

## **Step-By-Step Application**

### **Installing a Joist Hanger**

A joist hanger is often used to connect floor joists to a wood header or beam. This is a much stronger connection than driving nails diagonally through the end of the joist and into the beam, a method called “toenailing.” There are two basic types of joist hangers. “Face mount” hangers can adapt to variations in joist depth and beam location but are harder to install properly. “Top flange” hangers have a lip that hangs over the top of the beam, making them easier to install but less adaptable to variations in lumber dimension. A joist hanger that has been installed improperly will weaken the joint and make subsequent work more difficult. Also, poorly installed hangers can cause the floor system to squeak.

**Step 1** Size the hanger. The height of the hanger should be at least 60% of the joist height to prevent the joist from tipping.

**Step 2** Use the correct fastener. Follow the manufacturer’s nail specification exactly. Never use screws or roofing nails. A common mistake is to substitute 16d sinker nails (.148 diameter) for 16d common nails (.162 diameter). This seemingly small difference weakens the connection. Use stainless steel nails with stainless steel hangers and galvanized nails with galvanized hangers.

**Step 3** Mark the location. Lay out the spacing of hangers and then square down the beam’s face. This line will be a reference for keeping the hanger side plates plumb and parallel.

**Step 4** Position the joist. Hold a hanger on the joist (or a scrap block) and position the joist on the layout marks. The top should be flush with the top of a lumber beam. When hanging solid lumber joists on an engineered lumber beam, some carpenters position the joists about 1/8 in. high because the joists will shrink slightly but the beam won’t.

**Step 5** Nail the flange. Set the hanger by driving the nailing prongs, if any, into the wood. Then drive a nail into every hole in each flange. Keep the side plates parallel to each other. If they are spread at an angle, the floor may squeak.

**Step 6** Nail the side plate. There should be no more than 1/8 in. of space between the end of the joist and the face of the beam. Make sure the joist is fully seated against the seat of the hanger, then nail both side plates to the joist. Use every hole.