SAUNA LINER KIT INSTALLATION-2x4 BENCH TOPS

*** BEFORE YOU BEGIN: READ ALL THE WRITTEN AND DRAWN INSTRUCTIONS AND REVIEW THE MATERIAL LIST ***

Remember the old carpenters proverb: "Measure Twice, Cut Once.

*** SPECIAL NOTE FOR CONTRACTORS:

We realize you already possess the skill and know-how to build the sauna and you may choose not to read these instructions. At the very least, make sure you carefully review the material list before you begin cutting. Material is supplied in specified lengths for particular uses. The kit has been counted twice before it leaves our factory. 95% of the time, "shortages" are a result of certain pieces being cut incorrectly, leaving a shortfall elsewhere.

IMPORTANT NOTES:
Clear cedar kits use the finest “Grade ‘A’ & Better” tongue & groove cedar for lining material. But even with this top grade, you may find certain boards that you do not like. Pre-sort your sauna kit to find this material and make an effort to "hide" these boards. Install these boards behind the bench where they will not be visible. In the case of front wall boards, cut them so that you can hide less attractive boards behind the heater. The cedar is finished on two sides to give you more flexibility in selecting the face you prefer. Unless otherwise discussed and ordered, the door is located on the long wall across from the benches. The material supplied is based on this criteria.

The cedar for the ceiling is generally run in the shortest direction Please check the "Material Packing List" to determine which way the cedar runs in your sauna.

If the material delivered does not correspond to your sauna design or layout, contact us before you install. Do not cut down boards intended for something else. We will not provide additional material in these circumstances.

FRAMING

NOTE: This instruction manual has no details for general framing. It is assumed that you possess basic carpentry skills to install this kit and have the know-how to frame the walls. The instructions note blocking as required to support the benches and heater.

Use 2" x 4" kiln-dried SPF (spruce, pine, fir) studs to frame the walls and ceiling. If the ceiling span is over 10', use 2" x 6" studs to frame the ceiling.

*** Unless otherwise specified, kits up to 8’ x 8’ are lined horizontally (see drawing #1).

Kits over 8’x 8’ are lined vertically and should be STRAPPED HORIZONTALLY (see drawing #2B).

*** Frame or strap the ceiling to an inside height of 83-1/2”.

Provide extra blocking for heater mounting brackets and bench cleats (supports). (See drawing #3).
The sauna door rough opening is generally 26" x 76-1/2". some doors have different openings; i.e. frameless. (For your exact rough opening see your "Material Packing List".)

Frame the walls at 16" on centre. If the walls are already framed and you wish to change the direction, they should be strapped using 1" x 2" spruce strapping at 16" on centre.
VENTING
Sauna venting does not mean venting to the outdoors as you would for a shower. It refers to an inlet (below heater) and an outlet (generally high in opposite corner).

Frame for inlet and outlet vents if being incorporated in sauna
For heaters up to 9 kw, one outlet slide vent is included with kit. See specified drawings for vent details. Holes can be drilled in cedar low behind heater for inlet. A fixed inlet grill vent is available as option for inlet. Exterior grill not included. Use painted aluminum (or other) to match exterior decor. Our outlet vent requires 4.5" x 4.5" opening. Use studs to frame opening
Approximately 19 square inches (min) for heaters up to 9kw. Approximately 40 square inches (min) for larger heaters.

IS VENT REQUIRED?
Often, what is outside the sauna can limit the ability to easily install simple vents. With a gap under the door, cross-venting may not be required. Ideally, inlet should be low behind heater. Outlet should be catty-corner from heater; high on the wall. Inlet and outlet should not be on same will. "Bad" venting can be worse than no venting. Vents should be installed for the following:
1. Tylo sauna heater.
2. If there is no gap under door (i.e. our frameless glass door.)
3. If foil seams are taped

DOOR
See Your Material List To Verify "YOUR" Door Rough Opening.
Frameless Glass door rough opening is 27-1/2" x 76-1/2 to finished floor.
Allows for the 74" jamb and the 1-1/2" spacer with gap to install below jamb threshold. (Door = 24" x 72")

Cedar Framed Insulated Glass door rough opening is 26" x 76-1/2" to finished floor. (Door = 24" x 74")
The doors are hung to allow for a gap at the bottom for a back up air intake.

WIRING
Electrical rough-in of wiring should be done at this time. If using an outside control (not built into the heater), the thermostat should be installed at this time. Install on the wall outside the sauna with the sensing bulb located as indicated in heater instruction manual.
Sauna Craft controls: (TPT3 or EL13) locate the sensing bulb 1" maximum from the ceiling 1'-2' away from the heater. Tylo Pure or Elite controls, locate sensor 1" from ceiling, 3" from the edge of the heater, (NOT in corner). Tylo Sport & Saaku: Controls on heater.

See electrical wiring drawings with selected heater/control. See heater specification for wire and breaker size.

The Wiring Should Be Done Only By A Qualified Electrician.

INSULATION
The space between the studs should be filled with 3 1/2", R-12 fiberglass insulation. The walls and ceiling should be insulated in the same manner. Roxul can be used as well.

VAPOUR BARRIER
Install aluminum foil. Staple to the inside edge-face of studs over the insulation. Overlap the seams approximately 3". Install with “shiny” side facing into the sauna. DO NOT TAPE SEAMS. The foil is intended more as a heat reflector.

INNER LINING
Before you begin, examine all the pieces of tongue and groove cedar. You may find certain boards that you do not like, whether it is due to a knot or color. Make an effort to "hide" these boards. Install these boards behind the bench and behind the heater where they will not be visible.

Kits come with several extra pieces of tongue and groove cedar at no additional charge to allow you to discards some boards altogether.

Use the specified lengths of tongue and groove cedar (see "Material Packing List"). Depending on the actual inside finished size of your sauna, it may be necessary to trim these boards. Nail through the tongue only in order to conceal all nail heads (Blind nailing - see drawing #4).
HORIZONTAL LINING  (see drawing #1)
While not required, most choose to line the ceiling first
The cedar wall pieces should be left about 1/2" off the floor. If a tile baseboard has been installed, you start above the base. Start at the floor and work your way up. Ensure the first board is level. Check the level every 4-6 boards. The first cedar piece should be installed with the tongue facing up. There is up to a 1/32" variation in width. Corners may not line up perfectly. Corner moulding is supplied.

VERTICAL LINING  (see drawing #2)
The cedar wall pieces should be left about 1/2" off the floor. If a tile baseboard has been installed, you can start above the base or overlap it. Corner moulding is supplied.

EXTERIOR
Not included unless ordered as option. For exterior walls: drywall or paneling may be used to match your decor.

BENCHES
(See Drawings #5 - #8 for construction details). There are clear, cedar 2" x 4" boards for the bench construction.

BEFORE DOING ANY FASTENING, select the boards to make sure the BETTER side of the board comes out on the sitting surface. While you build the benches, the better side will be faced down because you are fastening from the bottom. (That way you do not get any screws showing up on finished surface.) Use the 2-1/2" screws supplied. (See Drawings #7 and #8 for bench assembly.)

If the sauna is 5' or more deep, the top bench is 20" wide (5 boards) and bottom bench is 16" wide (4 boards). If the sauna is 4' deep, make the benches 20" and 8" (or 16" and 12"). The material provided allows you to choose either.

BENCH SUPPORTS  (for 2x4 bench tops)
Bench cleats are 2x4 with cut corner; girths are 2x4 (square) (see drawing #6).

Bench girths and cleats are provided as follows:

20" deep bench -- 18" long
16" deep bench -- 14" long
(For 12" deep bench, cut down to 10" long)
(For 8" deep bench, cut down to 6" long)

BENCH GIRTHS: (may be Knotty Cedar) Girths are fastened to the bottom of the bench (see drawing #6 and #8).

Up to 6' long --4 Girths
7' + longer --5 Girths
Benches over 6' & "L" benches have centre floor support (see #5,9,12,13)

BENCH CLEATS: Bench cleats are fastened to the side wall of sauna using 2-1/2" screws. Screw through cedar into spruce stud support (see drawings #1, #3 & #6).

Top bench - Use the 18" bench cleats (cut down if bench to be narrower than 20").
Mount 33" from the floor to top of the cleats, tight to the back wall (drawings #1 & #3). If the bench is 7' or longer, install a centre floor support (drawings #5 & #9).

Bottom bench - use the 14" bench cleats (cut down if bench to be narrower than 16").
Mount 15" from the floor to the top of the cleat, 20-1/4" from the back wall (drawings #1 & #3). If the bench is 7' or longer, install a centre floor support (drawings #5 & #9).

"L" SHAPED RETURN BENCH
Where there is only a single tier, L"- shaped return bench along the side wall, it is typically installed as a top bench.

For an "L"- bench, the bench supports should be installed as follows:

Use an 18" cleat where the bench meets the (front) sauna wall. Fasten the other cleat to the face of the back wall bench at the same height off the floor. Material is provided to build a floor support. Install floor support in front of the main bench. (drawing #5,9,12,13)
HOW TO TAKE A SAUNA

1. Start with a brief shower using warm water and soap. Rinse thoroughly. Do not towel dry.

2. Enter the pre-heated sauna - 80°-90° C: (176°-194° F) Relax and allow your body to perspire freely in the soft dry heat. Do not throw water on the rocks in this first session. Do not expect to begin and finish your sauna in a few minutes. Even in the extreme heat of a sauna, it takes time for your body temperature to rise and for you to begin to perspire freely.

3. Cool off with a cold shower.

4. How long you stay in the sauna is up to you. It depends on your comfort level. It is not an endurance test. People often start at 5-10 minute intervals and work up to longer periods.

5. Re-enter the sauna. Sprinkle water on the hot rocks to bring up a little steam and increase the humidity. This will increase the feeling of heat and assist the perspiration process. If you like add a few drops of scented essence such as eucalyptus into the water you splash on the rocks. It will disperse throughout the sauna.

6. Take a cold shower. Repeat the sauna/cold water cycle as often as you desire.

7. Dry yourself completely. Then sit or lie down, letting your body relax.

8. Dress and have a light sauna snack.

NOTE: When used for the first time, you will notice smoke coming off the heater elements. This is normal. Leave the door open and allow the sauna to run about 20 minutes.

For additional information:

SAUNAFIN SAUNA & STEAM
115 Bowes Road, Unit #2, Concord, Ontario L4K 1H7
Phone: 905-738-4017 Fax:(905) 738-2486
SIDE VIEW CROSS SECTION
(FOR SAUNAS LINED HORIZONTALLY) (NOT TO SCALE)

Check material list for direction of cedar on ceiling
3-1/2" R12 fiberglass insulation (not included)
2"x 4" Joists, 16" O/C (not included)
Center support for benches 7' or longer
Bench Cleat-secure through cedar into reinforcing stud
Upper bench
Lower bench
Heater reinforcing stud. 2x4" installed 26" from floor to top of stud.
(Add stud to adjoining wall for corner hung heater)
Outlet Vent
T&G cedar
Foil vapor barrier

NOTE: This drawing is generic and does not necessarily reflect your exact sauna. Check your Sauna Material List for specifics on you sauna.

TOP VIEW CROSS SECTION
(FOR SAUNAS LINED HORIZONTALLY) (NOT TO SCALE)

Reinforcing studs are imperative.
Upper & lower bench reinforcing studs. 2"x 4" flush inside.
3-1/2" R12 fiberglass insulation (not included)
2"x 4" studs, 16" O/C (not included)
Vapor barrier
Sauna Craft Heater
Guard fence
Frame Blocking (see drawing #3 for detail)
Heater reinforcing studs. 2"x 4" flush inside. (see drawing #3 for detail)
Inside door casing
Lower bench
Upper bench
Door pre-hung on jamb
Door Rough Opening
Frameless=27-1/2" x 76-1/2"
Cedar Framed= 26"x 761/2"
T&G cedar
Marine Light (typically wall mounted)
NOTE: This drawing is generic and does not necessarily reflect your exact sauna. (Exterior not included)

Check your Sauna Material List for specifics on your sauna.
A NOTE ON VENTING:
In many cases a vent is not required for normal sauna function. If you have access to vent walls after the fact, you may elect to forgo vents with the knowledge that they could be added at a later date. If you do not have access after the fact, it is more of a "now or never" scenario. In this case we recommend you install the cross ventilation. If wall inaccessible (i.e. exterior wall), you can look at options of venting over the ceiling and ducting to open area. We do not recommend venting to the outdoors.

OUTLET located high on wall diagonal from inlet
Cedar slide vent on sauna side.
Exterior has aluminum grill (not included) to match exterior decor.
1. Inlet vent low behind heater approx. 6” above floor. Cut opening or drill holes. Exterior: use painted aluminum grill (not supplied).

2. Outlet vent installed far corner from heater. Generally, high on wall, but can be on ceiling.

3. Vent to room adjoining sauna. Do not vent to outdoors.

4. If outlet is exterior (block) wall, you must duct or construct chase through stud cavity and over drop ceiling. Exhaust into room in front of sauna.

The inlet vent should be driven straight through the wall directly below the center of the heater. The cross-section of the vent for a wall mounted sauna is approx. 19 sq.in. For larger saunas approx. 40 sq.in

Position the air inlet and outlet vents as far away from one another as possible (diagonally opposite). The outlet vent should be located high on a wall or in the ceiling, and should have the same cross-section area as the inlet vent. Spent air should always be led back into house – it should not be discharged directly to the outside. Do not install inlet and outlet vents on same wall. Bad ventilation can be worse than no ventilation.

A: Outlet vent through the sauna wall (seen from above). The vent is placed high up, near the ceiling.
B: Outlet vent through the cavity above the sauna ceiling (seen from the side).
C: Outlet vent through a drum under the ceiling in the sauna (seen from the side). The outlet duct should be placed at an angle between the ceiling and the wall. The drum can be built of wooden panelling and have the same area as the outlet vent.

Inlet: If drilling holes for inlet, must equal specified sq inch requirement. Six 2” or eight 1.75” holes are sufficient.
**REINFORCING STUDS**

for BENCHES and HEATERS

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**Bench Blocking**

- Sprcue studs at 16" O.C.
- A) Top bench reinforcement
- B) Bottom bench reinforcement
- C) Heater reinforcement
  **Measurement from floor to top of reinforcing stud**

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**Sauna Craft Heaters**

(Add reinforcing stud on adjoining wall if heater mounted in corner)

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**Tylo & Saaku blocking based on heater mounted 7" from floor**

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**NAILING TECHNIQUE**

1-1/4" galvanized finishing nails for lining (supplied)

*Many prefer to use their own brad nailer (all brads are galvanized)*
SAUNA DOORS

Frameless
R/O=27-1/2" x 76-1/2
includes bottom spacer with gap
(reversible)

Cedar Framed Insulated Glass
R/O=26" x 76-1/2
gap under door
(non-reversible)

Trim/Double Header
R/O=27-1/2" x 76-1/2
If you don't use frameless door
bottom spacer, or door is shorter
than R/O for another reason,
you can "double case" header

NOTE: Rough Opening means above "finished" floor; i.e. above tile
#5 CENTER FLOOR SUPPORT
FOR BENCHES 7' OR LONGER

- 18" 18-9/16" Screw to centre bench girth
- 19-7/16" 14" 15-7/16" Screw to other support
- 20" 16" Screw to wall
- 15-11/16" (trim as needed)
- 3/4" (trim as needed)

9/16" gap between boards.

#6 BENCH CLEAT & GIRTH
FOR ALL BENCHES

2" x 4" BENCH GIRTH
(underside of bench)
Girth is usually Knotty Cedar

2" x 4" BENCH CLEAT
(Fasten to wall)

Girth may be 2x4 square or tongue & groove as available. It makes no difference

Screw to wall into stud blocking
#7 BENCH CONSTRUCTION

**20” Top Bench**

For saunas under 4'-6" deep, bottom bench is 8" instead of 16"

**16” Bottom Bench**

NOTE: Fasten girths from bottom to avoid exposed screws on sitting surface.

#8 BOTTOM VIEW OF BENCH

NOTE: Fasten girths from bottom to avoid exposed screws on sitting surface.

2-1/2" treated screws supplied for construction of benches.

Eased edge

Girths, approx 24" O/C.
Bench Floor Support where needed

1" x 4" DUCKBOARD FLOOR (where included)

1x4 knotty cedar sleepers - 12" spacing

1x4 cedar - 5/8" spacing

2x2 cedar posts

1x3 cedar rails

16" 35"

24"
OPTIONAL "L" BENCH SUPPORT DETAIL

L Bench Cleat
(viewed from back)

L Bench
back of bench
girth
cleat
lower bench
L bench floor support
(in front of main lower bench)

Bench Cleat screwed to face of main bench.

showing front & back of bench leg
2x4 Bench Detail

2x4 tops over 2x4 girth (sleepers)

2x4 Cleat (attached to side wall)

Wall Cleat: ref Drawing #8

2x4 Bench Center Floor Support (for benches over 6’)

2x4 L Bench Support Detail

Bench Cleat screwed to face of main bench.

showing front & back of bench leg
Where stud wall is thicker than standard; i.e 2x6 studs. 1x2 or 1x3 for jamb extension.
Secure jamb extension to jamb so that it extends flush with inside cedar lining of sauna.
Install inside casing to conceal the gap at the jamb.

For frameless door jamb, nail jamb extension to stud. Trim so its flush to inside cedar lining.
Use 1x2 or 1x3 for jamb extension.