

ALUMINUM Compact Attic Ladder

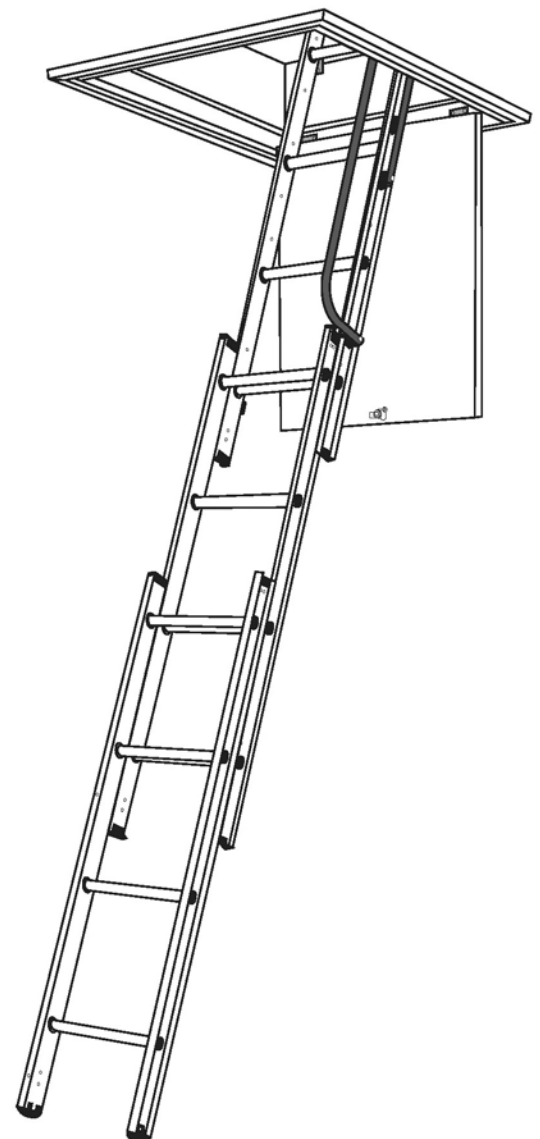
BUILT FOR SMALL ATTIC OPENINGS

Installation Instructions

FAILURE TO COMPLY WITH ALL INSTRUCTIONS MAY RESULT IN SERIOUS INJURY

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Before you begin

TOOLS REQUIRED

STEPLADDER
AWL
SAW
DRILL PLUS 1/2" & 1/16" BIT
LARGE FLAT SCREWDRIVER
PHILLIPS SCREWDRIVER
(small and medium)
ADJUSTABLE WRENCH/PLIERS
TAPE MEASURE/RULER
HAMMER
PENCIL

DOOR MATERIAL REQUIRED

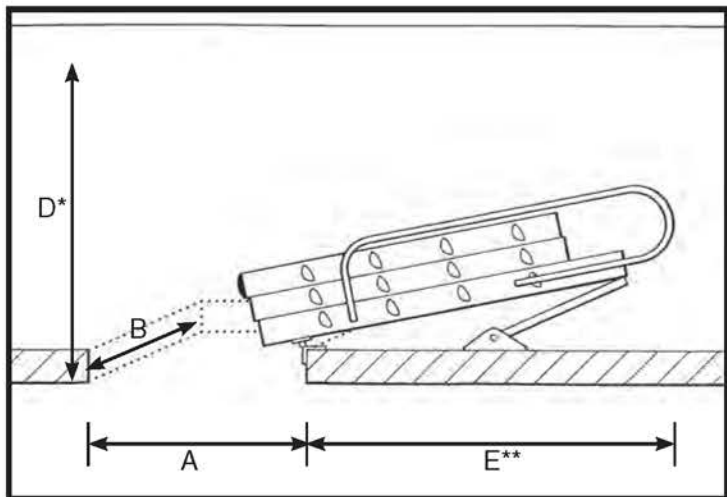
BE SURE TO USE 3/4" CABINET GRADE PLYWOOD.
1 x 3 SOLID WOOD BOARD REQUIRED FOR DOOR FRAME
1 X 2 SOLID WOOD BOARD REQUIRED FOR DOOR JAM

AT THE BEGINNING OF EACH STEP THROUGHOUT THIS INSTRUCTION MANUAL, FASTENERS AND COMPONENTS THAT ARE NEEDED WILL BE LISTED.

**IF ANY PARTS ARE MISSING OR BROKEN,
PLEASE CALL CUSTOMER SERVICE AT 1-800-764-5163.**

Compact Attic Ladder		
A	Minimum Finished Opening (Length)	21"
B	Minimum Finished Opening (Width)	15"
C	Maximum Height	9' 10"
	Minimum Height	7'
D*	Minimum Stowing Height Required In Attic	28"
E**	Minimum Length Required Behind Rough Opening	44"

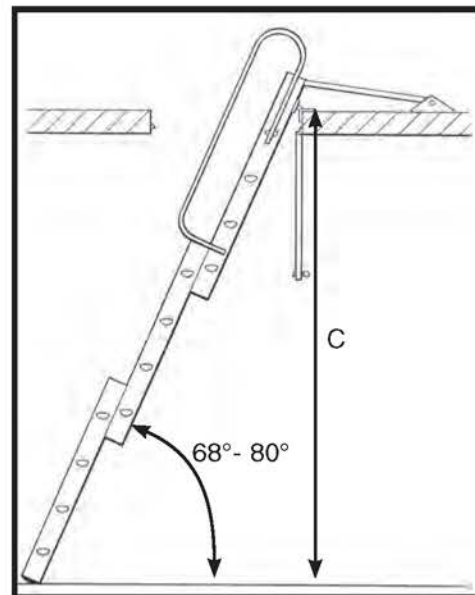
Closed Requirements



*At handrail low position - 28"
At handrail top position - 38"

**At handrail low position - 44"
At handrail top position - 54"

Opened Requirements



Important Questions

Read instructions completely before beginning. This is necessary to ensure that you have a suitable location for the attic ladder and the ability to safely and properly install it.

Are you capable of installing this attic ladder?

To install this attic ladder you should have sawing, squaring, and aligning skills similar to those required to install a window or a door frame. If you do not have these skills you should hire a professional carpenter to install this unit (see the Yellow Pages under "Building Contractors, Carpenters, Home Builders, Home Improvements, or Contractors-General").

Does this attic ladder meet your needs?

This attic ladder is for residential use only. Installing this attic ladder in commercial buildings and apartments may violate building codes that require fire-rated ceilings and prohibit storing materials in the overhead space! Check with your local fire marshal or building department before installing the attic ladder.

The capacity of the attic ladder (person plus materials being carried) is 250 pounds.

This attic ladder is made for the range of ceiling heights shown on the packaging. Do not install the attic ladder in a ceiling that has a height outside of this range. Altering the attic ladder to accommodate other heights is unsafe and should never be attempted.

THIS ATTIC LADDER COMES WITH HINGES AND LATCH TO INSTALL A DOOR (NOT INCLUDED). TO MODIFY OR CREATE A NEW OPENING, PLEASE REFER TO THE APPENDIX (PAGE 11).

Step 1

Assembling the Ladder

TOOLS REQUIRED

HAMMER

PARTS REQUIRED

B1. (1) HINGE GUIDE - LEFT

B2. (1) HINGE GUIDE - RIGHT



For correct identification, the front section of the ladder can be identified by its rounded feet.

1. Carefully push out the tacks (lightly tap with a hammer if necessary) and remove the plastic end caps from the bottom of the REAR section of the ladder (See Figure A).
2. Slide the hinge guides (B1 & B2) onto the uppermost frame section. The brackets should be positioned outwards with the double holed half uppermost (See Figure B).
3. Slide all the way up to the installed permanent top stops at other end of section.
4. Do not replace the plastic end caps (see later at Step 3 - Fitting Bottom Stops).

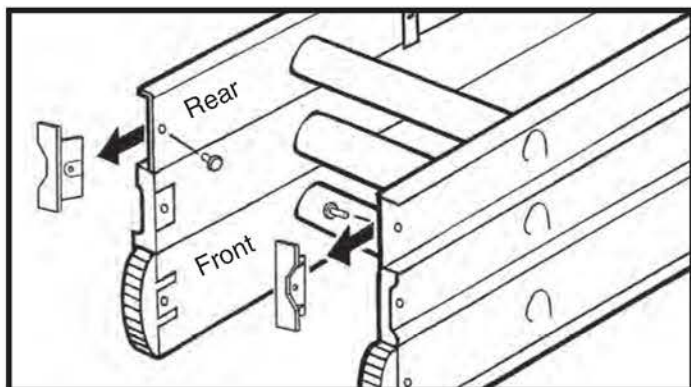


Figure A

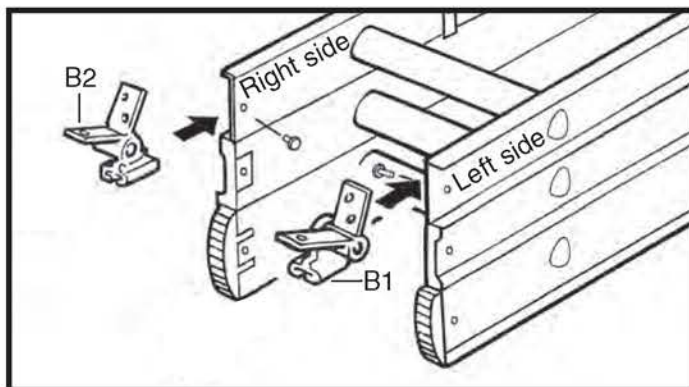


Figure B

Fitting Additional Top Stops

TOOLS REQUIRED

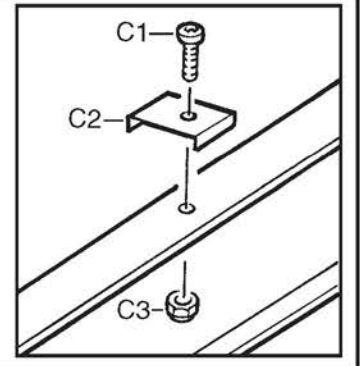
ADJUSTABLE WRENCH/PLIERS

PARTS REQUIRED

C1. (2) M4 X 8MM TOP STOP BOLTS

C2. (2) ADDITIONAL TOP STOPS

C3. (2) M4 LOCKING NUTS



Opened Requirements

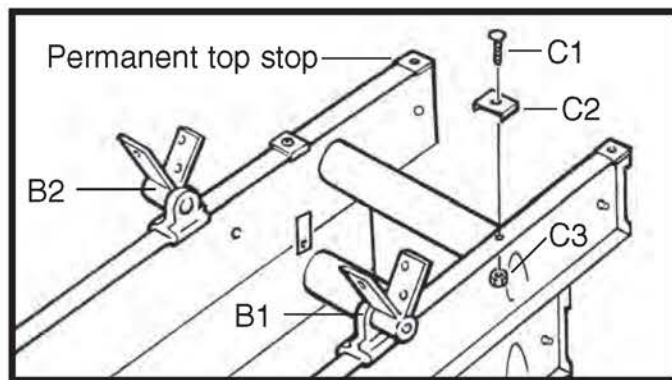
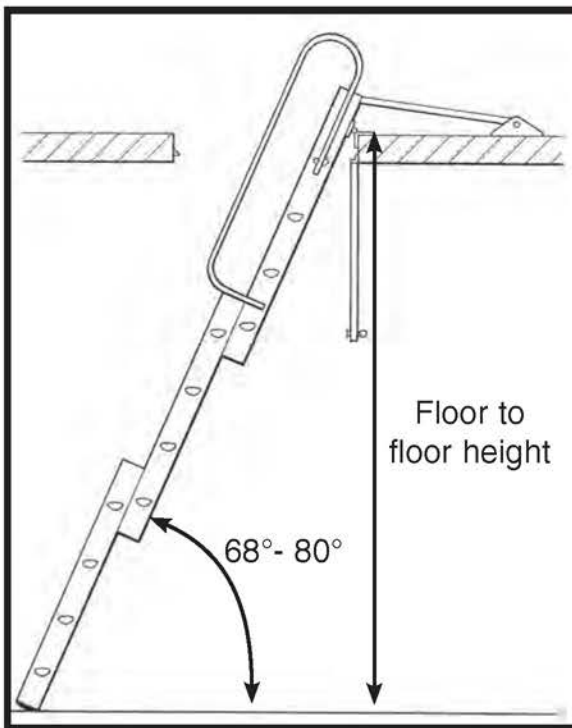


Figure C

Depending on the floor to floor height (see Opened Requirements left), you may need to add the additional top stops provided (C2) (see table below).

1. If required, locate the additional top stops over the holes approximately 6" below the permanent top stops on the rear section of the ladder (See Figure C).
2. Ensure the hinge guides (B1 & B2) are already in place and below the additional top stops when assembled.
3. Fix the additional top stops using two M4 bolts and nuts supplied (C1 & C3).

Operating Heights

Feet & Inches	Top Stops Required
7' 0" to 7' 6"	YES
7' 6" to 7' 11"	NO
7' 11" to 8' 5"	YES
8' 5" to 8' 10-1/2"	NO
8' 10-1/2" to 9' 4"	YES
9' 4" to 9' 10"	NO

Step 3

Fitting Bottom Stops

TOOLS REQUIRED

LARGE FLAT SCREWDRIVER
PHILLIPS SCREWDRIVER
(small and medium)
HAMMER

PARTS REQUIRED

D1. (2) BOTTOM STOPS
D2. (4) 12MM SCREWS



1. Both end caps should now have been removed from the rear section during previous Step 1. Remove end cap from the rear section rail (on the same side as it is intended to fit the assist arm).
2. Slide the bottom stops (D1) onto the rear rails.
3. Position the bottom stops 6" from the end of the rails (See Figure D).
4. Secure with screws (D2).
5. Replace the plastic end caps removed previously and secure with tacks.

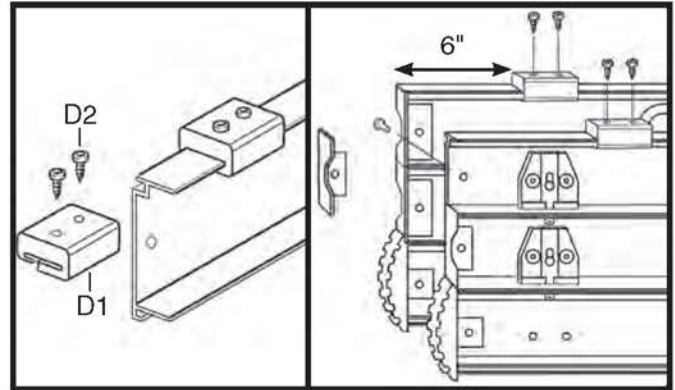


Figure D

Step 4

Installing the Ladder

TOOLS REQUIRED

STEPLADDER
DRILL PLUS 1/16" BIT
LARGE FLAT SCREWDRIVER
PHILLIPS SCREWDRIVER (small and medium)
PENCIL

PARTS REQUIRED

B1. (1) HINGE GUIDE - LEFT
B2. (1) HINGE GUIDE - RIGHT
B3. (6) 35mm SCREWS

Minimum 3/4" flooring required to support Compact Attic Ladder (See Appendix, Page 19, Figure 18). The ladder should be installed on the same side of the opening as where the door hinges will be located.

1. With the ladder centered in the opening, locate the hinge guide bracket arms (B1 & B2) on the top edge of the opening frame (See Figure E).
2. Mark guide holes with a pencil and then predrill pilot holes (1/16" diameter) for all screws.
3. Attach using 35mm screws (B3).

The bracket arms with two screw holes should be on top.

If flooring material covers the top edge of the opening be certain that the ladder is completely stable. If necessary use longer screws to penetrate the frame itself.

The ladder should now be free to swing from the hinges and slide freely up and down the guides.

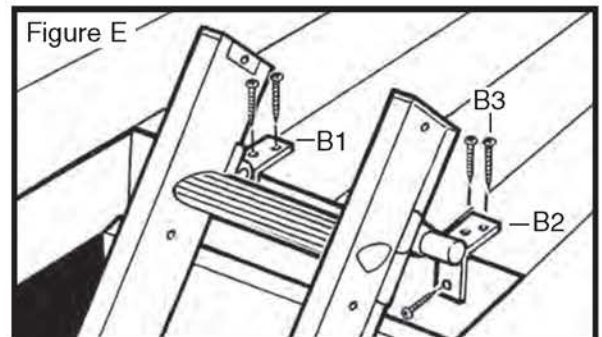


Figure E



WARNING:

DO NOT stand on the ladder to do this. Either using a second ladder, or from inside the attic space, secure the hinges using six 35mm screws supplied.

Step 5

Installing the Assist Arm

TOOLS REQUIRED	PARTS REQUIRED	
AWL	F1. (1) POWER PIVOT UNIT	F6. (2) PLASTIC WASHERS
LARGE FLAT SCREWDRIVER	F2. (1) HOUSING COVER	F7. (1) M6 LOCKING NUT
PHILLIPS SCREWDRIVER (small and medium)	F3. (6) 20mm SCREWS	F8. (1) NUT CAP
ADJUSTABLE WRENCH/PLIERS	F4. (1) PIVOT TIP	F9. (1) BASE DRILL HOLE TEMPLATE
	F5. (1) M6 x 40mm BOLT	[ON BACK OF PACKAGING CARD]

1. Position the template cut (from the back of the packaging card) against either the left or right hand hinge guide bracket (depending on which chosen side the power pivot system is to be installed).
2. Using an awl or pencil mark the 6 applicable holes through the template on to the attic floor (See Figure F).
3. Place the spring housing (F1) in position over the holes ensuring the arm points AWAY from the rough opening (with slot in cover on the left-hand side) (See Figure G).
4. Secure the spring housing to the attic floor with 20mm screws (F3) through the 4 inner holes (See Figure G).
5. Place the housing cover (F2) over the spring housing and attach using 20mm screws (F3) through the 2 remaining outer holes (See Figure G).
6. Position the ladder in its fully stowed (closed) position carefully in the opening.
7. Remove the tack and plastic top cap from the top of the required side rail of the rear ladder section and discard (See Figure H).
8. In their place attach Pivot Tip (F4) (See Figure H).
9. Locate the power arm linkage plates on either side of pivot tip (F4)/ladder rail and align all holes.
10. Secure the rail to the linkage plates using bolt (F5), washers (F6), nut and nut cap (F7 & F8) (See Figure I).

Ensure bolt (F5) and nut (F7) are tightened sufficiently to allow the linkage to freely rotate without any looseness.

DO NOT over-tighten the nut as this will restrict smooth operation of the ladder system.

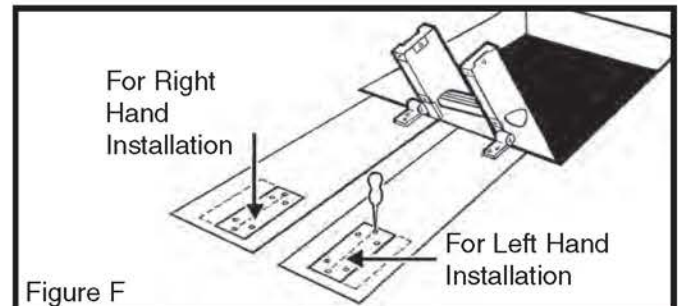


Figure F

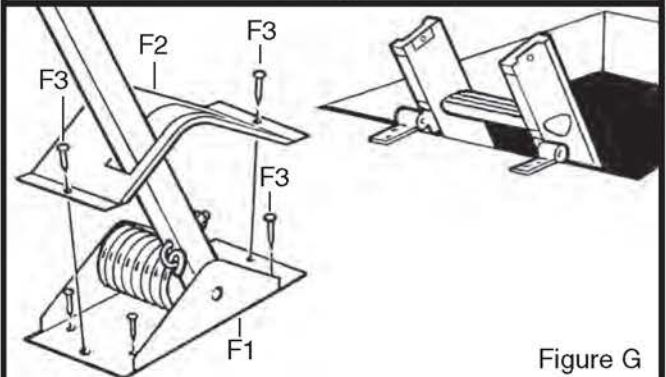


Figure G

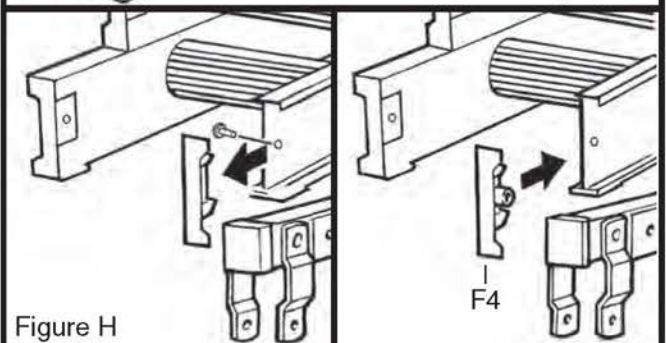


Figure H

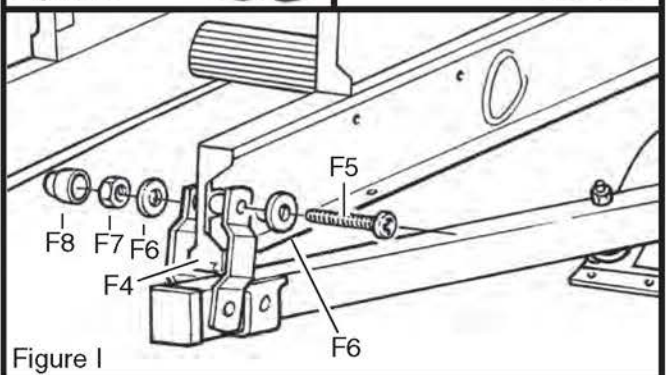


Figure I

Step 6

Handrail Assembly

TOOLS REQUIRED	PARTS REQUIRED
ADJUSTABLE WRENCH/PLIERS	E1. (3) HANDRAIL SPACERS E2. (3) M5 x 60mm BOLTS E3. (3) 25mm DIAMETER WASHERS E4. (3) M5 LOCKING NUT

The handrail can be attached to either side of the ladder. It is advisable to attach the handle only after attaching the power pivot arm.

1. Attach the handrail to your chosen side of the rear frame (See Figure J).
2. Use 3 spacers (E1), 60mm bolts (E2), washers and nuts (E3 & E4) supplied.
3. You have a choice of 2 different handrail heights which will be dependent on the amount of "in-attic" handrail you require (See Figure J).

Check that all components of the whole assembly are fully secure.

*Position 1 attaches handrail in top position.

**Position 2 attaches handrail in low position.

Note: Position of the handrail will affect the amount of space needed in the attic.

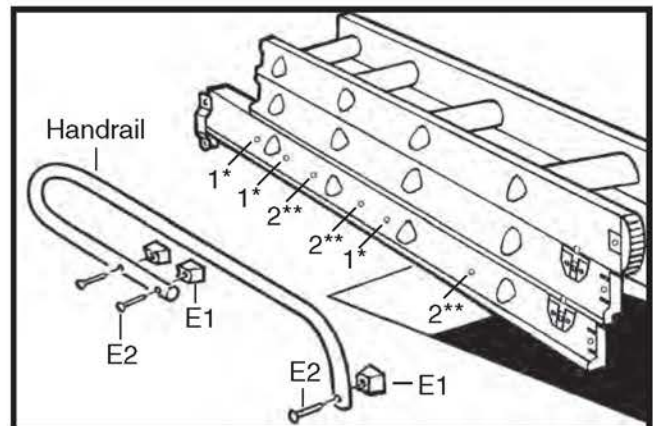
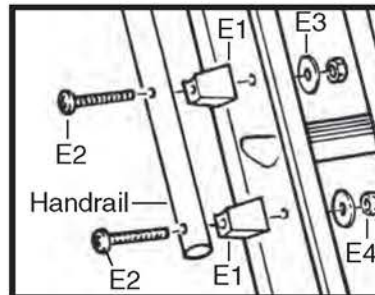


Figure J

Step 7

Finishing Opening for Door

TOOLS REQUIRED	PARTS REQUIRED
SAW SCREWS / NAILS PHILLIPS SCREWDRIVER (small and medium)	Standard 1 x 3 solid wood board (Door Frame) Standard 1 x 2 solid wood board (Door Jam) Your choice of finishing wood

Use a standard 1 x 3 solid wood plank for the door frame and a standard 1 x 2 solid wood board for the door jam.

1. Measure the width of the opening and cut the 1 x 3 wood board. Nail the trimmed 1 x 3 wood board to the header. The bottom of the wood door frame should be flush with drywall on ceiling. Repeat for length of opening. (Figure K)
2. Measure inside width of frame and cut the 1 x 2 wood board. Nail the trimmed 1 x 2 wood board to the wood door frame recessed the thickness of the door to create the door jam. Repeat for length of frame. (Figure L)

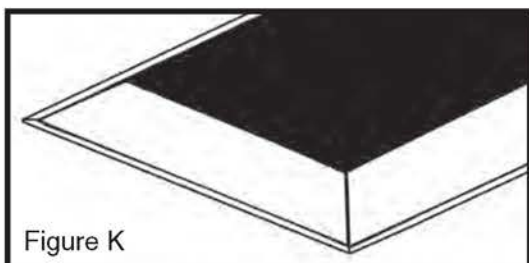


Figure K



Figure L

Caution: Use of materials greater than the recommended thickness may make the opening too small to be usable.

Step 8

Hanging the Door

TOOLS REQUIRED

LARGE FLAT SCREWDRIVER
PHILLIPS SCREWDRIVER (small and medium)

PARTS REQUIRED

G5. (2) DOOR HINGES
(8) 3/4" WOOD SCREWS

The door thickness should be 3/4" cabinet grade plywood cut 1/8" smaller than wood door frame opening (from Step 7 - Finishing Opening for Door)

1. Screw hinges (G5) to one edge of the door using 3/4" wood screws.
2. Attach the hinges to the face of the frame on the same end as you installed the ladder using 3/4" wood screws (See Figure M).

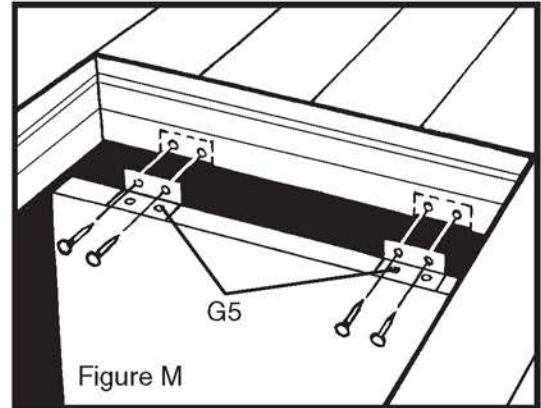


Figure M

Step 9

Locating the Hole for the Door Latch

TOOLS REQUIRED

STEPLADDER
DRILL
1/2" DRILL BIT
SANDPAPER
LARGE FLAT SCREWDRIVER
PHILLIPS SCREWDRIVER (small and medium)
ADJUSTABLE WRENCH/PLIERS
TAPE MEASURE/RULER
PENCIL

PARTS REQUIRED

A1. (1) LATCH
A2. (1) TRAVEL STOP RING
A3. (1) LATCH LEVER
A4. (1) M12 NUT
A7. (1) 12mm SCREW

1. From inside attic, with door fully closed, mark the edge of the jam on the door with a pencil. Measure back and transfer line to opposite side of door.
2. Find the mid-point of the door edge opposite the hinged side. This will give you your center line (See Figure N). Mark with a pencil.
3. Measure exactly 1" in from the mark that was transferred, mark with a pencil.
4. Drill a 1/2" hole in the center and sand off any rough edges.

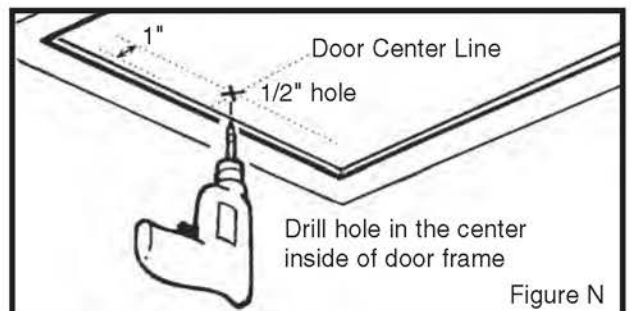
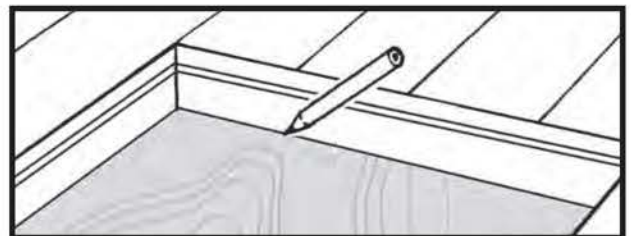
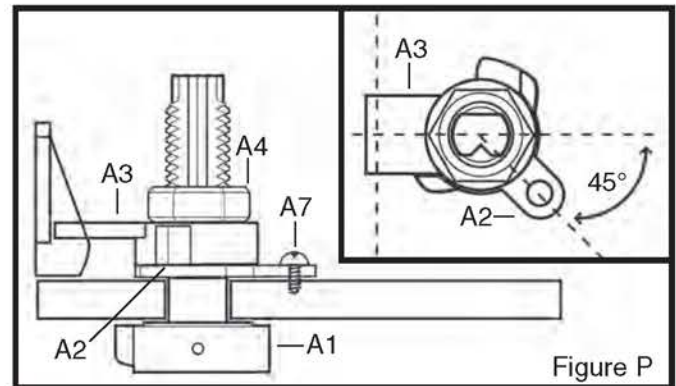
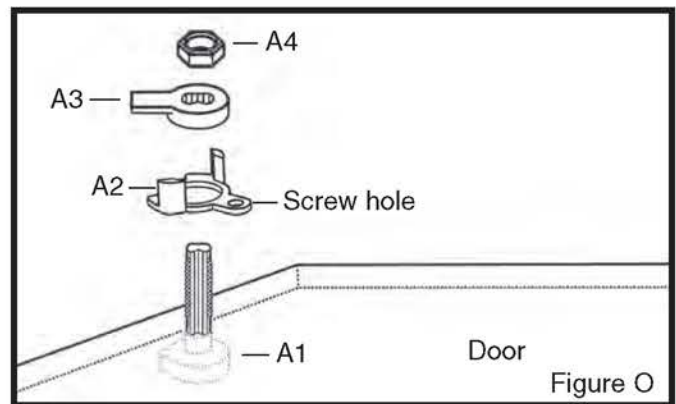


Figure N

(STEP 9 CONTINUED ON NEXT PAGE)

(STEP 9 CONTINUED FROM PREVIOUS PAGE)

5. Pass the latch (A1) through the door hole from the underside such that the position pointer points toward the door edge (See Figure O).
6. Place the travel stop ring (A2) over the latch (A1) such that the screw hole is at 45 degrees to the door center line (See Figures O and P).
7. Place the latch catch (A3) over the latch (A1) and locate into the latch groove such that the latch catch points toward the door near edge and fully locates within the travel stop ring (A2) (See Figures O and P).
8. Secure the travel stop ring (A2) using 12mm screw (A7).
9. Secure the catch assembly with M12 nut (A4) ensuring the nut is tightened sufficiently to allow the catch to rotate freely without any looseness (See Figure P).



Step 10

Attaching the Location Bracket

TOOLS REQUIRED

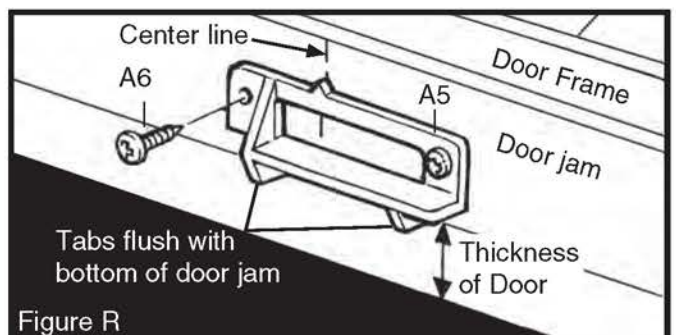
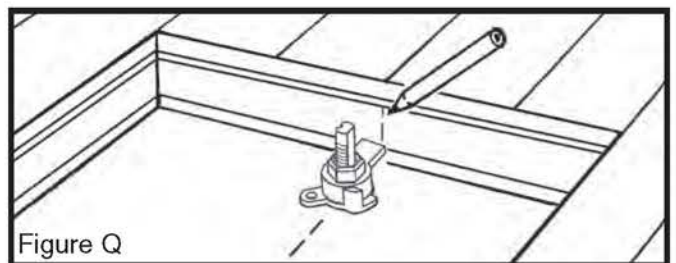
STEPLADDER
AWL
LARGE FLAT SCREWDRIVER
PHILLIPS SCREWDRIVER (small and medium)
TAPE MEASURE/RULER
PENCIL

PARTS REQUIRED

A5. (1) LOCATION BRACKET
A6. (2) 3/4" WOOD SCREWS
(1) "WARNING" LABEL P/N103552-01
(1) "HOW TO USE" LABEL P/N103553-01

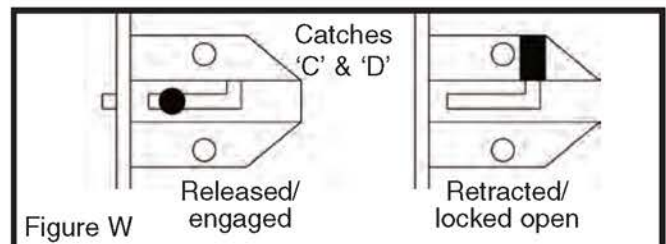
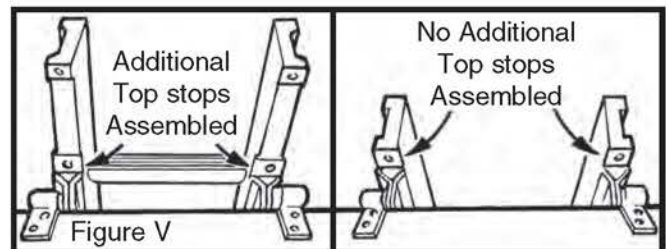
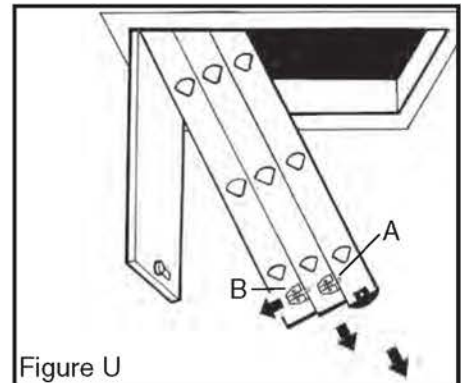
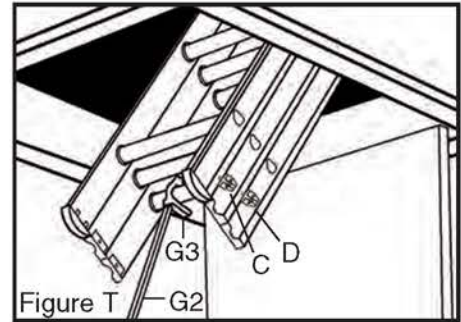
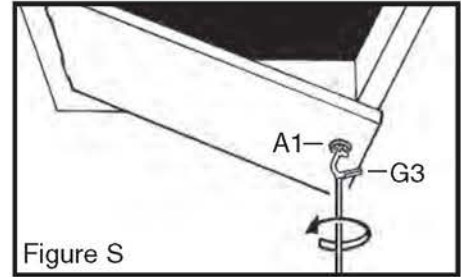
When turned to the correct position, the catch lever will engage in the location bracket to hold the door shut. Attach as follows:

1. Mark a vertical line on the inside of the door jam corresponding with the center line of the door catch (See Figure Q).
2. Position the catch location bracket (A5) along the bottom edge of the wood door jam (See Figure R).
3. Match up the indent mark on the bracket with the vertical center line.
4. Make guide holes with the awl and attach using 2 of the 3/4" wood screws supplied (A6).
5. Apply door labels, P/N103552-01 and P/N103553-01, to the top side of the door, inside the attic.



Operating the Ladder

1. Locate the plastic stowing hook (G3) into one end of the assist pole (G2) and push firmly to ensure the plastic stowing hook (G3) is fully located within the pole. Secure hook (G3) with self-tapping screw. Push the plastic end plug into the opposite end of the assist pole (G2).
2. To open the door, locate the hook (G3) into the slot in the latch (A1) and turn the catch counterclockwise until it reaches the travel stop and then lower the door (See Figure S).
3. Put the stowing hook (G3) over and at the center of the **REAR** ladder section bottom rung and steadily pull the ladder outward and downward until both top stops reach and make contact with the hinge guides (See Figure T).
4. Retract both right-hand side catches 'C' & 'D' (blue) and rotate both catch levers upwards into the locked open position (See Figures T and W).
5. To extend the ladder, retract left-hand catch 'A' (black) while supporting the front frame of the ladder. Lower the frame slowly until catch 'A' (black) engages again (Figure U).
6. Then retract catch 'B' (black) and lower the middle frame until catch 'B' (black) is engaged in your required position. Extend the ladder until the feet rest firmly on the floor (Figure U).
7. When the ladder has been fully opened, rotate both right-hand side catch levers downward to unlock and release both catches 'C' and 'D' (blue) and ensure both catches are fully engaged. **DO NOT** use ladder with any catches ('A', 'B', 'C' or 'D') disengaged. Read the safety labels on the product.
8. Ensure the ladder is pulled down so that the top stops (or additional top stops if installed) rest firmly on the hinge guides. This supports the top section and prevents it from sliding down when climbed.
9. Check the ladder angle against the safety label or refer back to opened requirements on page 2.



Stowing the Ladder

10. Retract both right-hand side catches 'C' & 'D' (blue) and rotate both catch levers upwards into the locked open position (Figure W).
11. To stow the ladder, retract catch 'A' (black), slide the front frame fully upwards until catch engages again.
12. Repeat step 11 for catch 'B' (black) and the middle ladder frame
13. Reverse step 10 and ensure both right-hand side catches 'C' and 'D' (blue) are fully engaged.
14. Engage the plastic stowing hook (E3) over and at the center of the **REAR** ladder section bottom rung. While maintaining the assist pole in the vertical position, push the ladder vertically upwards.
15. Continue to slowly push the ladder up and fully into the attic hole.
16. Use the assist pole to raise the door and turn the latch clockwise to close.



WARNING:

DO NOT attempt to climb your attic ladder until you have checked that it is pulled down to the stops. Fully read all safety labels and ensure that it is set at the correct angle. Ensure that the locking catches are fully engaged.

Appendix Creating a Rough Opening

Section 1.1

Important Questions

Is your ceiling and joist structure suitable for this installation?

This attic ladder can be installed in structures with conventional wood roof frames (See Figure 1). If a ceiling is present, you must have an attic hole in the ceiling that allows you to enter the overhead space for a pre-installation inspection.

Roof support structures that have braces connected to the ceiling joists or which use trusses (See Figure 2) cannot be cut without destroying the load-bearing capacity of that section of the roof. Do not cut joists that are part of a braced conventional frame or truss without first consulting an architect or structural engineer (see the Yellow Pages under "Architects or Structural Engineers").

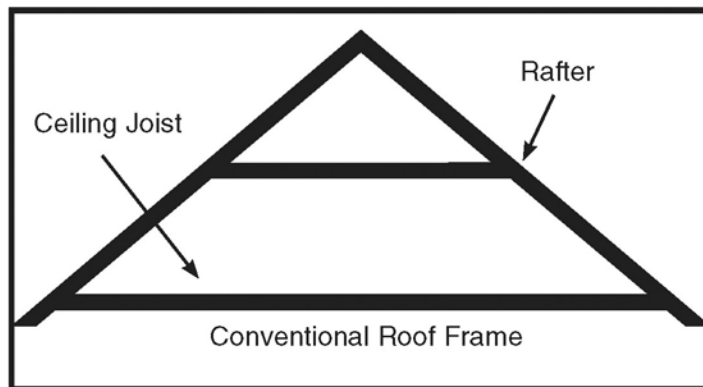


Figure 1

The attic ladder should not be installed in a ceiling that has any of the following:

- Components of heating/cooling systems embedded in the ceiling
- Joists made of materials other than wood
- Metal reinforced plaster
- Suspended ceilings

If your ceiling contains any of the above, do not attempt to install the attic ladder. Contact a professional for assistance with your specific needs (see the Yellow Pages under "Heating and Cooling Contractors, Building Contractors, Carpenters, Home Builders, Home Improvements, or Contractors-General").

Do these instructions meet your needs?

These instructions describe how to install the attic ladder parallel or perpendicular to the ceiling joists. Contact a professional if you want the attic ladder installed in some other direction relative to the joists.

Is your ceiling and joist structure suitable for this installation?

WARNING: DO NOT CUT THESE TYPES OF STRUCTURES WITHOUT CONSULTING AN ARCHITECT OR STRUCTURAL ENGINEER.

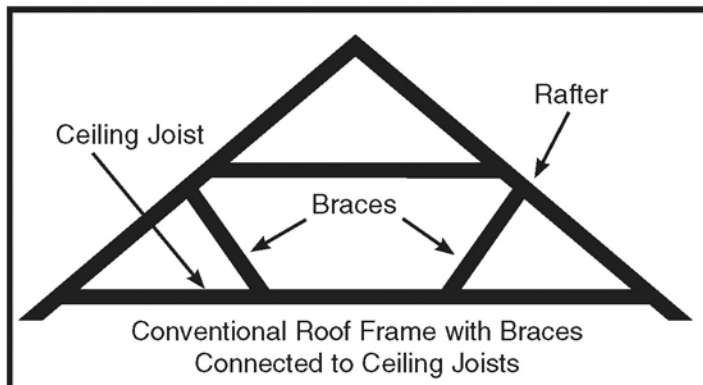
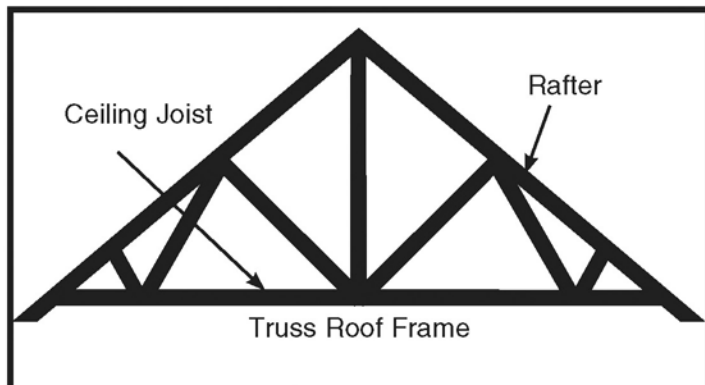


Figure 2

Tools and Materials Needed

Materials:

- Several pieces of joist-sized lumber (the amount depends on the specific installation)
- 16d sinker nails or screws of equivalent strength (24-60 depending on the specific installation)
- 20d sinker nails or screws of equivalent strength are needed for installations where joists are cut

Stepladder:

- You will need a stepladder that is tall enough so that you can get into the overhead space without stepping above the working height of the stepladder. The working height of the stepladder is two steps down from the top.
- Your stepladder must also have a duty rating that is greater than the sum of your weight plus the weight of the attic ladder and any additional materials used for installation.

CAUTION: Be careful when using a stepladder to climb into and out of the overhead space.

Tools For Creating a Rough Opening:

- Flashlight or extension light
- Claw hammer
- Pencil
- Handsaw/power saw
- Tape measure
- Framing square
- Tools to cut a hole in the existing ceiling

Safety Equipment:

- Gloves
- Safety goggles
- Dust mask

Finding a Suitable Location

Before Proceeding: You must have a suitable ceiling and joist structure, tools and materials needed, and a level and flat location in the ceiling.

Goal: To find a location free of hazards and obstructions that will provide room for the installation and use of the attic ladder.

STEP 1. Pick a potential location for installation. Check for the size of rough opening shown on the box or in the pre-installation checklist.

If you are installing the attic ladder in a garage, don't forget to consider where cars will be parked.

STEP 2. If there is no ceiling and the attic ladder will fit between the joists so that no joists need to be cut, go to Section 1.5 "FRAMING THE ROUGH OPENING".

If there is no ceiling, but one or more joists need to be cut, go to Section 1.4 "CUTTING THE CEILING JOISTS".

If there is a ceiling at this location, you will need to inspect the attic area above this location as described in steps 3 and 4.

STEP 3. Go into the overhead space and find the area above your chosen location.

This area may be located by:

A) Listening for tapping from below

B) Measuring distances from walls or other objects common to the overhead space and the room below

WARNING: Do not drive metal nails or other conductive objects into the ceiling unless you are sure they will not contact electric wires. Contact with an electrical wire can be deadly.

STEP 4. At this location in the overhead space:

A) Check that there is enough space for you to safely move around during installation.

B) Check the overhead space for storage space adjacent to the chosen location. If walking or crawling in the overhead space is desired, make sure that there is enough room to do so.

C) Check above your chosen location for hazards and obstructions such as:

- Electrical wires
- Pipes
- Heating and cooling ducts
- Furnaces
- Hot water heaters or other obstructions

Note: To check for hazards, you will need to move insulation away from your chosen location. Wear a dust mask, safety goggles, and gloves and keep your body covered to prevent fine cuts from fiberglass. Gently push aside insulation to avoid stirring up dust that may be harmful to your eyes and lungs.

STEP 5. If any hazards or obstructions are present at your chosen location, look for another location or have the hazards or obstructions moved by professionals (see the Yellow Pages under "Electrical Contractors, Heating and Cooling Contractors, and Plumbing Contractors").



WARNING:

FOR YOUR SAFETY, WATCH OUT FOR OVERHEAD HAZARDS.

DO NOT stand or sit on the ceiling or insulation covering the ceiling — the ceiling is not made to support your weight. You can fall through the ceiling even though it looks solid! Only the joists can support weight.

Watch out for sharp nails sticking through the roof.

Cutting a Hole in the Ceiling

- Before Proceeding:** You must have a location that:
- A) Is free of hazards and obstructions in the overhead space.
 - B) Is free of hazards in the ceiling.
 - C) Provides enough room for installation.
 - D) Provides enough room to use the attic ladder.

Goal: To cut a hole, that is the correct size, in the ceiling at the desired location.

- STEP 1. Prepare the room by moving furniture, covering flooring with a drop cloth and removing children and pets to a safe distance.
- STEP 2. Put on safety goggles and a dust mask. These will keep pieces of ceiling particles and dust from falling into your eyes, mouth or nose as you make a starter hole and cut into the ceiling.
- STEP 3. With a hammer and chisel, make a starter hole near the center of the chosen location (See Figure 4).
- STEP 4. Enlarge the opening with a saw until you can see a joist (See Figure 5).
- STEP 5. Draw a rectangle the size of the rough opening on the ceiling, with one edge parallel to a joist (See Figure 6). You may do this by sawing until you reach a joist and use it as a frame of reference. (The size of the rough opening must be at least 18" x 24".)

Note: Locating at least one edge of the opening along a ceiling joist will allow the joist to be used as a side of the frame you will build. This will simplify framing the rough opening.

- STEP 6. Cut out the rest of the ceiling within the marked outline following these instructions:
- A) Do not cut any joists at this time. Cut through the ceiling only.
 - B) Remove the ceiling in small pieces because ceiling material can be very heavy.
- STEP 7. If no joists span the hole in the ceiling, go to Section 1.5 "FRAMING THE ROUGH OPENING".
- If any joists span the hole, go to Section 1.4 "CUTTING THE CEILING JOISTS".



WARNING:

DO NOT stand saw, cut, or hammer into the ceiling until you are sure that the location is free of hazards and obstructions in the ceiling and attic. Contact with an electrical wire can be deadly.



Figure 4



Figure 5



Figure 6

Cutting a Hole in the Ceiling

Before Proceeding: You must have either exposed joists or a correctly sized hole at the desired ceiling location.

Goal: To cut out any joists that are in the way of your chosen location. **Before cutting the joists, you must attach them to other joists in the overhead attic to keep the ceiling from sagging or completely collapsing.**

STEP 1. If the room has a ceiling and you have cut the required hole, go to Step 2.

If the room has no ceiling, you will need to mark the joists according to (A) or (B) below.

(A) If the chosen location is parallel to the joists, mark the rough opening length on top of the joists (See Figure 7). Do not cut the joist at this mark.

(B) If the chosen location is perpendicular to the joists, mark the rough opening width on top of the joists (See Figure 8). Do not cut the joist at this mark.

STEP 2. Cut 2 joist-sized boards long enough to span 2 joists on each side of your chosen location (See Figure 9). These boards will support the joists that will be cut and help keep the ceiling from sagging or completely collapsing while you are working in the overhead space.

STEP 3. Place these boards approximately 24" from the edge of your chosen location and nail (See Figure 9).

Note: The 24" distance is needed to give you room to hammer nails into the frame that you will build in the next section.

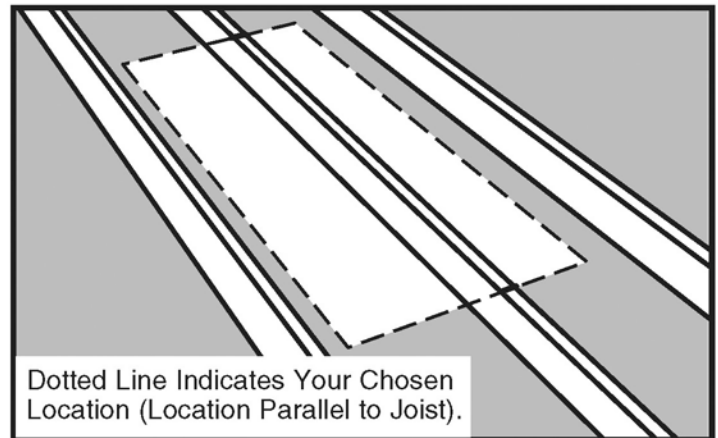


Figure 7

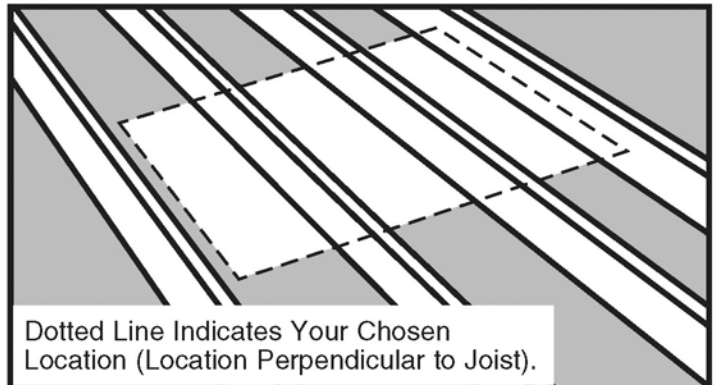


Figure 8

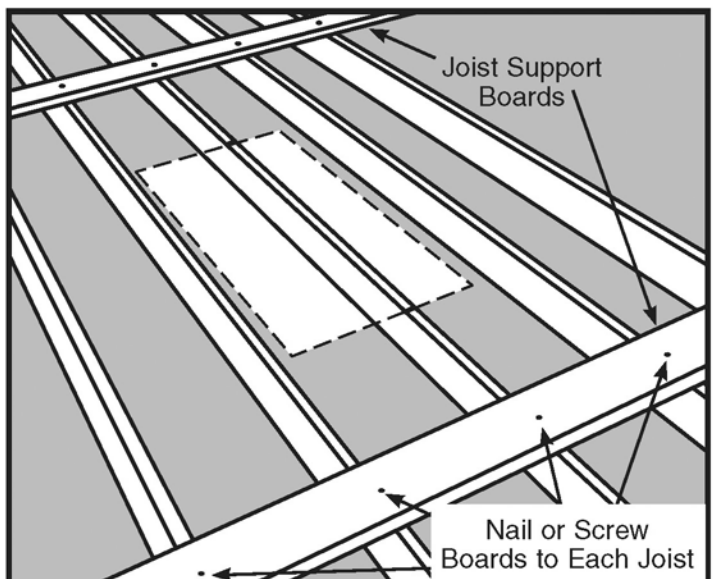


Figure 9

Cutting the Ceiling Joists

STEP 4. Next, determine where the joist(s) should be cut. Figure 10 shows where to mark the joist(s) that span your chosen location. Note that the joist(s) should be marked back from the edge of your location a distance of 2 times the joist thickness (usually three inches). This leaves room for two joist-sized headers to be placed against each end of the cut joist(s) (See Figure 16 on page 18).

Note: In some homes, especially older ones, the joists may be slightly thicker than the lumber you can currently buy. If your joists have a different thickness than the lumber you will be using for the headers, you will need to mark the joists back from the edge of your location a distance of two times the header thickness instead of the joist thickness.

STEP 5. Saw through the joist(s) being careful not to cut through the ceiling and making sure the cut ends of the joist(s) are flat and vertical.

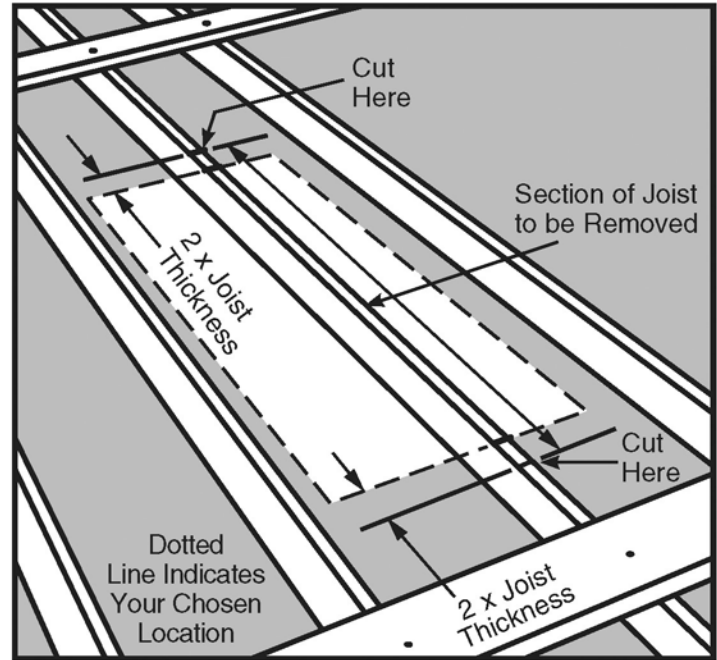


Figure 10

Section 1.5

Framing the Rough Opening

Before Proceeding: You should have a space between the joists at least 18". Any cut joists must be attached to uncut joists.

Goal: To create a four-sided frame the size of the rough opening using joist-sized lumber. This frame will be made of single or double thickness headers and stringers depending upon the particular installation. The frame is necessary to support the attic ladder and to reinforce the roof and ceiling structure.



WARNING:

FOR YOUR SAFETY, WATCH OUT FOR OVERHEAD HAZARDS.

DO NOT Do not stand or sit on the ceiling or insulation covering the ceiling — the ceiling is not made to support your weight. You can fall through the ceiling even though it looks solid! Only the joists can support weight. To avoid falling through the ceiling, you may want to make a working platform by laying boards across the joist. Watch out for sharp nails sticking through the roof.

Framing the Rough Opening

Installing Headers

If no joists have been cut, go to "Single Headers" below.

If any joists have been cut, go to "Double Headers" on page 18.

Single Headers

- STEP 1. Measure the header length "H" between the joists (See Figure 11).
- STEP 2. Cut 2 headers this length. Use joist-sized lumber.
- STEP 3. Place one of these headers at one end of your chosen location (See Figure 12). The header must fit snugly between the joists. Hammer it into position if necessary; if it is more than 1/16" too long, trim it. If it is more than 1/16" too short, cut another piece.
- STEP 4. Square the header to one joist and drive 3 nails (16d) through the joist and into the header. Check for squareness and drive 3 nails (16d) through the other joist and into the header (See Figure 12). It is very important that header board is vertically square as well as horizontally square to side joists.
- STEP 5. Position the second header at least 24" from the first one and repeat Step 4 (See Figure 13).
- STEP 6. The frame for the rough opening requires four sides. The headers make up two of those sides. If your ceiling joists are spaced so that they make up the other two sides of the rough opening, check the opening for squareness by measuring across the diagonals. The measurements should be within 1/8" to be considered square (See Figure 13).

If your ceiling joists do not make up the other two sides of the rough opening, you need to install one or two additional pieces of lumber to frame the other side(s) of the rough opening, go to "Installing Stringers" on page 19.

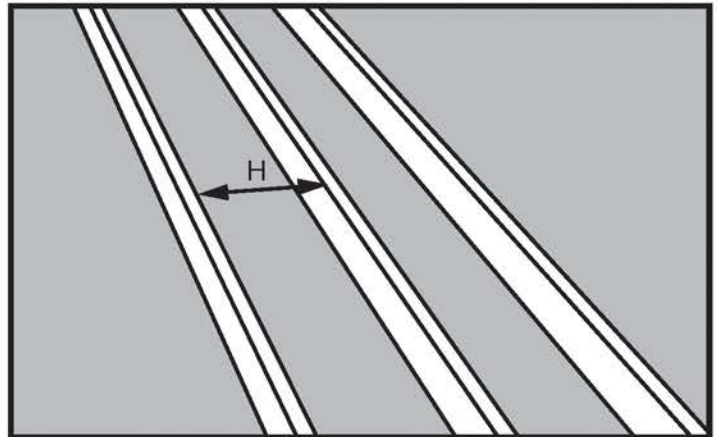


Figure 11

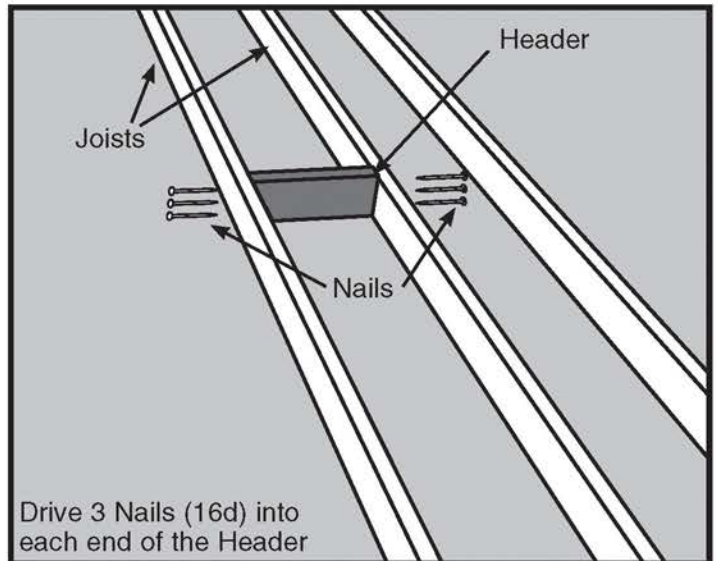


Figure 12

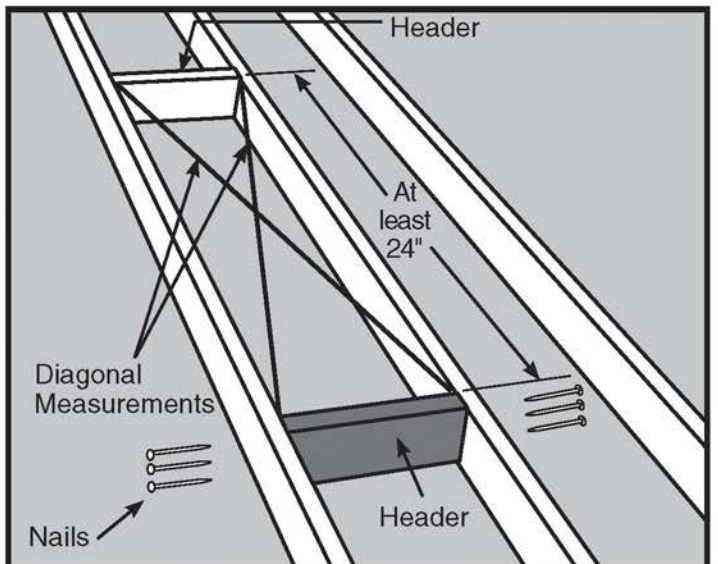


Figure 13 How to check for square

Framing the Rough Opening

Double Headers

- STEP 1. Measure the header length "H" between the uncut joists (See Figure 14).
- STEP 2. Cut 4 headers this length. Use joist-sized lumber.
- STEP 3. Place one of these headers against the end of the cut joist(s) (See Figure 15). It must fit snugly between the uncut joists. Hammer it into position if necessary; if it is more than 1/16" too long, trim it. If it is more than 1/16" too short, cut another piece.
- STEP 4. Square the header to the uncut joist and nail the header to the end of the cut joist(s) with 3 nails (See Figure 15).
- STEP 5. Check header for squareness then drive 3 nails through each joist into each end of the header (See Figure 15).
- STEP 6. Place a second header against the first header and nail it to the first header with 3 nails between each joist (See Figure 16).
- STEP 7. Drive 3 nails through the joists into each end of the second header (See Figure 16).
- STEP 8. Repeat steps 3-7 to install headers at the opposite end of the opening.
- STEP 9. To frame the other side(s) of the rough opening, go to "Installing Stringers" on page 19.

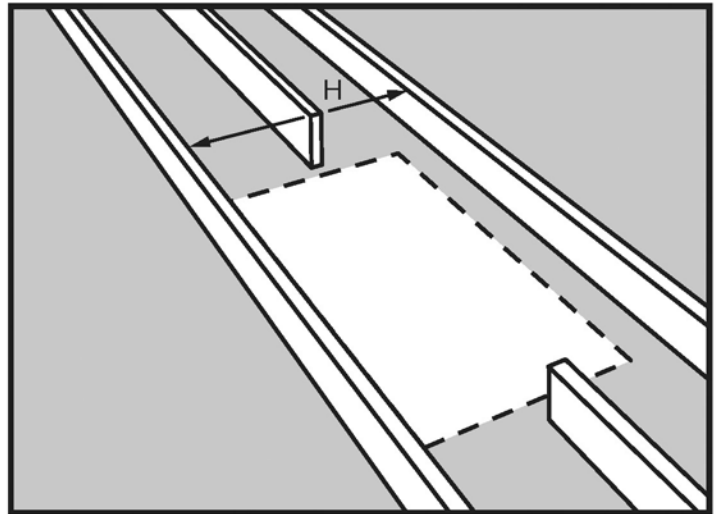


Figure 14

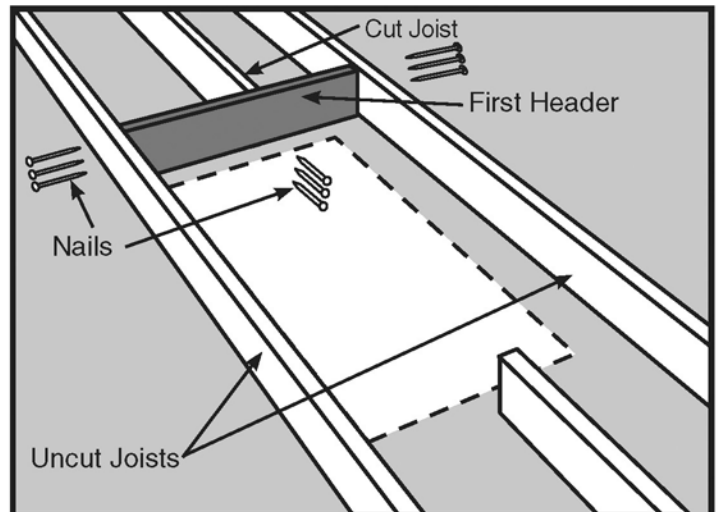


Figure 15

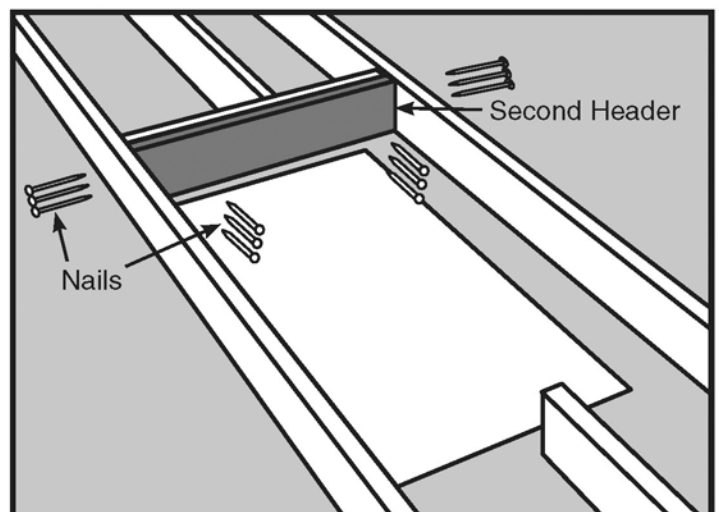


Figure 16

Framing the Rough Opening

Installing Stringers

- STEP 1. Measure the stringer length "S" between the headers (See Figure 17).
- STEP 2. Cut a stringer to this length. Use joist-sized lumber.
- STEP 3. If the ceiling joist does not provide one side of the frame, then cut a second stringer the same length as the first one. Note that only one stringer is needed in Figure 17 because the ceiling joist provides one side of the frame.
- STEP 4. Position the stringer(s) along the unframed side(s) of your location (See Figure 18). Check that the inside dimensions of the frame are at least 18" x 24".
- STEP 5. To attach the stringer(s) to the headers, use nails that are long enough to go through both headers and into the stringer at least one inch. In most cases, a 4" nail (20d) will be long enough. Square the stringer(s) to the headers at one end and drive 3 nails through the headers and into the stringer. Check for squareness, then nail the other end. Check the rough opening for squareness by measuring across the diagonals. The two measurements must be within 1/8" to be considered square (See Figure 18).

Note: A 3/4" wood floor 27" min. deep by the full width of your opening is required for the attachment of the assist arm. Please refer to Step 5 on page 6 of this manual for instructions on attaching assist arm.

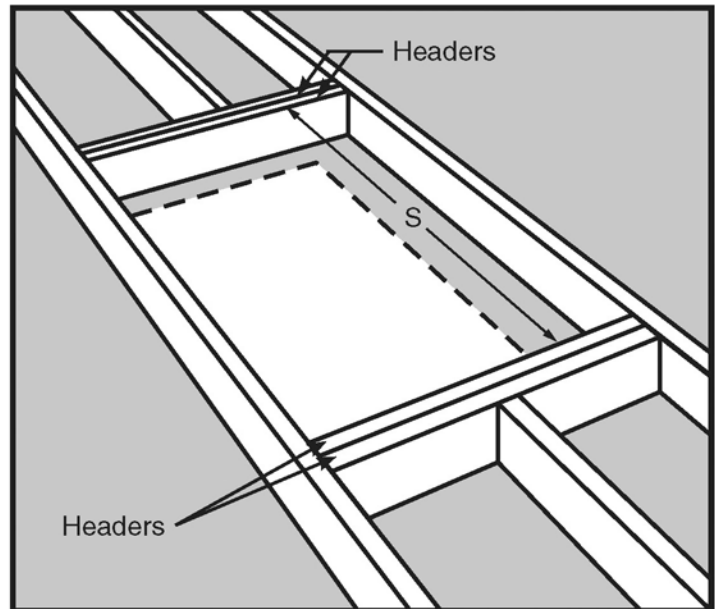


Figure 17

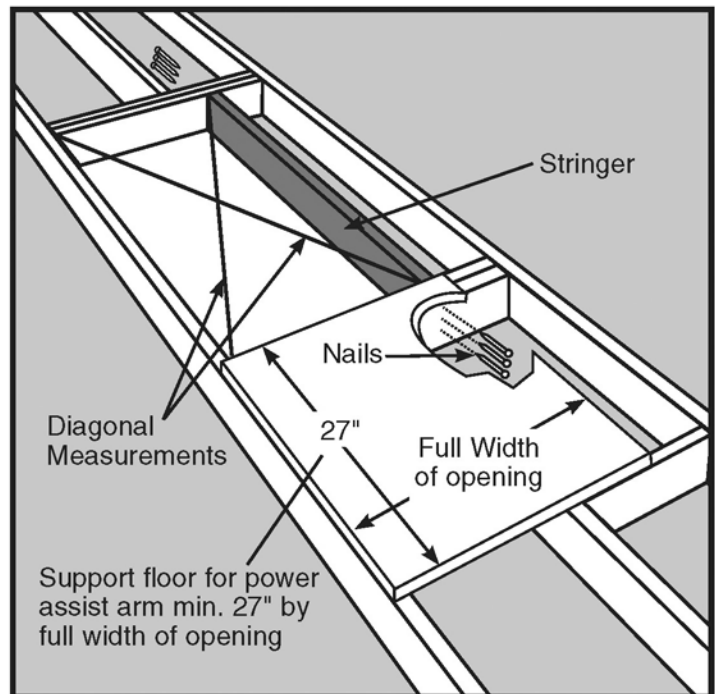


Figure 18



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