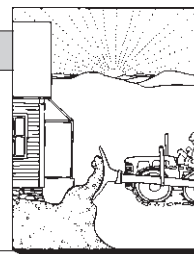


Raise High the Roof Beams

by John D. Wagner



Maybe in heaven, large-scale remodeling jobs—like the addition of a second story—are completed in one day. When a saintly client wants some new bedroom space, it's simple. The roof is picked off the top of the house intact. The carpenters nail up the second-story walls, and the roof is dropped back down again. No tear-offs, no tipping fees. Easy as pie.

Well, Ashline Construction Co., of South Burlington, Vt., was able to bring a little heaven down to earth on one of its recent remodeling jobs. They picked an intact roof off a house, added second-story walls, and put the roof back on, all in about four hours. As vice-president, Frank Naef, explains, "The owners of this house had just put on a new roof; the structure itself was sound, so we said to ourselves, 'why destroy it?'"

Not only did Ashline manage to lift the roof off intact and save the owners the cost of replacing it—a \$10-a-square-foot savings—but Ashline saved itself about \$1,500 in tipping fees at the dump. And it reduced to zero the chance of weather interfering with its work.

Not every house is right for this kind of project. "The house design here was ideal for this approach," Naef explains. "First, the stairway and second-floor deck were already in. More importantly, the house had a 2-foot knee wall all the way around. We could get up there and gain easy access to the knee-wall studs and roof rafters. We also were able to check for level and for square. A great deal could be done ahead of time."

Here's how the project went: After deciding to raise the roof—something Ashline had never done before—the company checked with its insurer to make sure it was covered if something did go wrong. After reviewing the plan, the insurance company agreed to cover the risk.

Since they knew the dimensions, Ashline's carpenters were able to pre-fab panelized wall units to be installed once the roof was picked off. With the panels ready to go, the time the roof was off the house could be cut to just a few hours, a real blessing in northern Vermont where the weather can change very quickly.

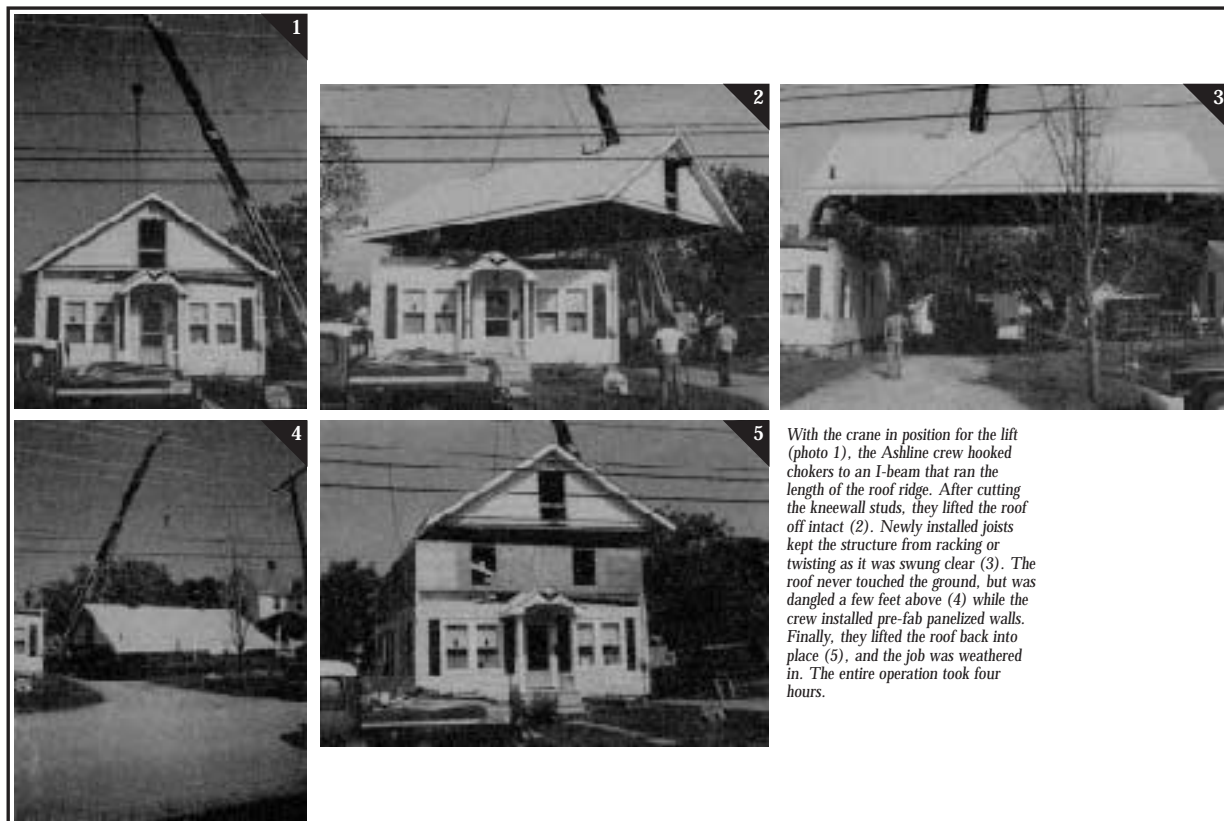
Ashline put in new ceiling joists before the lift. "Structurally," Naef says, "this made a lot of sense. It made the roof a rigid triangle, and it reduced the chance of racking or twisting. As it turned out, we probably didn't need the reinforcement. The steel down the center of the roof would have been enough, but you can't be too careful."

On the day of the lift, Ashline's crew went in and cut two holes in the roof, about 12 feet apart, right at the ridge. A crane was positioned nearby, and it dropped chokers through the holes. The chokers were attached to an I-beam that was run under the ridge. (Ashline had calculated the weight of the roof beforehand and sized the I-beam accordingly.)

Then the crew went to work cutting all but the four corner studs. Finally, with a little lift from the crane to shift the roof's weight from the corner studs to the crane's cable, the last four studs were cut. The roof was lifted off, swung clear, and dangled a few feet above the ground nearby while the next stage of the project got under way.

The old studs were removed, and new 2x6 plates were installed. The pre-fab panels were quickly put in place. The roof was lifted and lowered back onto its new bearing. With the second floor added, and the job sealed in against the weather, everybody went to lunch. ■

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With the crane in position for the lift (photo 1), the Ashline crew hooked chokers to an I-beam that ran the length of the roof ridge. After cutting the kneewall studs, they lifted the roof off intact (2). Newly installed joists kept the structure from racking or twisting as it was swung clear (3). The roof never touched the ground, but was dangled a few feet above (4) while the crew installed pre-fab panelized walls. Finally, they lifted the roof back into place (5), and the job was weathered in. The entire operation took four hours.