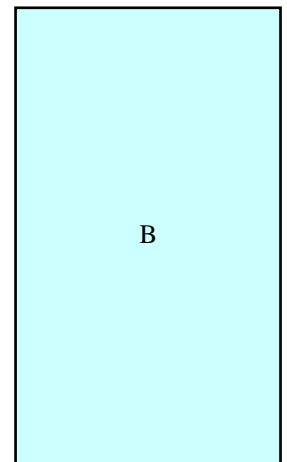


1/4" x 1-3/4"  
Top and Bottom Insert Braces  
(2)



1/4" x 2-1/2"  
Side Insert Braces  
and  
Window Fasteners  
(4)

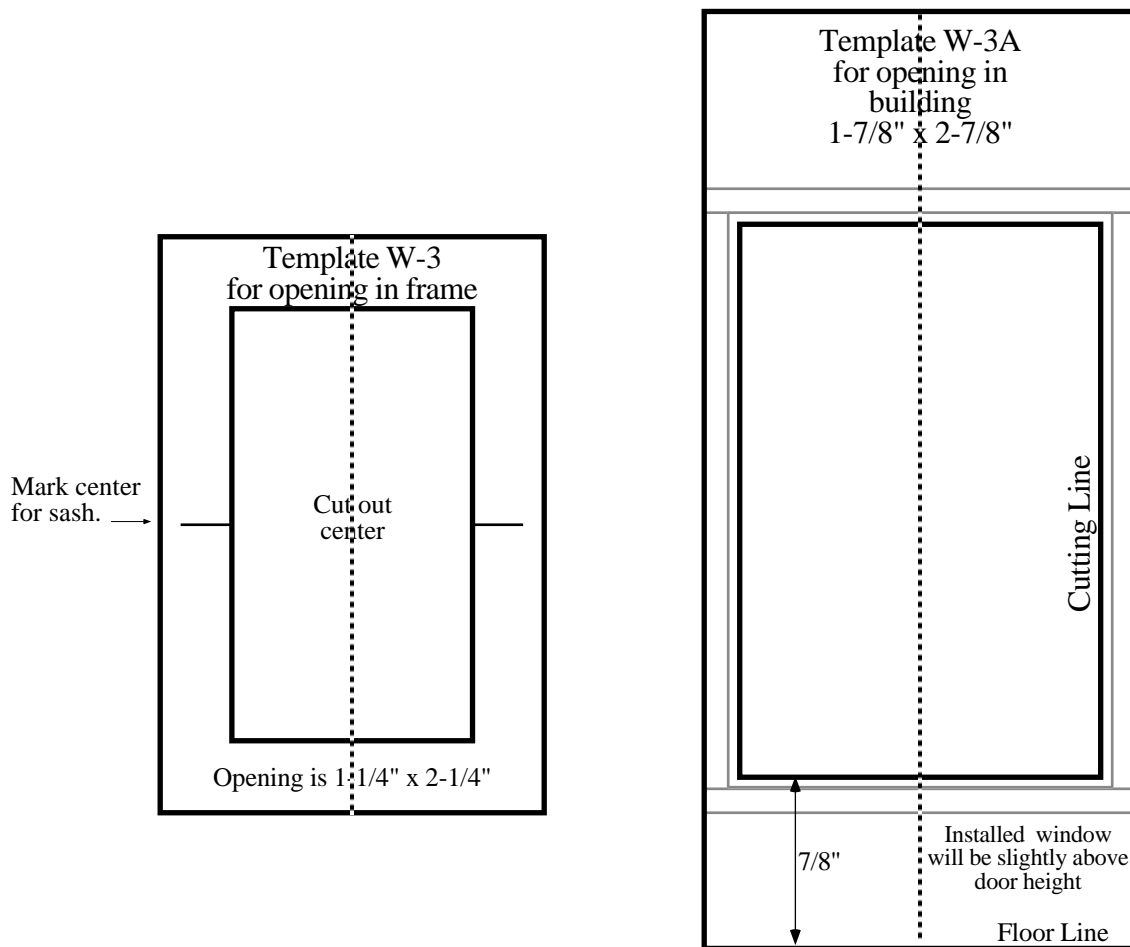
Use Template W-3A  
for opening in building



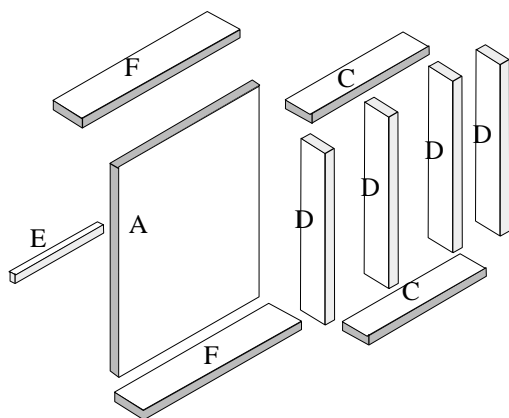
1-3/8" x 2-3/8"  
Window Glass  
or Plastic

**The Templates - Glue to cardboard and cut out per "using the Template instructions**

You may wish to copy the templates and cut out the copies, leaving the originals intact with instruction booklet.



Assembly for Window #1,2 or 3  
See Page 37

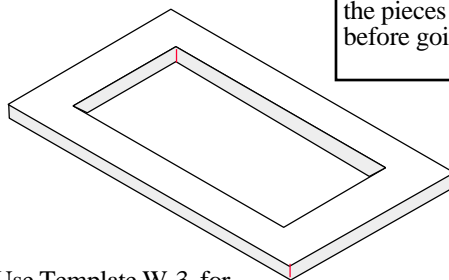


**Hints**

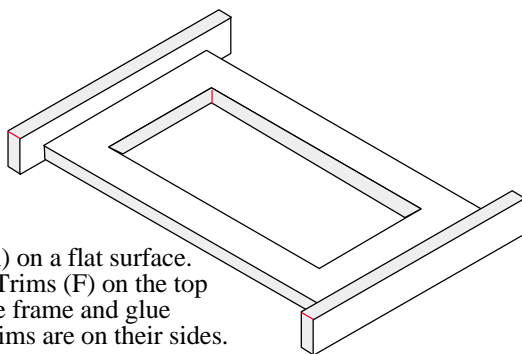
- After cutting out the parts, lightly sand any rough edges.
- Check for squareness and that the parts fit together before gluing.
- When gluing the parts together, always clamp the pieces in place and allow the glue to dry before going on to the next step.

1. Using the pattern dimensions, cut out all pattern pieces.

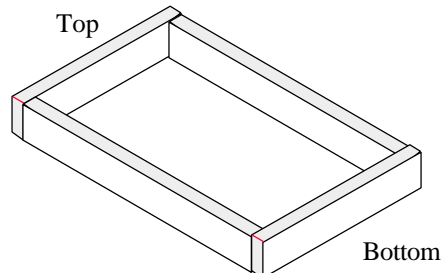
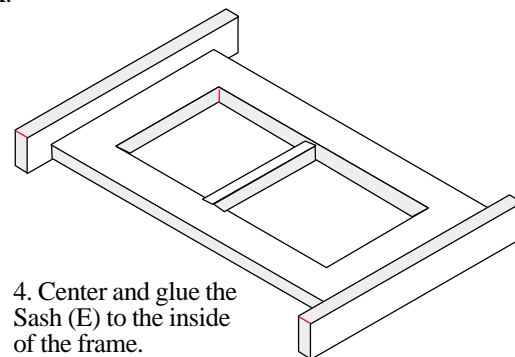
2. Use Template W-3 for marking the opening in frame A. Cut out the opening.



3. Lay Frame (A) on a flat surface. Center Window Trims (F) on the top and bottom of the frame and glue in place. Note Trims are on their sides.



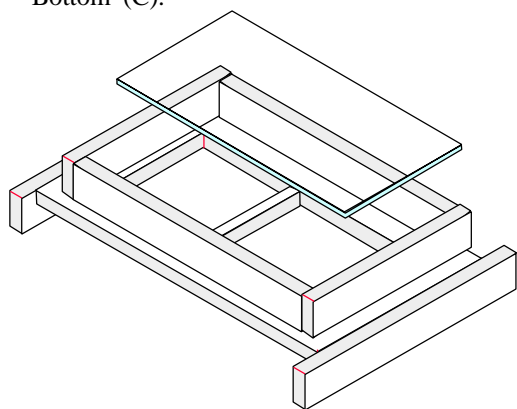
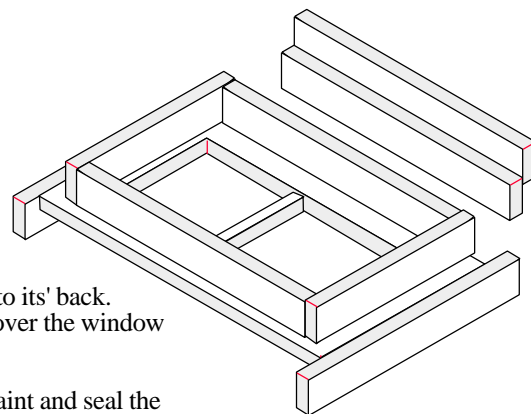
4. Center and glue the Sash (E) to the inside of the frame.



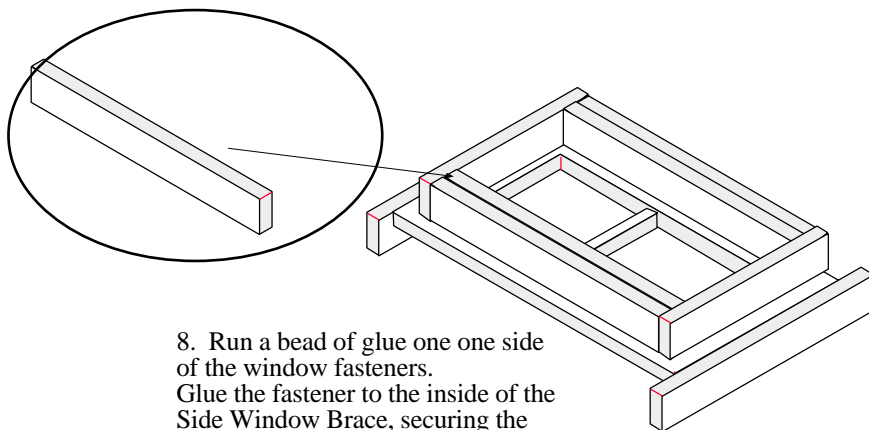
5. On a flat surface, glue the window Brace. Sides (D) are assembled inside of Top and Bottom (C).

6. Flip the dried frame onto its' back. Center the window brace over the window cut out and glue in place.

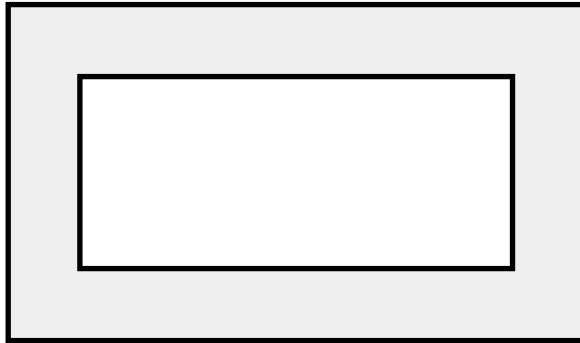
After the glue has dried, paint and seal the window frame and the two window fasteners



7. Drop the window in place. Be sure that the window covers the opening with a margin overlapping.

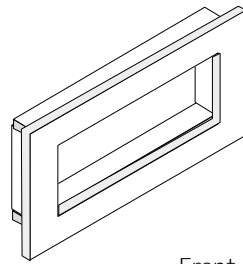
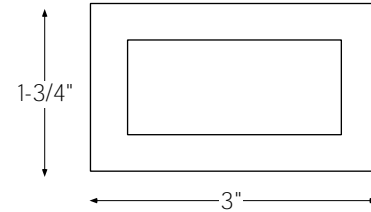


8. Run a bead of glue on one side of the window fasteners. Glue the fastener to the inside of the Side Window Brace, securing the glass or plastic in place.

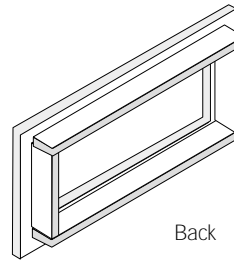


Actual Size

Overall Dimensions



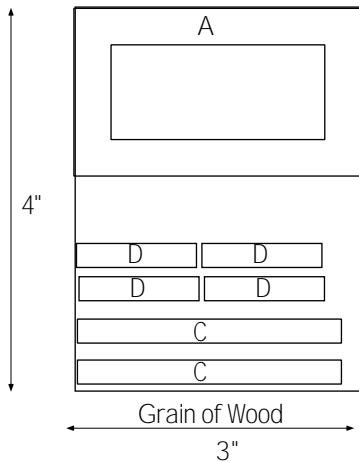
Front



Back

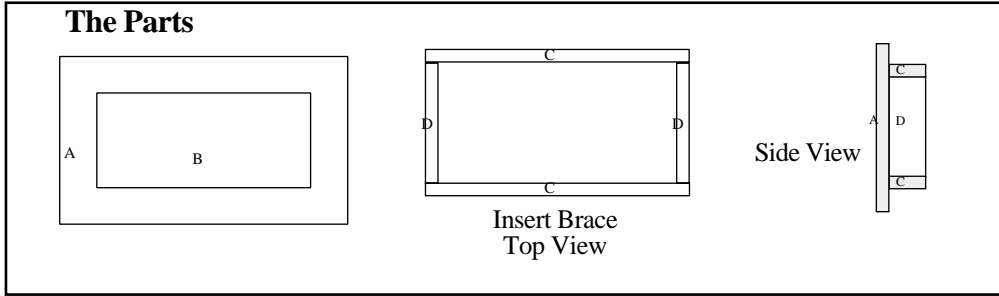
Suggested Layout Window # 4

If you are using Balsa wood, it is much easier to cut out the pieces if they are cut out on the grain of the wood, as illustrated.



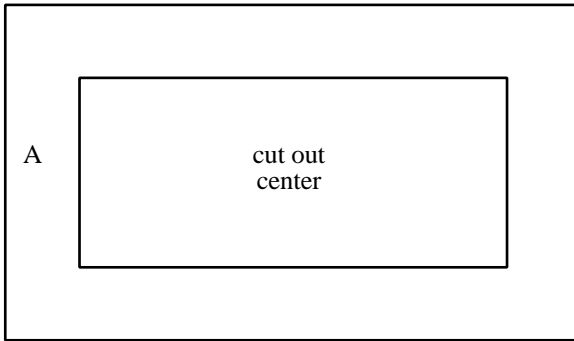
You can make at least 12  
# 4 Frames from  
one 4" x 36" Board

**Optional Supplies for Multiple Windows**  
Cut complete assembly from boards, as shown  
or  
Cut basic frames from boards and use uniform  
ready made strips for braces and trims.  
See Page 56  
and worksheet on Page 57



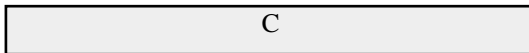
**The Patterns - All Wood is 1/8" thick**

**Note: Patterns are actual size**



Frame  
1-3/4" w x 3-" h  
Mark off 3/8" inside  
border and cut out center

or use Template W-4

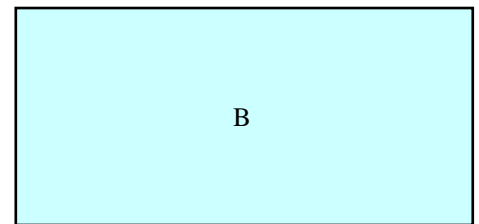


1/4" x 2-3/4"  
Top and Bottom Insert Brace  
(2)



1/4" x 1-1/4"  
Side Insert Braces  
and  
Window Fasteners  
(4)

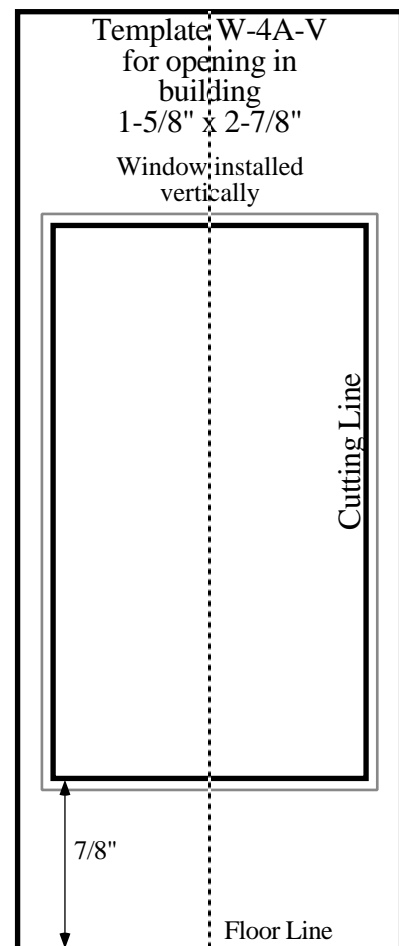
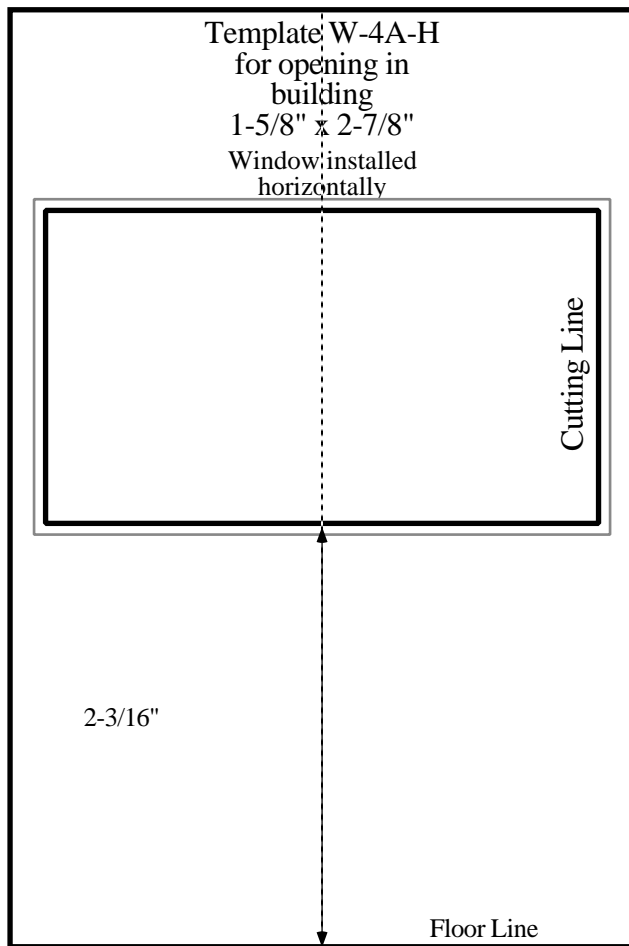
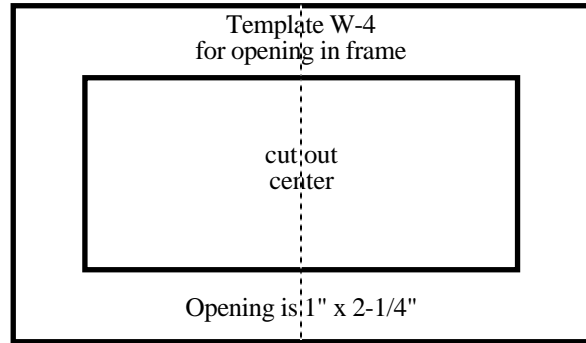
Use Template  
W-4A-H  
*Horizontal*  
or  
W-4A-V *Vertical*  
for opening in  
building



2-3/8" X 1-1/8"  
Window glass  
or plastic

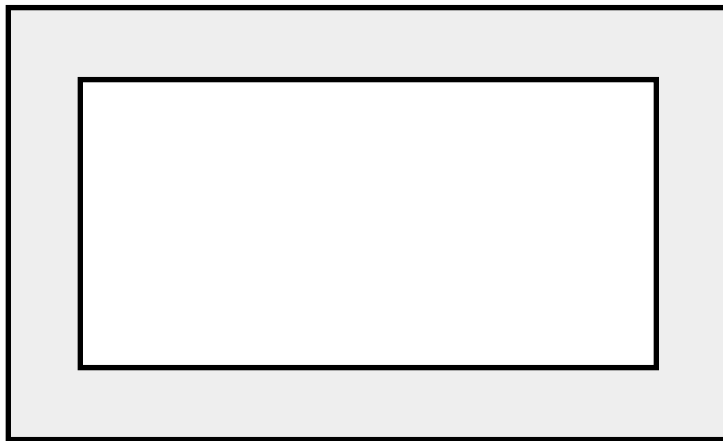
**The Templates - Glue to cardboard and cut out per "using the Template instructions**

You may wish to copy the templates and cut out the copies, leaving the originals intact with instruction booklet.

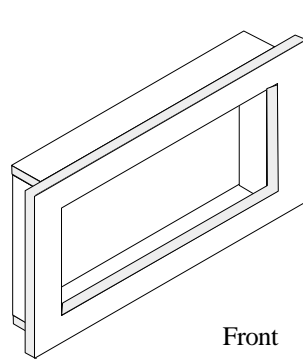
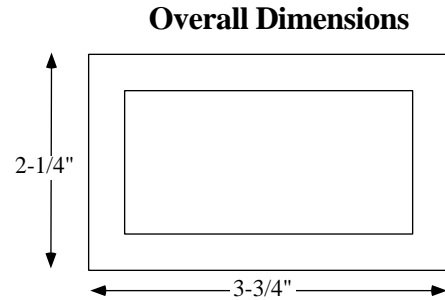


Assembly for Window #4, 5 or 6  
See Page 47

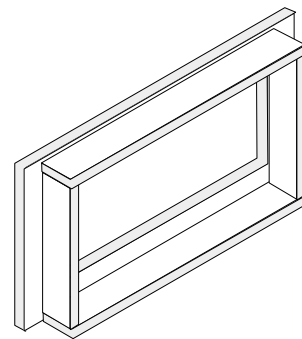




Actual Size



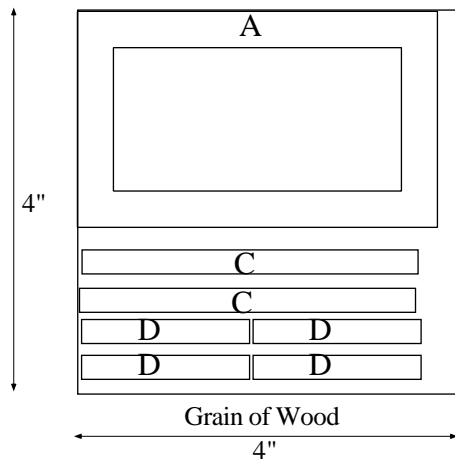
Front



Back

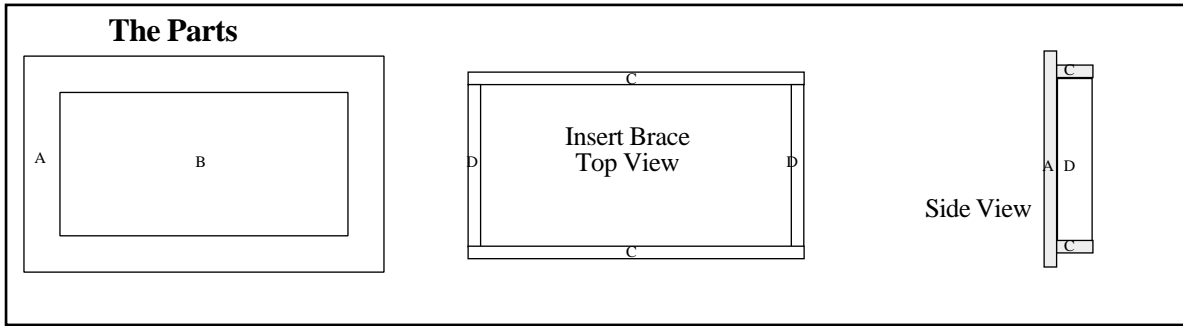
Suggested Layout Window # 5

If you are using Balsa wood, it is much easier to cut out the pieces if they are cut out on the grain of the wood, as illustrated.



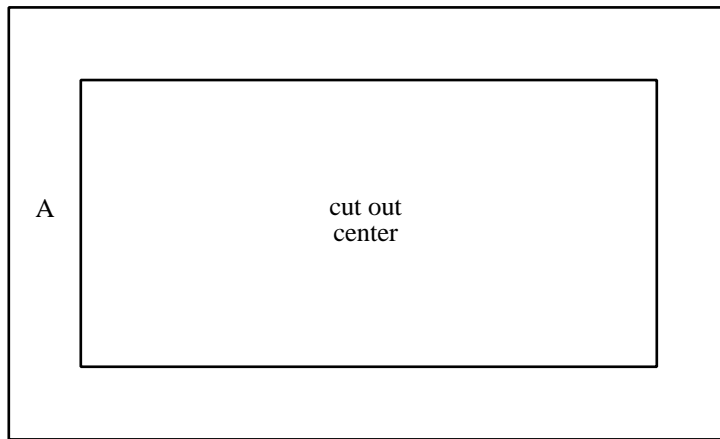
You can make at least 9  
# 4 Frames from  
one 4" x 36" Board

**Optional Supplies for Multiple Windows**  
Cut complete assembly from boards, as shown  
or  
Cut basic frames from boards and use uniform  
ready made strips for braces and trims.  
See Page 56  
and worksheet on Page 57



**The Patterns - All Wood is 1/8" thick**

**Note: Patterns are actual size**



Frame  
2-1/4" w x 3-3/4" h  
Mark off 3/8" inside border and cut out center  
or use Template W-5

or use Template W-5

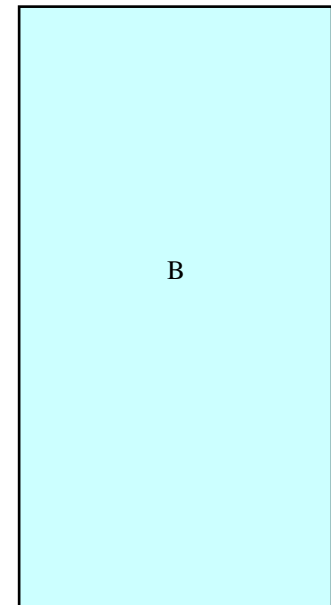


1/4" x 3-1/2"  
Top and Bottom Insert Brace  
(2)

Use Template  
W-5A-H *Horizontal*  
or W-5A-V *Vertical*  
for opening in building



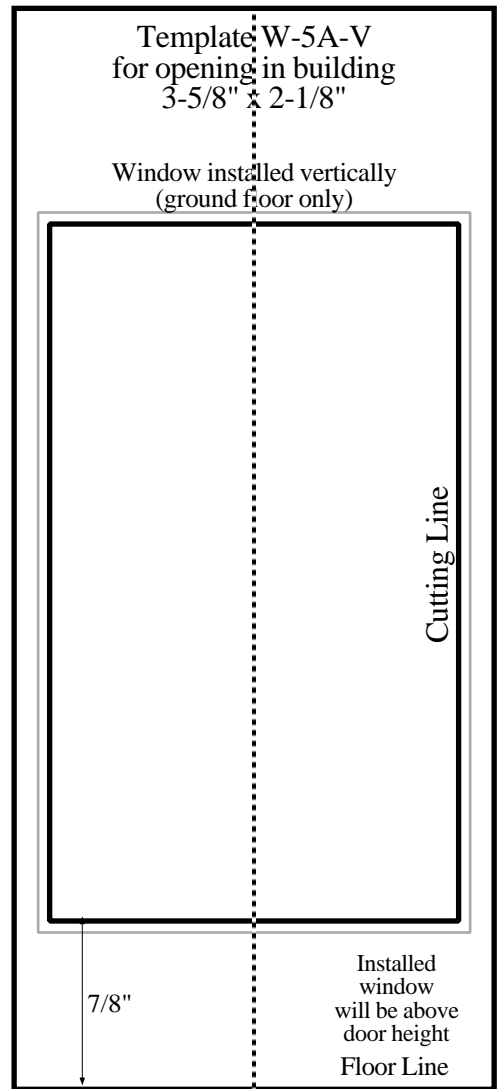
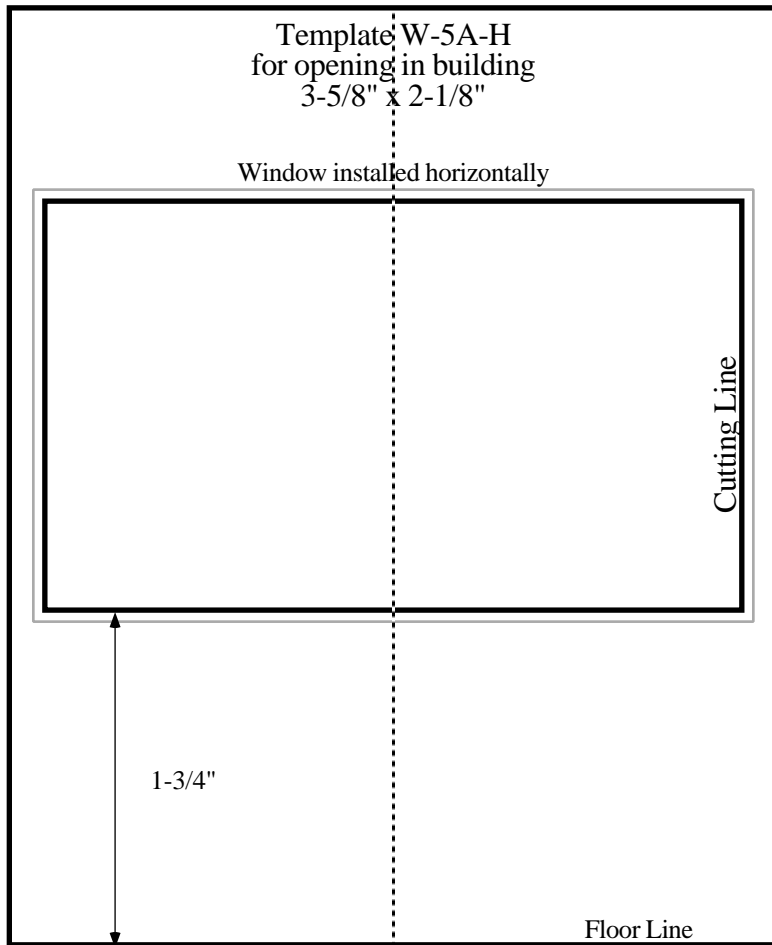
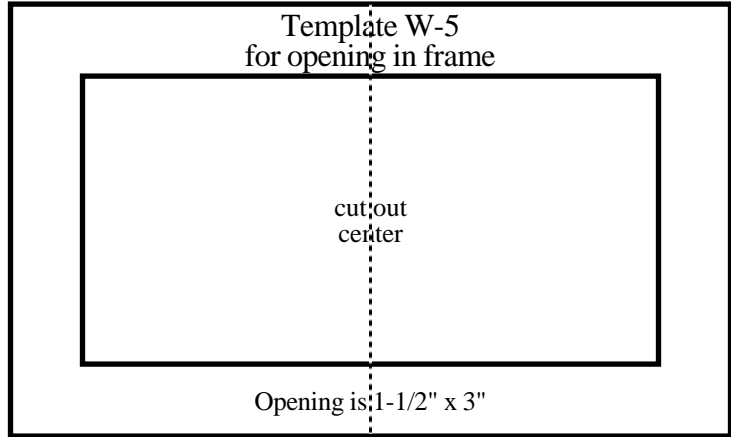
1/4" x 1-3/4"  
Side Insert Braces and Window Fasteners  
(4)



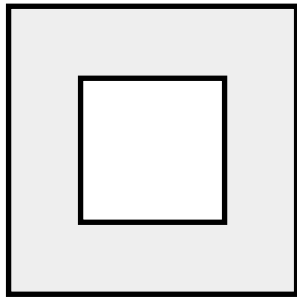
1-5/8" x 3-1/8"  
Window Glass or Plastic

**The Templates - Glue to cardboard and cut out per "using the Template instructions**

You may wish to copy the templates and cut out the copies, leaving the originals intact with instruction booklet.

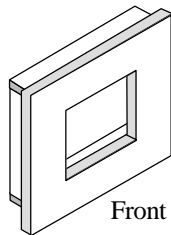
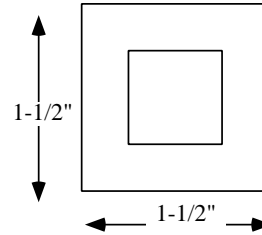


Assembly for Window #4, 5 or 6  
See Page 47

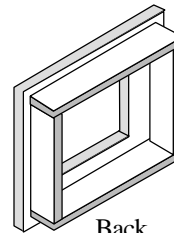


Actual Size

**Overall Dimensions**



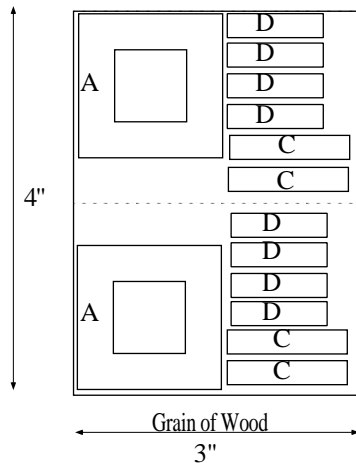
Front



Back

Suggested Layout Window # 6

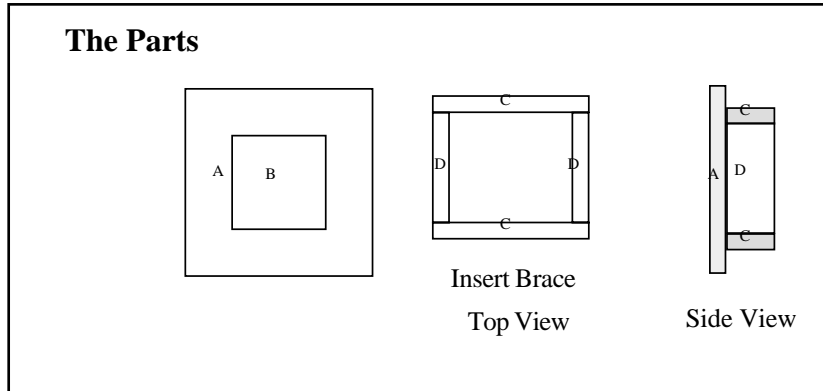
If you are using Balsa wood, it is much easier to cut out the pieces if they are cut out on the grain of the wood, as illustrated.



4" x 3" yields 2 Frames

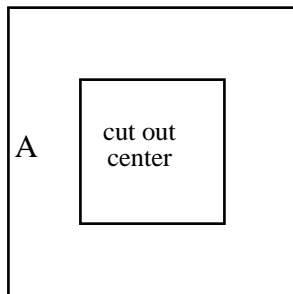
You can make at least 24  
# 5 Frames from  
one 4" x 36" Board

**Optional Supplies for Multiple Windows**  
Cut complete assembly from boards, as shown  
or  
Cut basic frames from boards and use uniform  
ready made strips for braces and trims.  
See Page 56  
and worksheet on Page 57

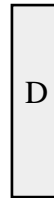


**The Patterns - All Wood is 1/8" thick**

**Note: Patterns are actual size**



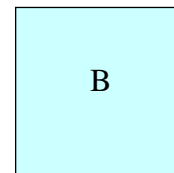
Frame  
1-1/2" h x 1-1/2" w  
Mark off 3/8" inside  
border  
and cut out center  
or  
use Template W-6



1/4" x 1"  
Side Insert Braces  
and  
Window Fasteners  
(4)



1/4" x 1-1/4"  
Top and Bottom Insert Brace  
(2)

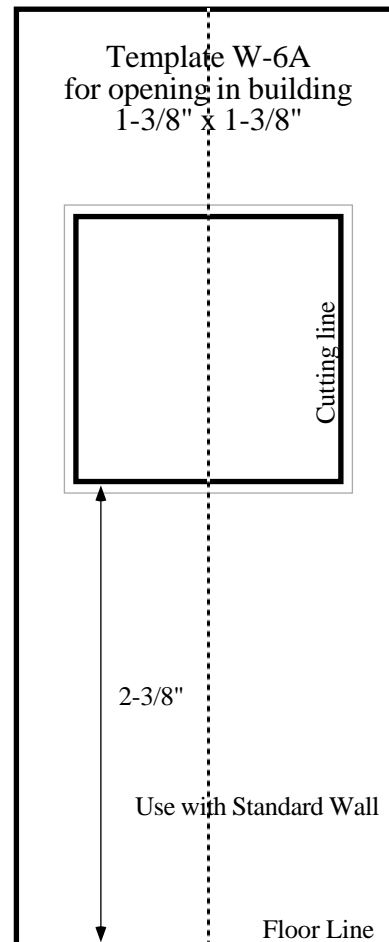
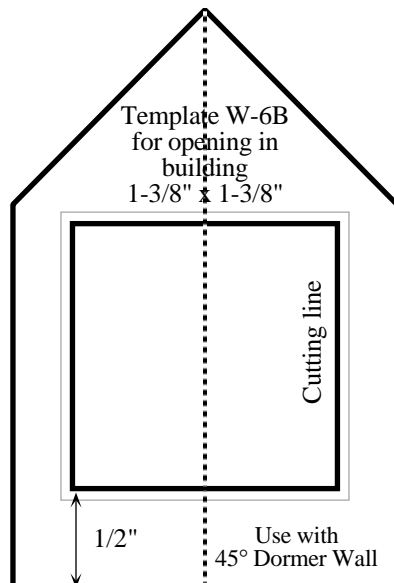
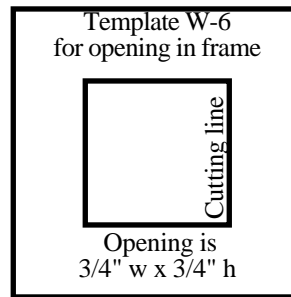


7/8" h x 7/8" w  
Window Glass  
or Plastic

Use Template  
W-6A  
or W-6B  
for opening in building

**The Templates - Glue to cardboard and cut out per "using the Template instructions**

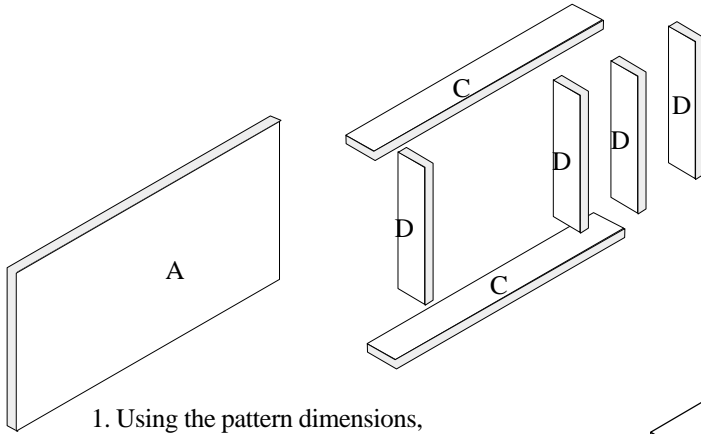
You may wish to copy the templates and cut out the copies, leaving the originals intact with instruction booklet.



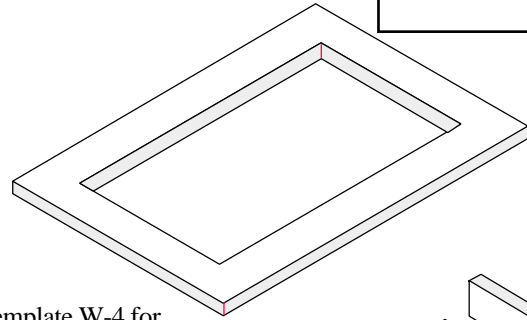
Assembly for Window #4, 5 or 6  
See Page 47

**Hints**

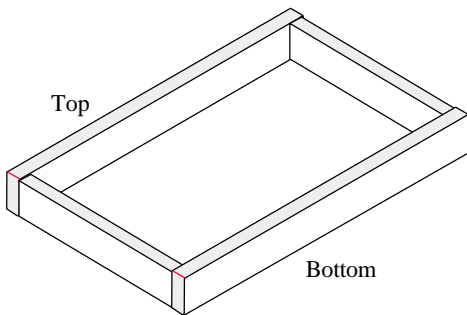
- After cutting out the parts, lightly sand any rough edges.
- Check for squareness and that the parts fit together before gluing.
- When gluing the parts together, always clamp the pieces in place and allow the glue to dry before going on to the next step.



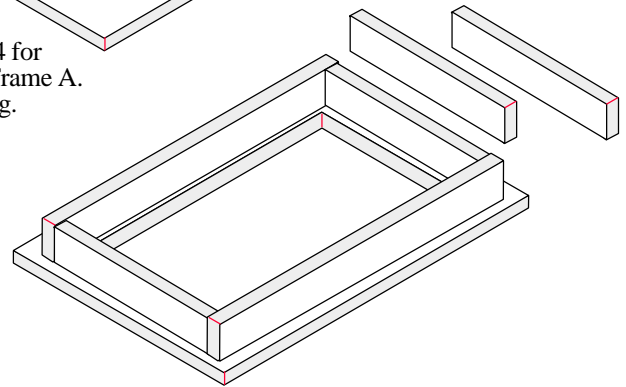
1. Using the pattern dimensions, cut out all pattern pieces.



2. Use Template W-4 for marking the opening in Frame A. Cut out the opening.

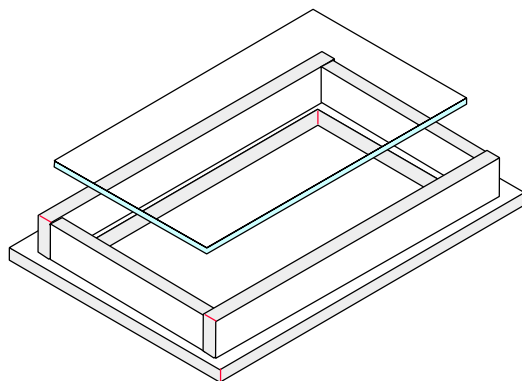


3. On a flat surface, glue the window Brace. Sides (D) are assembled inside of Top and Bottom (C).

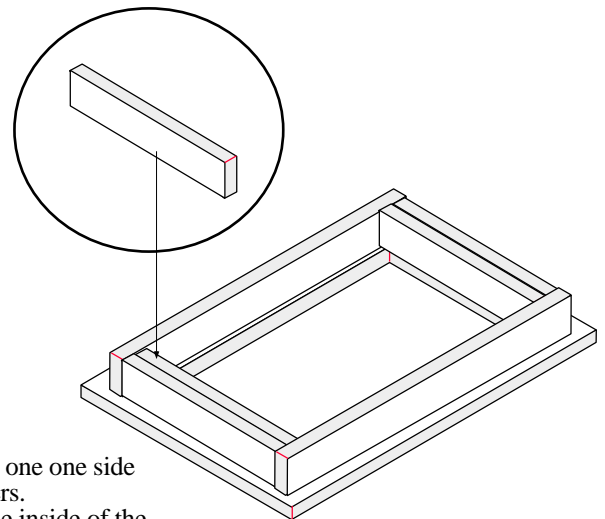


4. Lay Frame (A) on a flat surface with back side up (if there is a definite front and back to the wood). Center the window brace over the window cut out and glue in place.

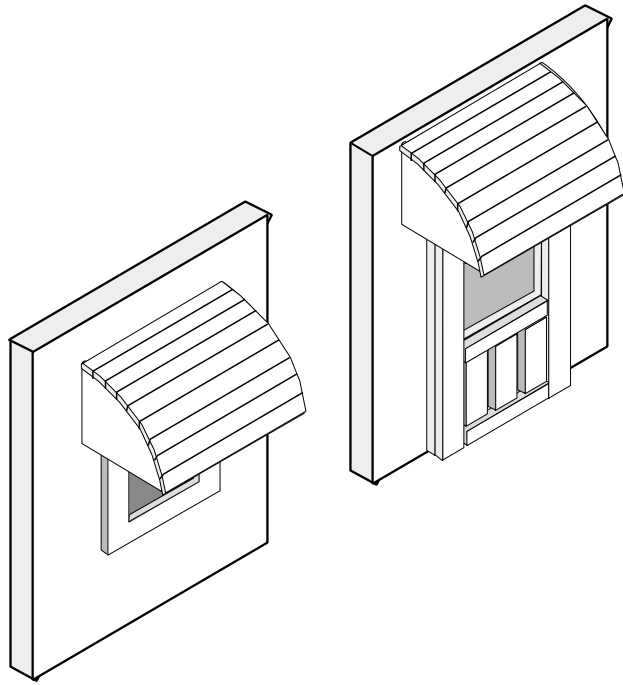
After the glue has dried, paint and seal the window frame and the two window fasteners



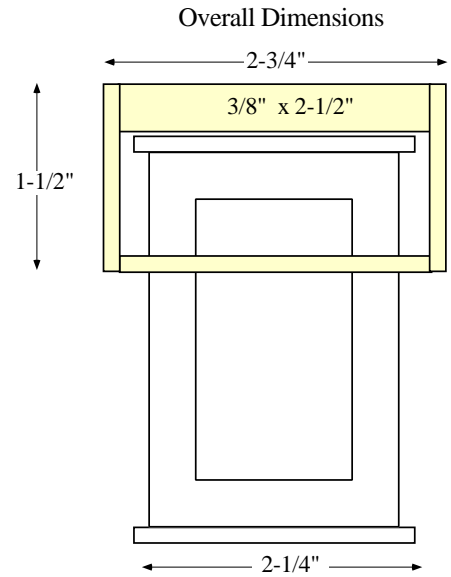
5. Drop the window in place. Be sure that the window covers the opening with a margin overlapping.



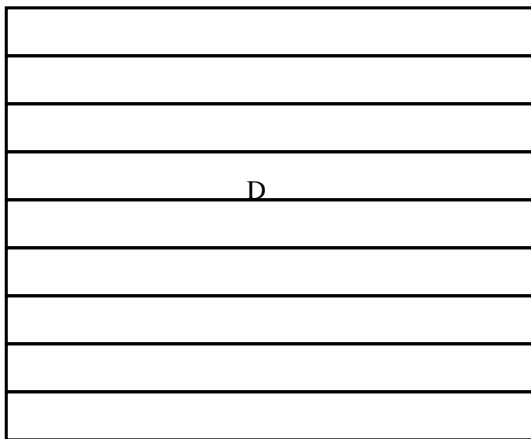
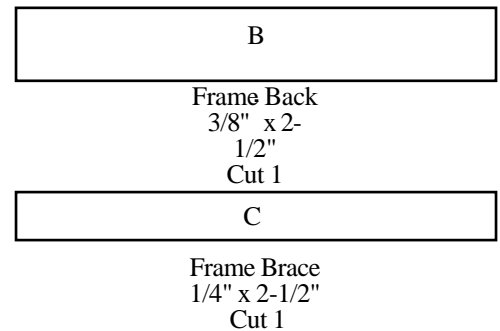
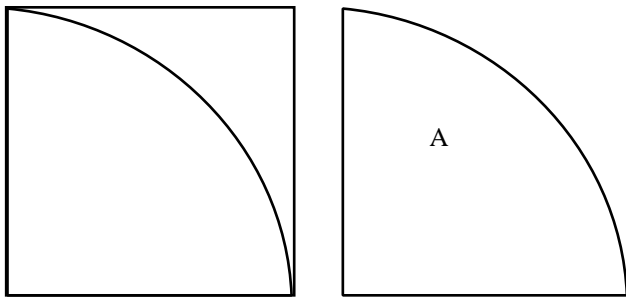
6. Run a bead of glue on one side of the window fasteners. Glue the fastener to the inside of the Side Window Brace, securing the glass or plastic in place.



Awning # 1 rounded frame with 9 slats

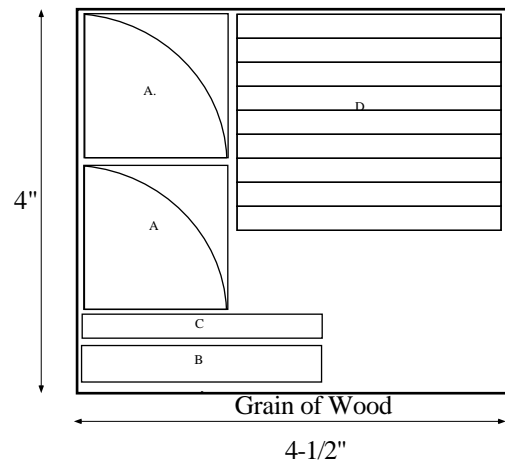


**Patterns are actual size.**  
**Cut from 1/8" Balsa or Hardwood**



Wood for 9 slats  
2-3/4" wide x 2-1/4" high  
Cut 1

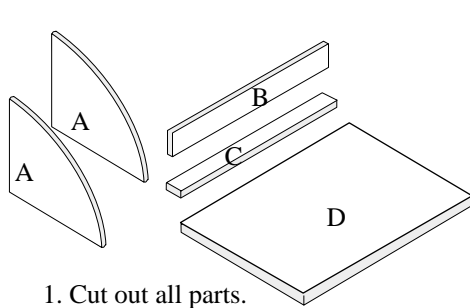
Layout for one awning 4" x 4-1/2"



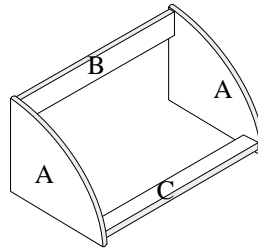
**Optional Supplies for Multiple Window Accessories**  
**Cut complete assembly from boards, as shown**  
**or**  
**Cut basic frames from boards and use uniform ready made strips for braces and trims.**

**Supplies and worksheet on Page 57**





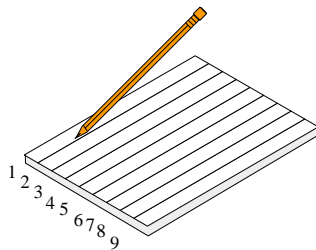
1. Cut out all parts.



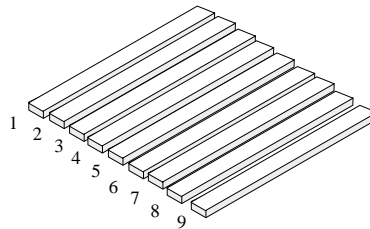
2. Assemble and glue the frame with Parts B and C inside the sides, as shown. Part B Frame Back will attach to the building wall. Part C Frame Brace is to keep the sides equally distant. Paint the frame and allow to dry.

**Hints**

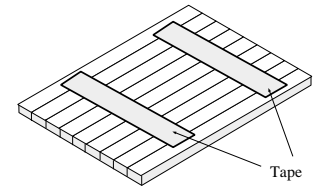
- After cutting out the parts, lightly sand any rough edges.
- Check for squareness and that the parts fit together before gluing.
- When gluing the parts together, always clamp the pieces in place and allow the glue to dry before going on to the next step.



3. Using ruler and pencil mark lines on Part D. Lines will be 1/4" apart. There will be 9 slats.



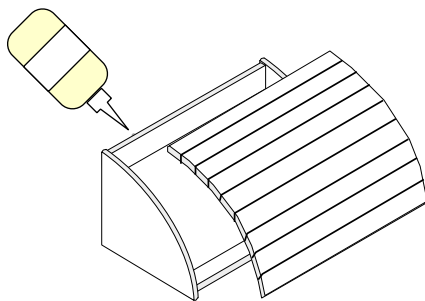
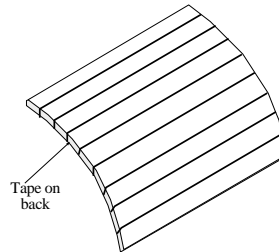
4. Cut out the individual slats, keeping them in the same order so that they "fit" together when all are cut out.



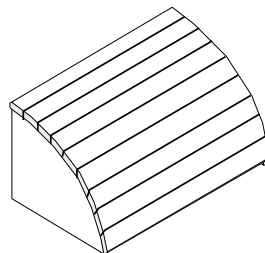
5. Push the slats back together and place two pieces of tape on the bottom side to keep boards together.

**Optionally, cut Part D from ready made 1/4" strips**

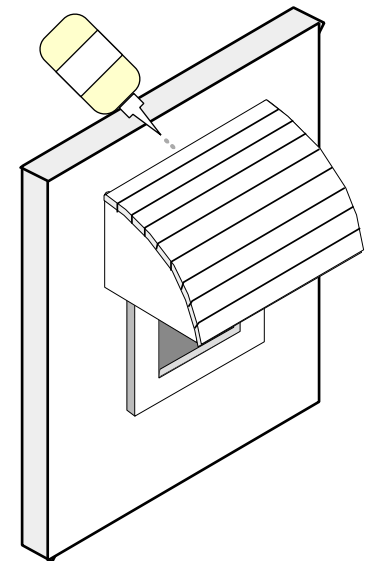
Leaving the tape intact until installation is complete will allow you to bend the slats in a straight line.



6. Glue all exposed edges of the frame. Center the awning over the frame. Arrange slats so that the top slat covers the top of the frame and the bottom slat covers the bottom. Let dry and remove tape from the back.

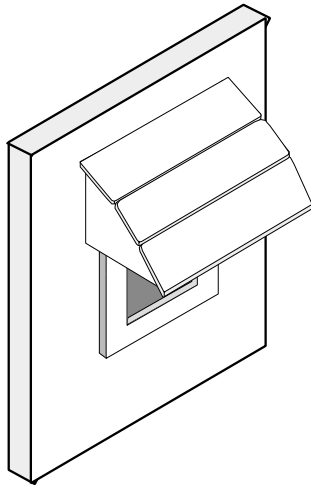


7. Awning is ready to paint or stain and seal.

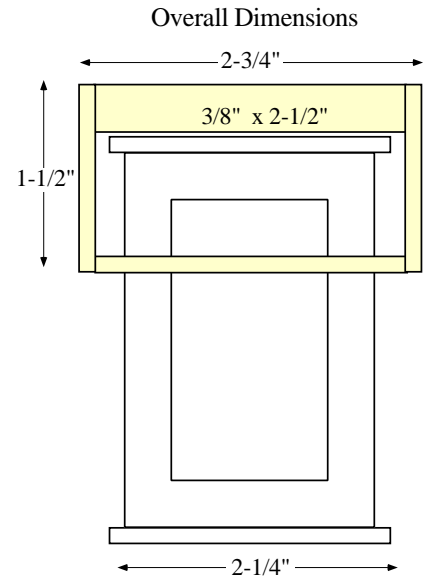


8. Center and glue awning in place over window or door. You can tape it in place until the glue has dried.

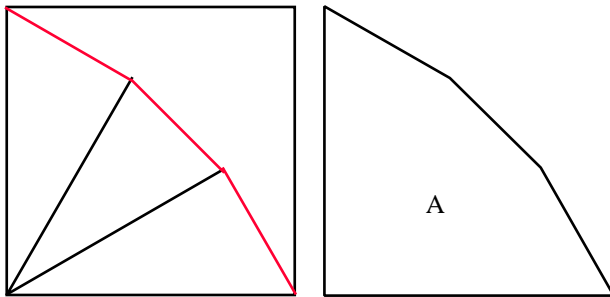
Awning # 1 rounded frame with 9 slats



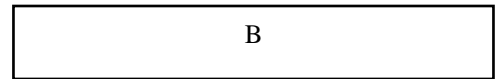
Awning # 2  
angled frame  
with 3 panels



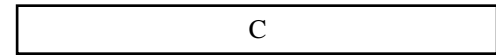
**Patterns are actual size.  
Cut from 1/8" Balsa or Hardwood**



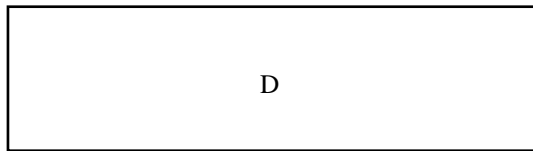
Side  
1-1/2" x 1-1/2"  
Use template and cut angles  
Cut 2



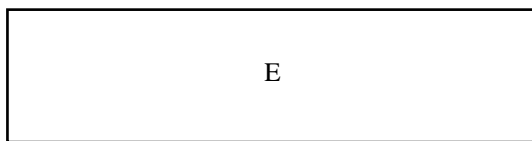
B  
Frame Back  
3/8" x 2-1/2"  
Cut 1



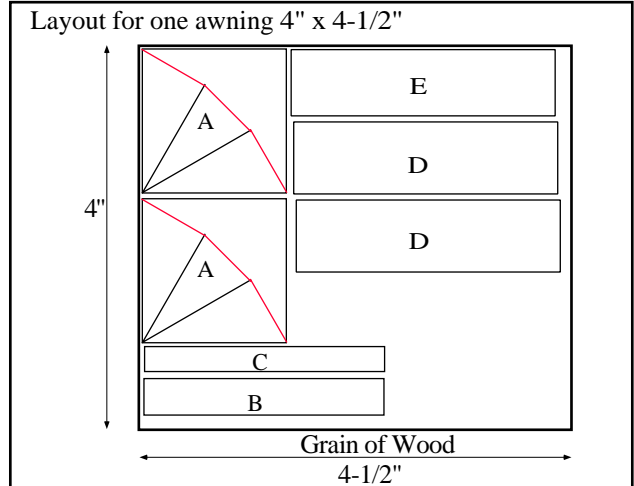
C  
Frame Brace  
1/4" x 2-1/2"  
Cut 1



D  
Top and Bottom Panels  
3/4" high x 2-3/4" wide  
Cut 2

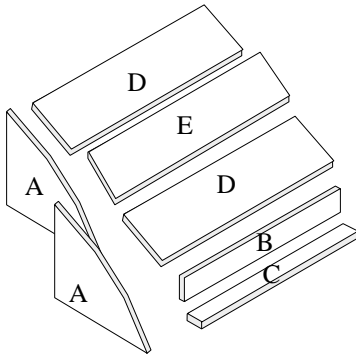


E  
Center Panel  
11/16" high x 2-3/4"  
wide  
Cut 1

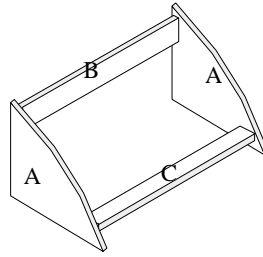


**Optional Supplies for Multiple Window Accessories**  
Cut complete assembly from boards, as shown  
or  
Cut basic frames from boards and use uniform ready  
made strips for braces and trims.

**Supplies and worksheet on Page 57**



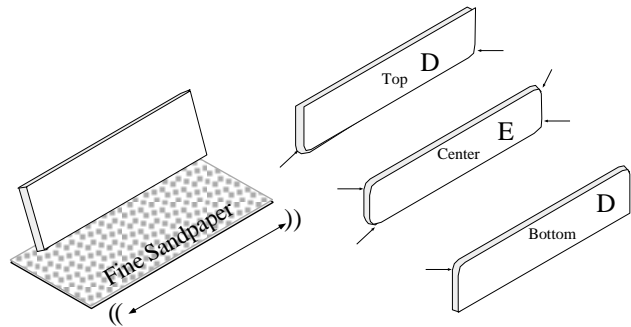
1. Cut out all parts



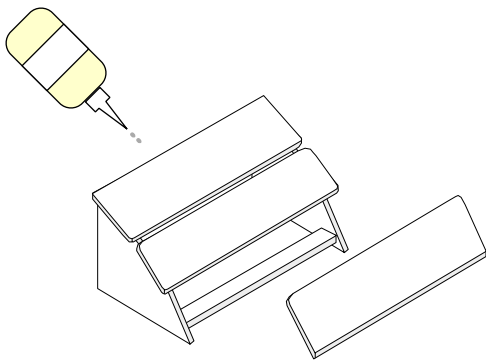
2. Assemble and glue the frame with Parts B and C inside the sides, as shown. Part B Frame Back will attach to the building wall. Part C Frame Brace is to keep the sides equally distant. Paint the frame and allow to dry.

**Hints**

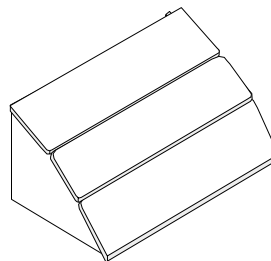
- After cutting out the parts, lightly sand any rough edges.
- Check for squareness and that the parts fit together before gluing.
- When gluing the parts together, always clamp the pieces in place and allow the glue to dry before going on to the next step.



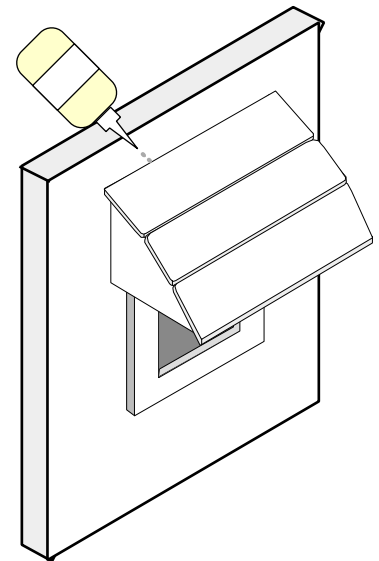
3. Using fine sandpaper, lightly sand off the edges of the panels as follows.  
D -Top, round off the bottom  
D -Bottom, round off the top  
E -Center, round off all edges



4. Run a bead of glue on all exposed edges of the assembled frame. Begin with the top panel. Center and glue each panel in place. Make sure that the frame top and bottom pieces are covered. Allow to dry.

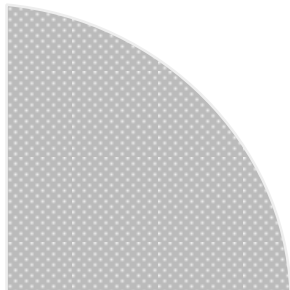
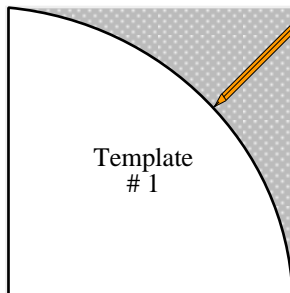
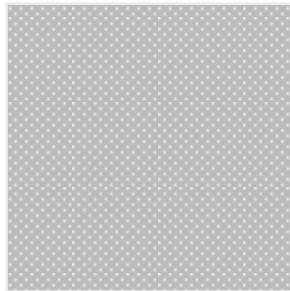


5. The finished awning is now ready to paint or stain and seal.

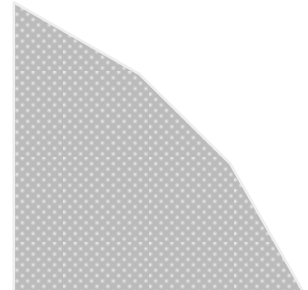
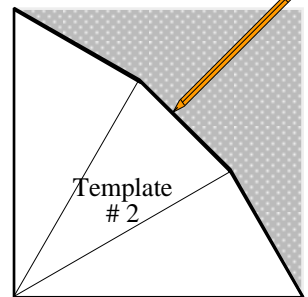
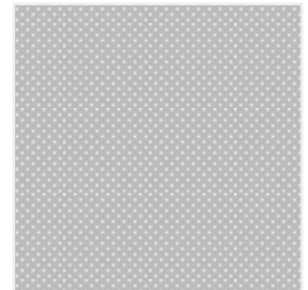


6. Center the awning over your door or window and glue in place. You can tape it in place until the glue has dried.

**Awning # 1**



**Awning # 2**

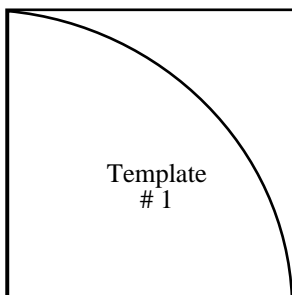


1. A- Sides  
Cut out 1-1/2" x 1-1/2"  
square  
for each side from wood

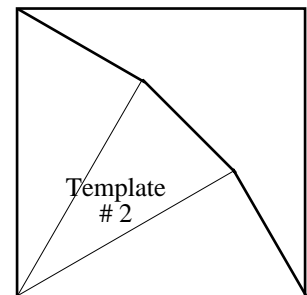
2. Lay Template directly over  
the square of wood. Trace  
the circle with a pencil.

2. Lay Template directly over  
the square of wood. Trace  
the angles with a pencil and  
cut out the wood.

3. Cut the sides out  
of the wood.

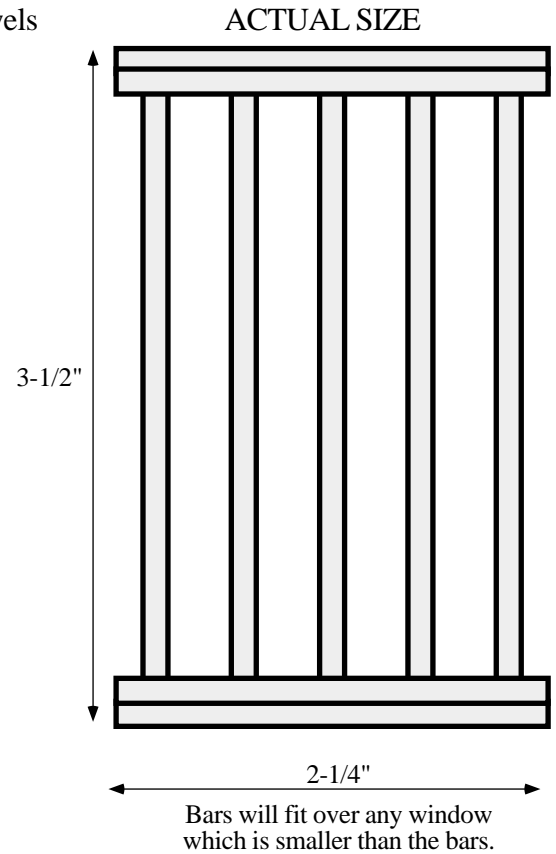
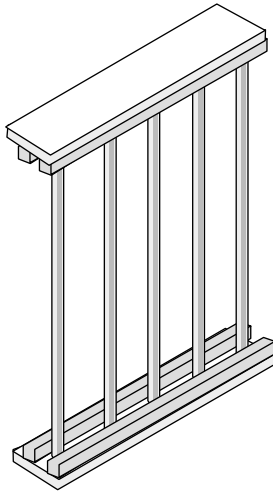


Templates  
Cut out and use  
or  
copy this page and use



To make your template last longer:  
Glue the templates to a thin piece  
of cardboard, such as an index card.  
Cut out the template and  
cardboard together to reinforce  
the template for numerous uses.

- Wooden bars you can make from 1/8" Balsa or Hardwood and 1/8" dowels



**Supplies**

- 1/8" Balsa Wood or Hardwood -2" x 2-1/2" each
- 1/8" Dowel 16-1/4" each

**The Patterns**

Patterns are Actual size

**Cut from 1/8" thick Balsa or Hardwood**

A

Top and Bottom Braces  
5/8" x 2-1/4"  
Cut 2

B

Bar Channel  
1/8" x 2-1/4"  
Cut 4

**Cut from 1/8" Dowel**

Bars  
1/8" x 3-1/4"  
Cut 5

Layout for Balsa or Hardwood -Each 2" w x 2-1/2" h

2"

Cut on Grain of Wood  
2-1/2"

2" x 2-1/2" yields 1  
4" x 2-1/2" yields 2

**Optional Supplies for Multiple Window Accessories**  
Cut complete assembly from boards, as shown  
or  
Cut basic frames from boards and use uniform ready made strips for braces and trims.

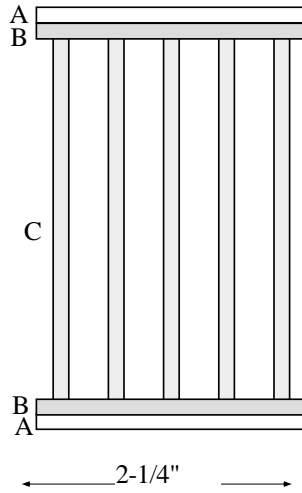
**Supplies and worksheet on Page 57**

Dowel note: A common length of dowel is 36"  
Each Window needs 16-1/4" Dowel  
1 Dowel 1/8" x 36" will be enough for 2 windows

Overall  
Dimensions

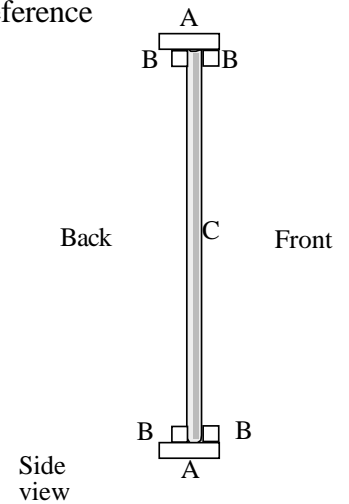
Front  
view

3-1/2"



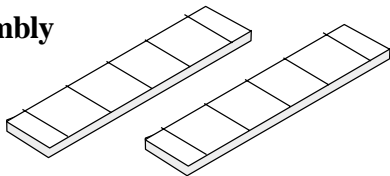
2-1/4"

Overall Reference

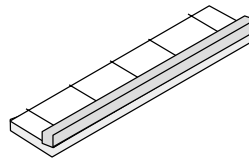


Side  
view

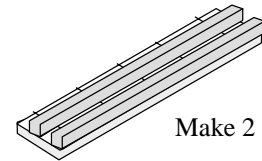
### Assembly



- Using the spacing guide, Mark with pencil on both pieces of A where the bars will be placed.

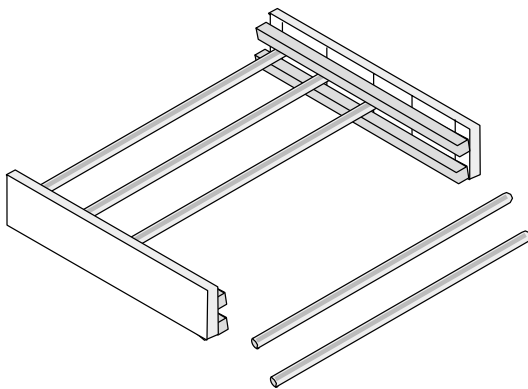


- Lay A (Brace) on a flat surface with markings up. Glue (1) B Channel along one side of A.

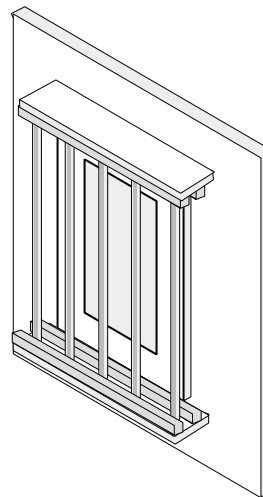


Make 2

- Glue the second B Channel 1/8" from and parallel to the first channel.



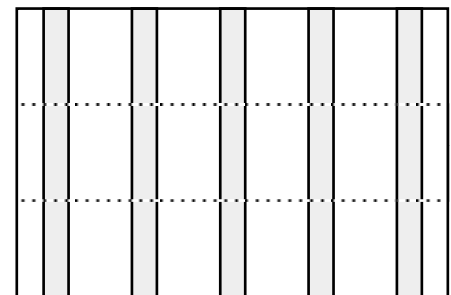
- Run a bead of glue inside the channel. Insert the dowels in place according to your marks. Clamp until glue has dried.



- Paint the bars dark grey or black.

The finished Jail Bar will be centered and glued in front of the installed window.

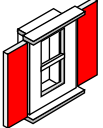
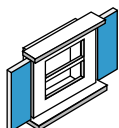
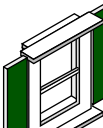
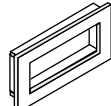
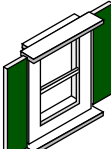

### Spacing Guide for Bars (Actual Width)



Begin at 1/8" from each end  
Lay your cut out A on the Guide.  
Use ruler and pencil to mark bar placements

Spaces are approximately  
11/32"

A. Cut complete door from boards		B. Cut basic frame from boards and purchase ready made strips.				
		Complete Door	Basic Frame	Width of Strips		
				1/4" x	3/8" x	1/2" x
<p><b>Door 1</b></p> <p>4" x 12"</p>	<p>3" x 12"</p>					
		1 Door	4" x 12"	3" x 12"	4-1/2"	7"
		2 Doors	4" x 24"	3" x 24"	9"	14"
		3 Doors	4" x 36"	3" x 36"	13-1/2"	21"
		4 Doors	4" x 48"	3" x 48"	18"	28"
<p><b>Door 2</b></p> <p>4" x 8"</p>	<p>3" x 8"</p>					
		1 Door	4" x 8"	3" x 8"	14-3/4"	3-1/2"
		2 Doors	4" x 16"	3" x 16"	29-1/2"	7"
		3 Doors	4" x 24"	3" x 24"	44-1/4"	10-1/2"
		4 Doors	4" x 32"	3" x 32"	59"	14"
<p><b>Door 3</b></p> <p>4" x 8"</p>	<p>3" x 8"</p>					
		1 Door	4" x 8"	3" x 8"	11-3/4"	
		2 Doors	4" x 16"	3" x 16"	23-1/2"	
		3 Doors	4" x 24"	3" x 24"	35-1/4"	
		4 Doors	4" x 32"	3" x 32"	47"	
<p><b>Door 4</b></p> <p>4" x 8"</p>	<p>4" x 4"</p>					
		1 Door	4" x 8"	4" x 4"	12-1/2"	4-3/4"
		2 Doors	4" x 16"	4" x 8"	25"	9-1/2"
		3 Doors	4" x 24"	4" x 12"	37-1/2"	14-1/4"
		4 Doors	4" x 32"	4" x 16"	50"	19"
<p><b>Door 5</b></p> <p>4" x 8"</p>	<p>4" x 4"</p>					
		1 Door	4" x 8"	4" x 4"	13-1/4"	10"
		2 Doors	4" x 16"	4" x 8"	26-1/2"	20"
		3 Doors	4" x 24"	4" x 12"	39-3/4"	30"
		4 Doors	4" x 32"	4" x 16"	53"	40"
<p><b>Door 6</b></p> <p>4" x 8"</p>	<p>4" x 4"</p>					
		1 Door	4" x 8"	4" x 4"	12"	10"
		2 Doors	4" x 16"	4" x 8"	24"	20"
		3 Doors	4" x 24"	4" x 12"	36"	30"
		4 Doors	4" x 32"	4" x 16"	48"	40"

		A. Cut complete window from boards		B. Cut basic frame from boards and purchase ready made strips.		Width of Strips			
						Sash	Braces	Trim	Shutters
		Complete Qty. Window		Qty. Frame	1/8" x	1/4" x	3/8" x	5/8" x	
	1-3/4" x 2-3/4" plus shutters	1	4" x 5"	1	3" x 2-1/2"	3/4"	10-1/2"	3-1/2"	5"
		2	4" x 10"	2	3" x 2-1/2"	1-1/2"	21"	7"	10"
		3	4" x 15"	3	3" x 5"	2-1/4"	31-1/2"	10-1/2"	15"
		4	4" x 20"	4	3" x 5"	3"	42"	14"	20"
		5	4" x 25"	5	3" x 7-1/2"	3-3/4"	52-1/2"	17-1/2"	25"
		10	4" x 50"	10	3" x 12-1/2"	7-1/2"	105"	35"	50"
		20	4" x 100"	20	3" x 25"	15"	210"	70"	100"
	2-1/4" x 2-1/4" plus shutters	1	4" x 4"	1	4" x 2"	1-1/4"	9-1/2"	4-1/2"	4"
		2	4" x 8"	2	4" x 2"	2-1/2"	19"	9"	8"
		3	4" x 12"	3	4" x 4"	3-3/4"	28-1/2"	13-1/2"	12"
		4	4" x 16"	4	4" x 4"	5"	38"	18"	16"
		5	4" x 20"	5	4" x 6"	6-1/4"	47-1/2"	22-1/2"	20"
		10	4" x 40"	10	4" x 10"	12-1/2"	95"	45"	40"
		20	4" x 80"	20	4" x 20"	25"	190"	90"	80"
	2-1/4" x 3-1/4" plus shutters	1	4" x 6"	1	4" x 3"	1-1/4"	13-1/2"	4-1/2"	6"
		2	4" x 12"	2	4" x 3"	2-1/2"	27"	9"	12"
		3	4" x 18"	3	4" x 6"	3-3/4"	40-1/2"	13-1/2"	18"
		4	4" x 24"	4	4" x 6"	5"	54"	18"	24"
		5	4" x 30"	5	4" x 9"	6-1/4"	67-1/2"	22-1/2"	30"
		10	4" x 60"	10	4" x 15"	12-1/2"	135"	45"	60"
		20	4" x 120"	20	4" x 30"	25"	270"	90"	120"
	1-3/4" x 3"	1	4" x 3"	1	4" x 3"		10-1/2"		
		2	4" x 6"	2	4" x 3"		21"		
		3	4" x 9"	3	4" x 6"		31-1/2"		
		4	4" x 12"	4	4" x 6"		42"		
		5	4" x 15"	5	4" x 9"		52-1/2"		
		10	4" x 30"	10	4" x 15"		105"		
		20	4" x 60"	20	4" x 30"		210"		
	2-1/4" x 3-3/4"	1	4" x 4"	1	3" x 3-3/4"		14"		
		2	4" x 8"	2	3" x 7-1/2"		28"		
		3	4" x 12"	3	3" x 11-1/4"		42"		
		4	4" x 16"	4	3" x 15"		56"		
		5	4" x 20"	5	3" x 18-3/4"		70"		
		10	4" x 40"	10	3" x 37-1/2"		140"		
		20	4" x 80"	20	3" x 75"		280"		
	1-1/2" x 1-1/2" Dormer	1	4" x 3"	1	3" x 1-1/2"		6-1/2"		
		2	4" x 3"	2	3" x 1-1/2"		13"		
		3	4" x 6"	3	3" x 3"		19-1/2"		
		4	4" x 6"	4	3" x 3"		26"		
		5	4" x 9"	5	3" x 4-1/2"		32-1/2"		
		10	4" x 15"	10	3" x 7-1/2"		65"		
		20	4" x 30"	20	3" x 15"		130"		



A. Cut complete accessory from boards			B. Cut basic frame from boards and purchase ready made strips.			
Awning # 1	Qty.	Complete Awning	Frame	Width of Strips		
				1/4" x	3/8" x	
	1	4" x 4-1/2"	1	3" x 1-1/2"	27-1/4"	
	2	4" x 9"	2	3" x 3"	54-1/2"	
	3	4" x 13-1/2"	3	3" x 4-1/2"	81-3/4"	
	4	4" x 18"	4	3" x 6"	109"	
	5	4" x 22-1/2"	5	3" x 7-1/2"	136-1/4"	
	10	4" x 45"	10	3" x 15"	272-1/2"	
20	4" x 90"	20	3" x 30"	545"		
<p>Layout for one awning 4" x 4-1/2"</p>	1	4" x 4-1/2"	1	3" x 4-1/2"	2-1/2"	2-1/2"
	2	4" x 9"	2	3" x 9"	5"	5"
	3	4" x 13-1/2"	3	3" x 13-1/2"	7-1/2"	7-1/2"
	4	4" x 18"	4	3" x 28"	10"	10"
	5	4" x 22-1/2"	5	3" x 32-1/2"	12-1/2"	12-1/2"
	10	4" x 45"	10	3" x 45"	25"	25"
20	4" x 90"	20	3" x 90"	50"	50"	

Bank or Jail Bars	Qty.	Complete Frame for Bars	Basic Frame for Bars	Width of Strips		Dowel
				1/8" x	1/8" Dia. x	
<p>4" X 2-1/2" yields 2 frames for bars</p>	1	4" x 2-1/2"	1	3" x 2-1/2"	9"	16-1/4"
	2	4" x 2-1/2"	2	3" x 2-1/2"	18"	32-1/2"
	3	4" x 5"	3	3" x 5"	27"	48-3/4"
	4	4" x 5"	4	3" x 5"	36"	65"
	5	4" x 7-1/2"	5	3" x 7-1/2"	45"	81-1/4"
	10	4" x 12-1/2"	10	3" x 12-1/2"	90"	162-1/2"
20	4" x 25"	20	3" x 25"	180"	325"	

Number of Strips Yielded when cut from Boards

Qty.	Inches in Boards or Strips Length Yielded		
1	18"	24"	36"
2	36"	48"	72"
3	54"	72"	108"
4	72"	96"	144"
5	90"	120"	180"
6	108"	144"	216"
7	126"	168"	252"
8	144"	192"	288"
9	162"	216"	324"
10	180"	240"	360"
11	198"	264"	396"
12	216"	288"	432"
13	234"	312"	468"
14	252"	336"	504"
15	270"	360"	540"
16	288"	384"	576"

Width of Strips	1/8"	1/4"	3/8"	1/2"	5/8"
4" Wide Board	30	16	10	8	6
3" Wide Board	23	12	7	6	4

Worksheet for your supplies

Calculate the total number of inches needed per board or strip.  
Use the tables to determine supplies.  
Boards and strips are 1/8" thick

For: Qty. Item	Boards		Strips				
	4" x	or	1/8"	1/4"	3/8"	1/2"	5/8"
_____	_____	X _____ +	_____	_____	_____	_____	_____
_____	_____	X _____ +	_____	_____	_____	_____	_____
_____	_____	X _____ +	_____	_____	_____	_____	_____
_____	_____	X _____ +	_____	_____	_____	_____	_____
_____	_____	X _____ +	_____	_____	_____	_____	_____
Total Inches	_____	_____ +	_____	_____	_____	_____	_____
No. Boards/Strips	_____	_____ +	_____	_____	_____	_____	_____
Length Each	_____	_____ +	_____	_____	_____	_____	_____