Building Garage Gable Wall, Standing And Sheeting Rear And Front Walls

PREPARATION:

The following will apply to 1 or 2 car ATTACHED garages.

A separate procedure will cover DETACHED Garages used with the 2 story houses.

Gable walls have been pre-built in 2 sections and will be assembled based on whether the garage floor is poured or not.

**IF** the Garage floor has been poured, construction of the wall, installing and sheathing the truss and the pre built gable racks will be done BEFORE raising he wall.

**IF** the Garage floor is not poured, the walls/stiffback will be assembled and set without the truss, sheeting and the gable rack.

**NOTE:** Before starting to assemble Gable Wall, Measure and Verify the garage wall top plate will match the house wall top plate.

**IF THEY MATCH , CONTINUE. IF THEY DO NOT MATCH, STOP!!!!! AND GET THE HOUSE LEADER/SITE SUPERVISOR.**

Measure the foundation walls to see if Pre- Built Walls match the foundation.

**NOTE:** Adjust Gable Walls at the ENDS ONLY. Adjust Front Walls at the GABLE END or HOUSE END ONLY. Adjust REAR Wall at the GABLE END ONLY.

MATERIALS/TOOLS:

Pre-Built Garage Walls (Pressure Treated bottom plates)
These Instructions
Garage Gable Truss
Garage Gable Racks
House Wrap
OSB
Nails 8d, 16d, and 16d Galvanized
Chords and saw
6' level
Hammer drill and Redhead style fasteners
Sill seal
The critical path of these next steps is to get the garage walls up and the roof trusses set.

CONSTRUCTION:

FLOOR Poured:

Establish the exact centerline of the Garage Gable foundation and mark on the wall.

Make a stiffback out of a 2 X 4 -14, cut to a length of 159”.

Layout and cut a notch, 1- ½" deep, starting at 99” up and continuing to the top of the 2 x 4. This is the same as the house gable walls.

Bring both sections of the gable wall onto the garage floor. If there are anchor bolts, the walls may need to overhang the foundation walls, to the rear.

Position the stiff back between the 2 Gable wall sections flush with the bottom plate. IF NO BOLTS, match the centerline on the foundation wall with the center of the stiffback.

Pre drill the bottom plate 12” from the OUTSIDE corner and 36OC for the rest of the wall.

Nail the stiffback to one of the Gable walls with a 2-16’ds, every 16”. Attach the other Gable wall section with the same nailing pattern. See Attached Diagram

IF BOLTS, measure and drill holes with the framing being flush with the foundation.

Measure back 3-3/4” from the outside edge, at each end, and mark the top plate.

Measure from the Stiffback to the “setback” mark and cut 4- 2 x 4’s to this length.

Nail the 2-2 x 4 “doublers” to the top plate, placing nails on top of each stud.

Cut and place 4- 2 X 4 blocks (12”-16” long) under the top portion of the wall.

TRUSS BACKER:

Lay these 2 X 4’s on edge against the doubler and the stiffback. It should sit 1 ½” below the doubler.

Attach the 2 X 4 Truss Nailer/backer to the “doubler” with 2-16D nails, 12OC, on each side of the stiffback.
PLACING THE GABLE TRUSS:

Determine whether the Truss Webs are 24OC or 16OC.

FIX FOR GABLE TRUSS 24OC VS 16OC:

There MAY be VERTICAL seams in the OSB that do not have a truss web behind them. Pieces of 2 x 4 will have to be cut and toe nailed, in to the truss, to back these seams.

Measure over 1 ¾” at the top, high side, of the “seam” and at the bottom of the seam. Measure down the seam to the bottom chord of the truss. This will be the length of the 2 x 4 which will be cut, with a 22 degree angle at one end, to match the angle of the truss. Toe nail the 2 x 4, with 16d’s, into the truss frame. ALSO, go to the outside of the wall and nail through the OSB into the 2 x 4 following standard nailing patterns.

For the HORIZONTAL seams, build a 2 x 4 assembly as shown in the Diag. and nail into the truss web, with the assembly centered on the seam, with 16d nails. Complete this step by going outside and nailing the OSB as previously described.

INSTALL THE TRUSS:

Position the gable truss on top of the nailer, CENTERED on the wall, with the same overhang at each end.

Place some 2 X 4 scraps beneath the TOP of the truss, to support it, before attaching the truss to the nailer.

Clamp as needed to pull the truss TIGHT to the doubler and nail the bottom chord of the truss into the Truss Nailer, with 1- 16d nail at the bottom of each truss web.

Additionally, install 6” barn spikes, in each truss web bay, through the truss into the top of the doubler. Pre drilling the bottom chord of the truss makes nailing easier.

NOTE: CENTER AND NAIL THE MIDDLE WEB OF THE TRUSS SECURELY TO THE STIFF BACK WITH 1-16’d nail EVERY 8”.

SQUARING THE WALL:

Measure diagonals. Move the bottom plate left or right to square the wall. The wall is square when the diagonal dimensions are equal.

FLOOR NOT Poured:

Measure and mark the centerline of the foundation wall.
Set and assemble the Gable Walls/stiffback on the foundation wall.

**Wall framing is flush with the foundation wall.**

If there are foundation bolts, measure back from face of the foundation wall to the center of the bolt, mark holes on the bottom plate of the wall, and drill bolt holes.

If there are NO foundation bolts, pre drill the bottom plates, 12” from the OUTSIDE corner and 36”OC for the rest of the wall.

Place sill seal or staple to bottom of wall plate. Stand the Gable Wall/stiffback and temporarily attach to the foundation with 16d nails or a Ramset.

Securely brace DIAGONALLY and to the ground.

Set the rear wall(s) on the foundation, layout and drill bolt holes. **Wall framing is flush with the foundation wall.**

Raise the REAR wall and nail it to the outside corner of Gable Wall.

Start at the bottom, working up, and nail with 16d’s, every 16 inches.

Install a DOUBLER (2 x 4 x 6’) on the rear wall, tying the gable wall and rear wall together.

**NOTE:** After nailing, diagonally brace the REAR wall(s) with 14-16’ 2 x 4’s and securely brace to the ground.

**NEXT:**

With the garage gable wall standing, you will be working off scaffolding for the next steps.

Establish the 3-3/4” setback from each end of the Gable wall.

Cut 4- 2 x 4’s the same length, which will be used as **doublers** and **truss nailers**.

2- 2 x 4’s will be nailed, from the stiffback to the “setback” mark, on TOP of the wall plate as doublers.

The remaining 2-2 x 4’s will be used as **truss nailers**.

Using a scrap of 2 x 4, space the truss nailer 1-½” IN from the **front** of the doubler and nail every 12” across the wall.

**SETTING THE GABLE TRUSS:**
Determine Truss Web Spacing 24OC vs. 16OC. See above for fix.
Set the truss on top of the wall with the same overhang at each end.

Nail in to the truss nailer, 12”oc. Use clamps, as needed, to tighten the truss to the top plate.

Clamp and nail the stiffback to the center web, with 16d nails, 8”oc.

Nail 6” Barn Spikes, through the truss in to the doubler in each “Bay”. Pre drilling will make this process easier.

**SHEETING THE WALLS:** See Attached Diagram

**NOTE:** This step will be followed whether the walls are standing or on the ground.

Measure up 48” from the bottom plate at the ends of the Gable wall assembly. Snap a chalk line between the 2 points.

**OSB LAYOUT:**

The Gable Wall OSB sheathing pattern starts at EACH corner with a VERTICAL sheet covering the first 3 studs. **Cut to fit as needed.**

The next row will be VERTICAL sheets staring at the 48” line and continue UP over the truss to lock the wall together.

**COMPLETE FIX AS NEEDED FOR 24OC VS 16 OC WEB SPACING**

Continue installing sheets vertically, across the wall, ABOVE the 48” line.

Sheeting is attached with 8D nails, 6"oc along the edges and 8" in the field, following the intersecting lines on the OSB.

Snap a chalk line and trim the OSB, flush to ¼”, below the top of the truss.

**AFTER STANDING THE WALL,** complete the bottom row with a full 4’ X 8’ sheet(s), placed HORIZONTALLY below THE SNAPPEP 48” line.

Place 16d nails between the bottom plate and the foundation wall to help support the OSB while nailing. Nail as above.

**GABLE RACKS:**

**AFTER** the OSB, attach pre-built gable ladder racks.

Make sure they are flush with end of the truss and TOP edges of the truss.
Nail **securely** with 2-16d nails along the top of the truss in each “stud” bay. Nail the bottom of the rack to the vertical truss webs (24OC).

**NOTE:** Use a **Framing square** to insure the gable rack is 90 degrees to the wall before nailing the sections together at the peak.

**PORK CHOPS:**

Install Pork Chop (PC) trim detail at the END of the gable racks.

Install the WALL PC first, with 1-16d into the wall and 1-16d through the bottom of the PC in to the gable rack.

Place a framing square against the back edge of the PC and mark the top of the gable rack.

Position the top PC to this line, check for fit, cut as needed and install.

Install a 9" X 11-7/8" OSB backer to close the rear of the PC.

**BEFORE WALL STANDING:**

Measure up 9’ from the bottom of the wall in the corners.

Snap a chalk line across the wall, from gable rack to gable rack. This will be used later to install the house wrap prior to siding.

Nail 2- 2x6’s, 18” long, together to form an “L”.

Nail to the center of the wall, into the truss web, 2 feet down from the peak of the wall.

Nail a long 2 x 4 to the “L” to use as a brace to plumb the gable wall.

Cut a 36”- 2 x 4 with a point at one end. Center on the wall and drive into ground, 8’ off the foundation wall.

Place sill seal on the wall over the bolts, if present or staple to bottom plate.

**FLOOR Poured Built on the floor:**

Raise the **Gable** Wall to a standing position.

Slide wall even with the edge of the foundation and **CENTERRED** on the wall.

Temp install w16d nails driven in to the cement OR install with a Ramset.
Final install will be “Redhead” style fasteners.

Plumb the wall and securely brace to a stake in the ground. An additional 2 x 4 may be needed for the brace to reach the stake/ground.

**NOTE: DO NOT INSTALL OSB BEFORE SETTING THE REAR OR FRONT WALLS.**

**REAR WALL:**

**1 CAR GARAGE:**

Position the REAR, 1 section, garage wall with bottom plate resting on the foundation and the **DOOR OPENING TOWARD THE HOUSE**.

**VERIFY LENGTH OF WALL** and adjust as needed at the **GABLE END ONLY**.

The wall framing will be flush with the OUTSIDE of the foundation.

Layout and drill the bolt holes and place sill seal over the bolts. Lift the wall into place.

Nail the outside corner to the Gable Wall. Starting from the **BOTTOM**, nail the wall sections together with 2-16d”s every 16 inches.

Install a 2 x 4 doubler, 8 ft long, so it extends on to the gable wall at least 3”. Attach to gable wall with 3-16’s.

Continue Nailing the doubler into the top plate, **directly over the studs**.

Cut an additional doubler, in the space left to the house, and continue nailing across rear garage wall with 2-16’ds on top of each stud.

**2 CAR GARAGE:**

The rear wall will be 2 sections for the 2 car garage.

Set the section closest to the house, with the door opening towards the house, **first**, following the above procedure.

**Check for length** and set the 2nd section as above.

With the 2-car garage, make sure the doubler spans the wall sections by at least **3 studs**.

**ALL GARAGES:**

**NOTE**: Make sure blocking, 2 x 6’s nailed between the house wall studs, has been installed, centered, at 2, 4 and 6 feet off the floor.
Plumb and nail rear garage wall to house, into blocking.

**1 CAR GARAGE:**

Repeat the process, above, for the setting the 1 piece front wall.

**NOTE:** check for blocking in the House walls as above.

**2 CAR GARAGE:**

Wing or side walls will be set separately.

Follow the same procedure of measuring, drilling the bolt holes, placing sill seal and installing the walls.

Plumb the wall near the house and nail into blocking, inside the house.

Set the other front wall by drilling bolt holes, set sill seal and nailing the corners of the Gable wall and Front wall together.

Plumb and brace the wall(s) to the ground.

**SETTING THE LVL/GARAGE HEADER (2 CAR GARAGE ONLY)**

Measure, **WITH 2 PEOPLE VERIFYING THE MEASUREMENT**, between the 2 King studs at the **bottom** of the wall and at the **top** of the Jack studs.

The numbers should match. If not, check the Gable wall to Wing wall for plumb.

Measure, **WITH 2 PEOPLE VERIFYING THE MEASUREMENT**, and cut the 2- LVL’s to length.

Nail the LVL’s together, on top of saw horses, **with 4-16d nails, 16”oc across the FRONT of the LVL**.

**Turn the LVL over and nail with 4-16d nails at 32”oc on the BACK side.**

Nail 24” pieces of 2 x 4 to **close off the back of the jack stud opening** on each side of the front wall. This will prevent the LVL’s from falling off the jacks.

With 6-7 volunteers, lift the LVL “sandwich” and set on top of the jack studs.

Nail with 4-16d’s securely through the King studs, **front and rear**.

Pack out the top of the LVL to bring up to the bottom of the top plate. Nail through the top plate with **PAIRS** of 16d nails every 16” across the LVL.
ALL GARAGES:  (See Attached Diagram)

SHEETING THE REAR AND FRONT WALLS:

For sheeting the walls, place 16d nails, every 2’, between the **bottom plate** and the **top of the foundation wall** to help support the OSB during installation.

Start at the **outside** corner of the **REAR** wall, with a **VERTICAL** sheet, **cut to fit**.

Proceed towards the house with VERTICAL sheets, until you get APRX 8’ from the House wall.

Layout for the garage utility door **before** attaching OSB by placing a sheet, **HORIZONTALLY**, against wall, up to the **top of the truss heel**.

Scribe the door opening from the inside of the garage and cut with a circular saw.

Cut the pieces at each side of the door, from scraps, and nail in to place.

FRONT WALL OSB:

Start OSB install on **FRONT** wall from the outside corner.

Place a full sheet **HORIZONTALLY**, flush with the outside wall edge and the long edge touching the **TOP** of the truss HEELS.

Scribe the wall and bottom of the garage door header. Remove and cut with a circular saw.

**CRITICAL STEP**: You are creating a shear wall assembly and the next steps must be followed carefully.

Re-position the OSB and nail **4” OC** on the **edges AND** in the **field**.

Repeat the process with a full sheet, **HORIZONTAL**, at the **house wall**.

Fill-in the middle section of the header, from the bottom of the header to the Top of the truss HEELS, with pieces cut to fit. Use standard nailing at 6”oc on the edges and 8”co in the field

**CRITICAL STEP**:

**This will complete the shear wall assembly.**

Cut a **FULL HEIGHT** (**it will be over 48”**) piece of OSB to cover the bottom corners of the wing walls.
It must extend from the foundation wall to the bottom of the full piece over the door.

**INSTALL 2 X 4 BLOCKING AT THE SEAM IN THE OSB, SO THAT TOP AND BOTTOM SHEETS CAN BE NAILED TO THE 2 X 4.**

Nail to *wall studs, blocking, and bottom plate, 4"OC* on the edges and in the field.
SHEATING GARAGE WALLS

TOP OF TRUSS HEEL

1. Piece will be added for 2-car

OVER 48"

BLOCKING NAIL 4 YOC

OVER 48"

SHED

REAR WALL

ADDITIONAL RIPS OF OSB

HOUSE

TT 2/20/2015