

PRACTICAL RESTORATION REPORT™

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Wood Gutters

You may be tempted to just rip them off, but wooden gutters are often worth saving. This report covers assessment of the condition of gutters, repairs, replacement, and maintenance. Related cornice construction and repair are outlined.

There is a lot of practical sentiment against gutters. Wooden ones in particular are costly, need regular maintenance, and sometimes rot and fall off. Frequently, however, they are well worth repairing and maintaining.

Wooden gutters were often installed on houses built or renovated during the 19th and early 20th centuries. Even today a few new custom homes are built with wooden gutters.

Gutters and Cornices

Wooden gutters are often an integral part of a building's cornice. To make efficient and successful repairs it is essential to know how cornices function and how they are constructed.

Water Drainage

Gutters are a key element in the drainage system that extends from the ridge of the roof, down the side of the building and across the grounds. They catch rain water from the roof. This helps protect siding and windows from slow but steady damage caused by the constant wash of rain water.

A system of downspouts and drainage lines moves the water away from the building. This prevents water buildup in the ground next to the foundation, which can cause frost damage in the winter.

I know a building in Portland, Maine, with a foundation wall that has buckled inward 3 1/2 inches since the gutters were removed just four years ago.

Aesthetics

The cornice is often an important decorative feature that draws attention to an historic building's basic shape and size. The gutter acts as a crown molding that contributes to the historic character of the building. Its visual prominence defines and outlines the building.

Benefits of Wood Gutters

- **Water Control**
Protects siding and foundation from destructive effects of water.
- **Durability**
Takes heavy loads of winter ice and ice expansion. More resistant than metal to tannic acid from oak tree debris.
- **Aesthetic**
Visual appeal of molded shapes. Value of original historic material.
- **Economic**
Repairs to an existing wooden gutter system may cost less than complete replacement.
- **Maintenance**
Repairs easier to do since woodworking skills are more available than metal or plastic working skills.

Drawbacks of Wood Gutters

- **Durability**
Will decay if wood cannot dry out.
- **Economic**
Initially costs more than other options.
- **Maintenance**
Regular upkeep a must to keep in good condition.

Construction

These drawings show some common details of cornice and gutter construction.

Figure 1. Closed Cornice with Integral Gutter

Ventilation of a closed cornice is critical to prevent decay. When an integral gutter decays it often breaks open to the interior of the cornice, dumping its load of water right where it will do the most harm. On one cornice I repaired the sheathing had decayed and was funneling water directly from the roof to the stud space within the wall.

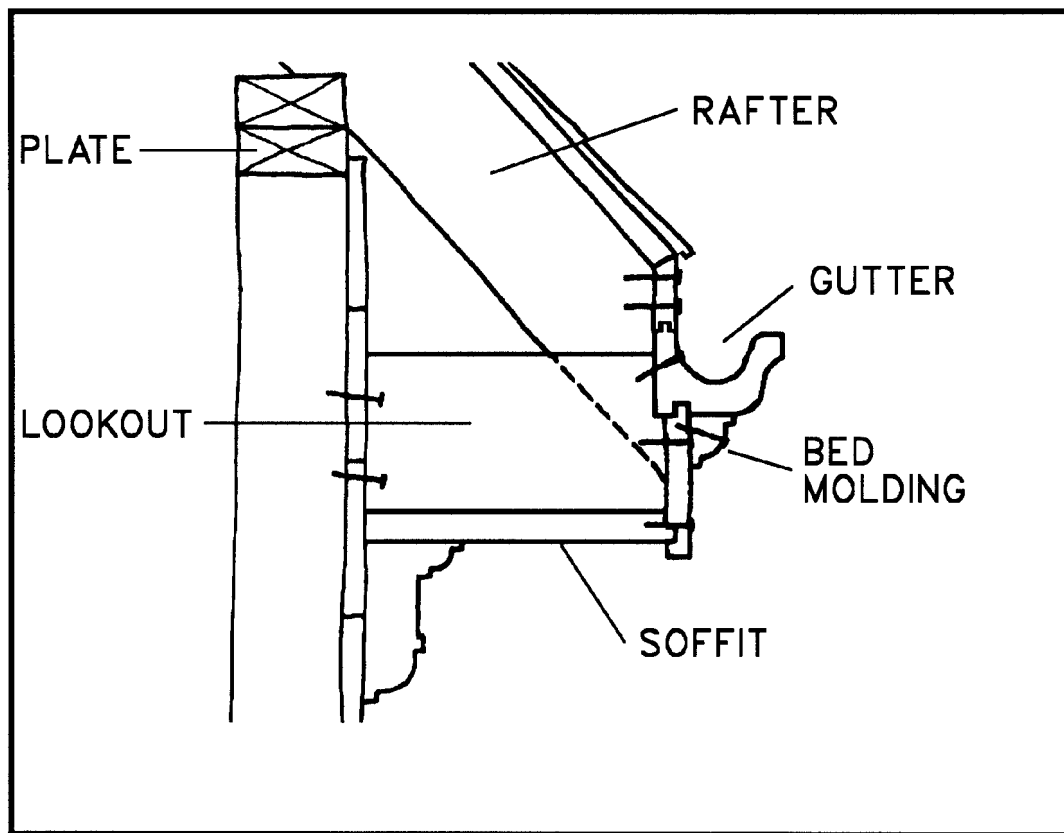
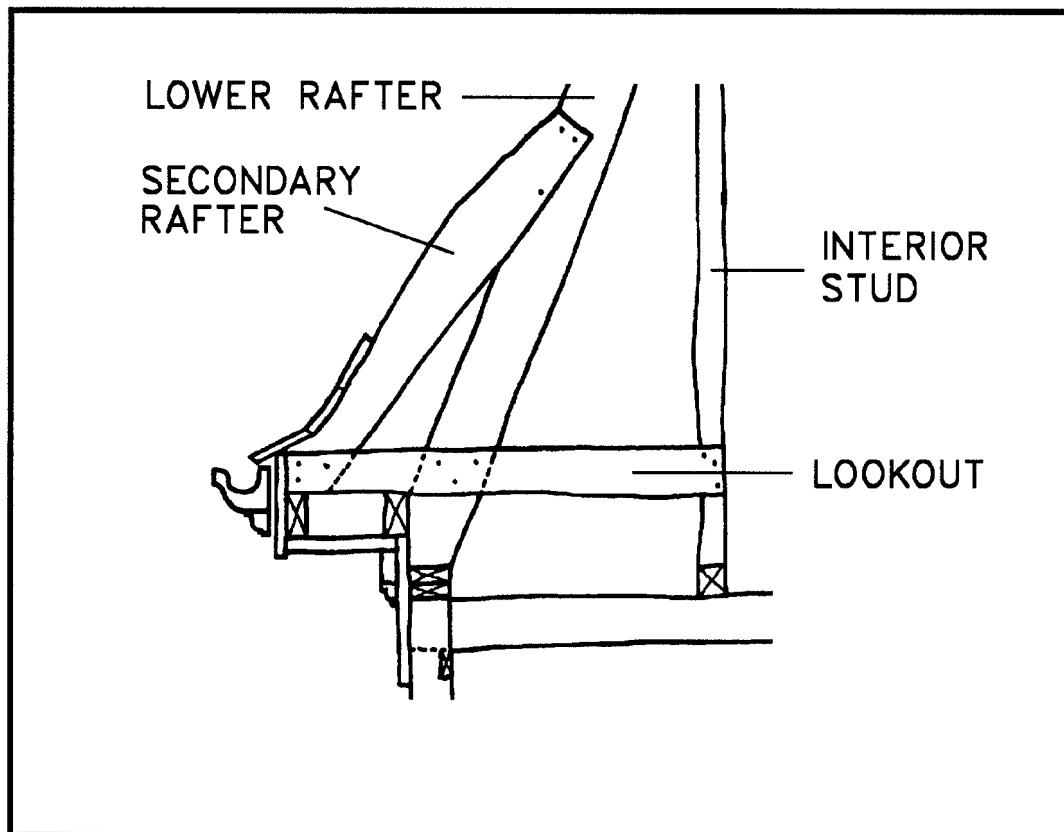


Figure 2. Mansard Roof with Attached Gutter

Here the gutter and bed molding are blocked out about 3/16" from the fascia. The space allows for drying. Even if the gutter decays and leaks or overflows the back edge, structural rafters and lookouts would not be likely to decay.



Joints

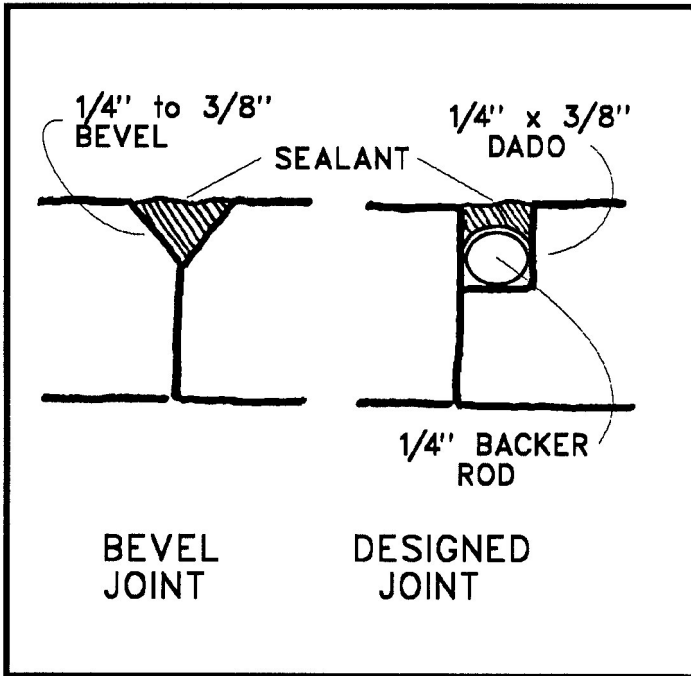
Sealing the Joints

The most effective way to seal butt and miter joints is forming a groove along the joint and filling the groove with a sealant. The groove permits enough sealant in the joint to make it flexible allowing for the movement of expansion and contraction.

This can be as simple as rasping a 1/4- to 3/8-inch bevel at the edge of the trough. For better performance make a "designed joint" by routing a rabbit at one edge of the joint along the trough and apply release tape or backer-rod and then sealant. This lets the sealant flex more than the plain bevel joint. See PRACTICAL RESTORATION REPORT Exterior Woodwork Details for more on backer rod and designed joints.

Figure 9. Sealed Joints

A beveled joint filled with sealant costs less to make than a flashed joint. A "designed joint" is moderate in cost and more effective.



Flashing

Flashing a joint is the traditional approach. Thinner sheet lead flashing is better because it is more flexible. I start by forming a 4" wide lead strip to the contour of the gutter trough so it laps over the joint 2" on each side. Then I scribe the wood surface along the edge of the lead and carve out a depression so the lead seats flush with the trough surface. I seal the lead down with caulk along the edges and fasten it in place with galvanized steel or lead-coated copper nails.

Figure 8. Depression for Flashing

Carve a depression for gutter joint flashing so water flows freely. Without a depression the flashing forms a tiny dam that traps water causing decay under the flashing.