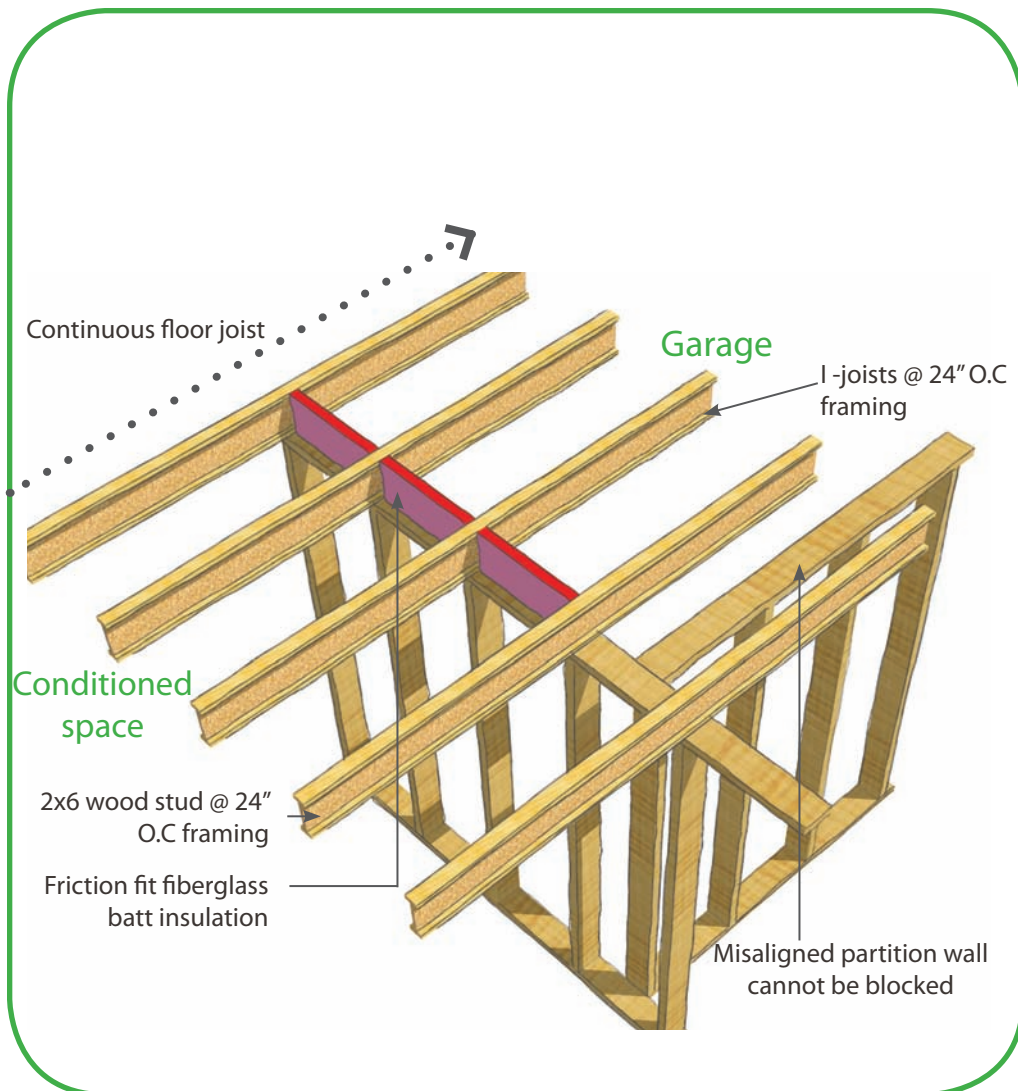


**INTRODUCTION**

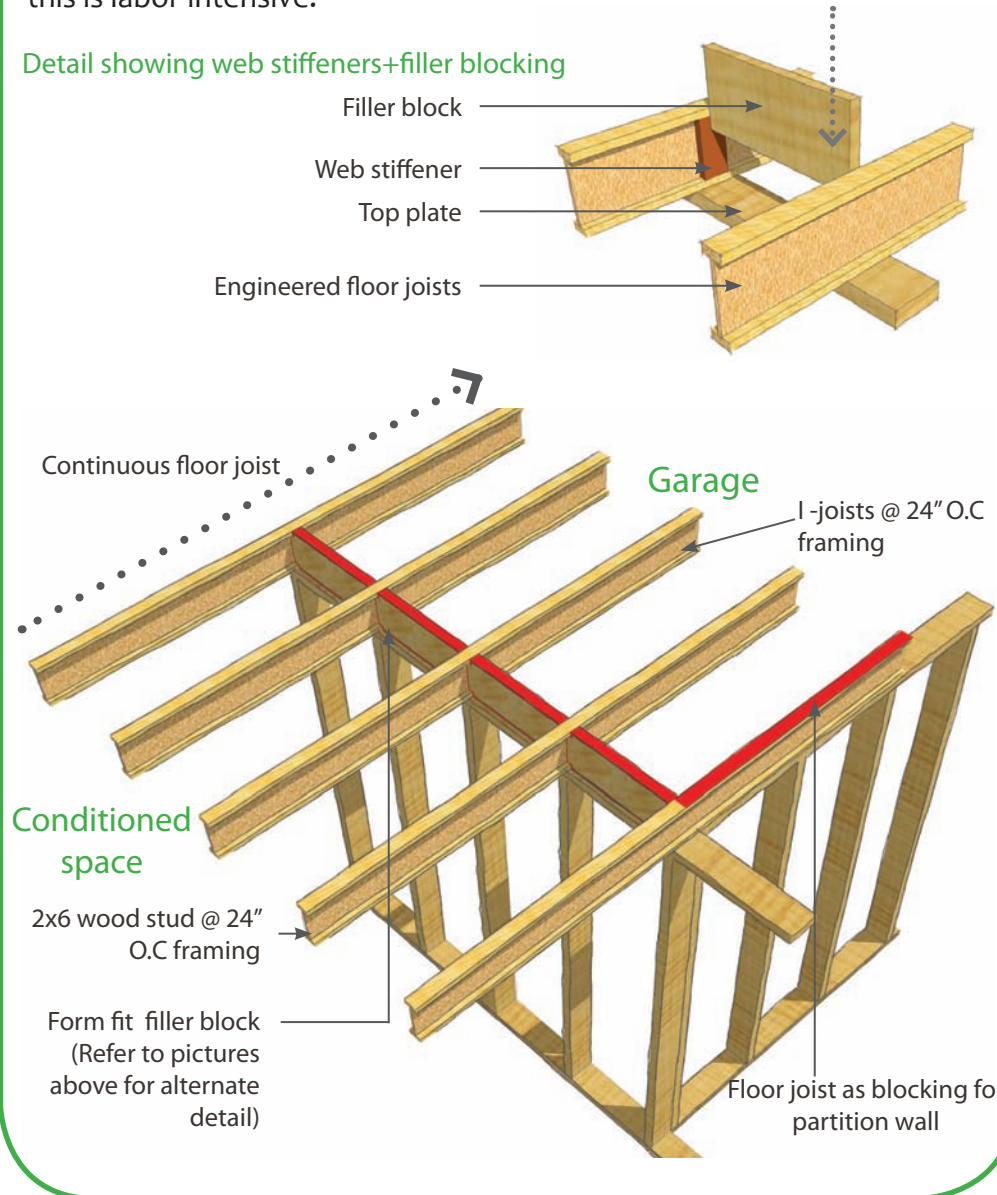
Isolating garages from the living space is critical in preventing the potential infiltration of carbon monoxide into the dwelling. Walls and floors adjoining garage spaces need to be sheetrocked (typically 1/2-inch-thick Type X gypsum board) in accordance with local fire codes. But this is still not the same as air sealing. All ceiling and wall penetrations (wiring, piping, ductwork, etc.) need to be sealed with appropriate materials, such as caulk and spray foam. All joist cavities between the garage and adjoining living spaces should be blocked with rigid material or be designed to constitute a naturally-occurring air block. These same air sealing concepts apply to overhangs and porch roofs.

**CONVENTIONAL DETAIL**



**AIR SEALING RECOMMENDED DETAIL**

To provide an air barrier between the garage and the adjoining conditioned space, solid blocking is often used. Form fit filler blocks and spray foam edge sealing can provide a suitable air barrier, but this is time consuming due to the irregular cross section of I-Joists or the cross-members of open-web trusses. When using I-joists, the trimmed portion of the I-joists can be used for blocking. The remaining gaps still need to be filled with foam pieces and sealed with spray foam (fig 2). Other methods are to provide a simple backer (mesh, cardboard, etc) that spray foam can be applied to (fig 3). In some cases, plywood is cut to fit the opening shape (notched to account for the I-joists), but this is labor intensive.



**ARCHITECTURAL ALTERNATIVE DETAIL**

The best option would be to design the home to isolate the attached garage through the use of framing members. By terminating the floor joists at the boundary wall, this will provide a natural end blocking which creates a continuous air barrier. In addition, it is recommended to seal the joints between the mud sill and rim joist at the foundation line of the garage-to-house wall, and seal the bottom of the drywall where it meets framing or foundation elements:

