RAISE HIGH THE TIMBERS! BUT DO IT SLOWLY WHEN JACKING UP A ROOF TO DOUBLE SPACE IN A HOUSE

The Boston Globe

Author(s): Peter C. Hotton, Globe Staff **Date:** December 2, 1990 **Page:** 80 **Section:** HOME AND GARDEN

How do you raise a roof?

Very slowly, says Robert Terenzoni of Medford, who has raised 12 roofs and 100 dormers in the last 5 years as head of HighTech Dormer of Medford. Terenzoni raises roofs and dormers differently than the way it has been done for many years. Instead of tearing off the roof or dormer and building from scratch, he raises it with giant jacks. It's less expensive this way, he says, and claims his dormer-raisings save about 30 percent over the traditional method, and that his roof-raisings save about 20 percent. He says his roof-raising projects cost from the high teen thousands to low 20s.

Raising roofs or dormers has become popular in recent years to gain space without building an addition or buying a bigger house. Terenzoni's technique recycles roofs before they've served their time.

A dormer-raising can increase the space in a traditional Cape Cod-style house by 50 percent or so, while a roof-raising doubles the space by adding a whole floor.

Terenzoni's most recent roof-raising was on a house in Saugus last month. The job took two weeks with a three-man crew, longer than the usual one-week project because of the size and shape of the roof. Terenzoni used six tall, custom-made pole jacks made of aluminum to raise the Saugus roof. He said a patent has been granted on the jack system.

The roof went up in one day, he said; the rest of the time was taken up in preparation and engineering work, building outer walls to go under the raised roof, new floor joists and a subfloor.

Raising a roof is considerably more than pulling the roof off its moorings and jacking it up.

Among the first work that had to be done was to reinforce the 2 x 6 ceiling joists in the original ranch house. He added 2 x 8 joists, "sistering" them against the original ones; that is, lining them up right next to the originals.

"We almost always find undersized joists in one-story houses," he said. After all, the orginal joists had to hold up only a ceiling. When the roof is raised, the bigger joists were needed to hold up the new floor and everything in it. The new walls hold up the raised roof.

The Saugus roof is 40 feet long and 28 feet wide; an extra section in the roof extended part of it to 52 feet.

The roof weighed 6 tons, so each of 6 jacks held up a full ton of weight.

Terenzoni installed a scissors truss under the roof, which included long horizontal timbers connecting the bottoms of the rafters. Then he placed two double-truss wood beams under the full length of the roof, just under these timbers. This technique prevented the roof from buckling or racking under the strain of raising it.

A tall pole jack was placed at each end of the two double-truss beams, and two more in the middle. The end jacks sat on the ground, but the middle jacks had to be supported by a large cross-beam set at right angles to the roof. Each jack was operated by an an ordinary chain hoist.

The roof had to go up 7 1/2 feet, and had to go up dead level, so the prep work and engineering is critical, Terenzoni said.

All the work has to be in accordance with the building code, Terenzoni said. "We reuse everything possible, and inspect the roof and everything else to make sure it can be raised and is worth raising."

Before the roof is raised, a subfloor of 3/4-inch tongued-and-grooved plywood is glued and nailed on the joists.

After the roof is raised, prebuilt walls (complete with studs and outside plywood sheathing) are set up and the roof gently lowered to rest on the walls.

Terenzoni usually does outside siding and trim to finish the job, but finds that most people who have work done like to do the interior finishing themselves.