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# STACKED DUPLEXES

A Publication of The New Haven Preservation Trust

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## INTRODUCTION

During the past decade, interest in older residential buildings in Connecticut's urban neighborhoods has experienced a great revival. Urban renewal programs of the 1950s and 1960s, which typically ignored or categorized older buildings as obsolete liabilities best dealt with through replacement, have gradually given way to revitalization programs focusing on the rehabilitation of these same buildings. This change in attitude has been fostered by a number of factors, including an increasing recognition that (a) older residential buildings make an important contribution to the special "historic" character of a city and its neighborhoods; (b) buildings of this type often exhibit a level of excellence in craftsmanship which is rarely found in modern buildings; and (c) rehabilitation of older residential buildings is increasingly becoming an affordable and productive investment for homeowners and developers alike.

This brochure has been prepared by the New Haven Preservation Trust in cooperation with the City of New Haven and the Connecticut Historical Commission in order to describe the more distinctive architectural and historical characteristics of one of Connecticut's most common turn-of-the-twentieth century residential building types: the Stacked Duplex. It is also designed to provide Stacked Duplex owners with basic guidelines relating to the effective maintenance and rehabilitation of this residential building type.

## WHAT IS A STACKED DUPLEX?

In its purest form, a Stacked Duplex is a large, gable-fronted, freestanding wooden box containing virtually identical two-room wide, four-room deep, first- and second-story apartments. Typically this building type has a large attic formed by a steeply pitched gable roof, and a two-story front porch.

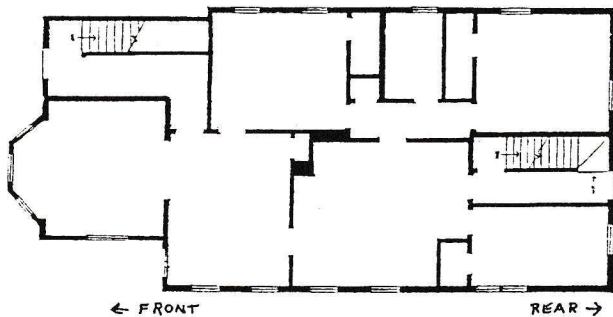
As a group, Stacked Duplexes feature a broad range of variations on this basic theme. Some are built of brick, others of concrete block; some have cross-gable roofs, others have gable roofs topped by large intersecting gable dormers; some have narrow projecting side wings or turrets, others have simple rectangular overall plans; some have projecting window bays, others do not; some feature extensive and elaborate exterior ornamentation, others have exteriors which are very plain.

## HISTORICAL BACKGROUND

Though found on scattered sites throughout much of Connecticut, the Stacked Duplex is essentially an urban housetype which began to make its appearance in the early 1880s. Between the early 1880s and the World War I era, it became one of the most popular and dominant housetypes in rapidly growing industrial centers throughout the state. In large cities such as New Haven, Hartford, Bridgeport and Waterbury, as well

as in smaller urban centers such as Torrington, Winstead, and Naugatuck, Stacked Duplexes were erected in extensive numbers throughout this period. Usually built by local contractors or developers, identical Stacked Duplexes often appear in rows of five, six or more along the same block of a street. In New Haven, such concentrations are found throughout portions of the Dixwell, Newhallville, Fair Haven, East Rock, Edgewood and Westville neighborhoods.

Several reasons help to account for the popularity of the Stacked Duplex as a housetype around the turn of the twentieth century. For example, because of their multiple living units, contractors and developers who built them were able to realize a greater profit from rentals and sales than they would have by building a single-family house on the same site. By using the same design and construction crew to build a row of five, six or more along the same block, construction time for many Stacked Duplexes was reduced dramatically, further helping to reduce costs. Usually built in new developing residential neighborhoods along the fringe of the inner city, and featuring "new" modern amenities such as indoor plumbing and central heating, the roomy, well-lit interiors and affordable prices of most Stacked Duplexes proved highly attractive to the rising middle-class working families which formed a rapidly growing segment of Connecticut's turn-of-the-century urban population.



TYPICAL STACKED DUPLEX FLOOR PLAN

#### WHEN WAS IT BUILT?

Determining the approximate or actual age of a building can be important. If you know your building's date, a little further research will enable you to determine the physical properties of materials commonly used in buildings of the same type. This knowledge can prevent you from making costly repairs with inappropriate modern materials.

The first step to determine your building's construction date should be to call your local library, planning office, or the Connecticut Historical Commission in Hartford; the building's date may have already been included as part of the state's ongoing architectural survey program. If the building has not yet been "surveyed," the following may help you make your own assessment.

There are three dating methods commonly used by professional researchers. The first involves tracing the history of the property using city directories, land records, tax records, building department records and similar material kept on file by the city. Another approach is to look through old maps of your city which were compiled in different years and which have buildings drawn on them. For example, assume you have maps for your city from 1895 and 1911. If your building is not on the 1805 map, but is on the 1911 map, it is fair to assume it was built between these two dates. A third method is to date your building on the basis of its architectural style. The three methods may be combined to arrive at the most accurate date.

#### WHAT STYLE IS IT?

Stylistic terms are used to categorize the basic massing forms and ornamental features which visually distinguish a building as a product of its time. Since Stacked Duplexes as a group share the same basic forms, their architectural "style" is conveyed primarily through exterior ornamentation. Exterior ornamentation associated with most Stacked Duplexes usually reflects the influence of one or two of the country's most popular turn-of-the-century residential architectural styles: Queen Anne and Colonial Revival.

The Queen Anne style was very popular across the nation between the 1880s and the earliest years of the twentieth century. Typical Queen Anne-style features found on Stacked Duplexes include the use of differing types of siding materials to create interesting patterns and textures (usually horizontal clapboards, patterned wood shingles and vertical and horizontal trim boards on wall faces), prominent scroll-sawn brackets under the roof eaves; windows featuring different sizes and glazing patterns; elaborately detailed porches with turned posts and balusters and heavy rails; large arched openings with turned or carved decorative elements; and bargeboards along the gable rakes.

Colonial Revival-style features began to appear on the exteriors of Stacked Duplexes in the mid-1890s. By the 1910's, most new Stacked Duplexes had become almost entirely dominated by the less fanciful and more refined and "formal" details associated with this style. While the combined use of clapboards and wood shingles on the exterior was often retained, wood shingles no longer tended to feature eye-catching shapes and pattern arrangements; three-part attic windows were sometimes placed in gables; elaborate turned porch posts and railings gave way to plain columns, piers, and plain "picket" or solid porch railings; scroll-sawn eave brackets were eliminated or replaced by simpler, classically derived features such as box-like modillion brackets and dentil moldings; bargeboards on gable rakes gave way to simpler rake moldings ending in full cornice returns on the gable ends.

When dating a Stacked Duplex on the basis of architectural style, the following guidelines can generally be applied.

1. Predominantly Queen Anne-style ornamentation: late 1880s - 1900.
2. Predominantly Colonial Revival-style ornamentation: 1905 - 1920s.
3. Significant combination of elements from both styles: 1895 - 1910.



QUEEN ANNE STYLE



COLONIAL REVIVAL STYLE

## MAINTENANCE AND REHABILITATION

Proper maintenance is essential to the long-term appearance, usefulness and value of any property. For Stacked Duplexes, which have already been exposed to the ravages of time and weather for 60 years or more, maintenance is particularly key.

There are two basic approaches to building maintenance: reactive and preventive. In the reactive approach, minor repairs are put off until they have developed into major problems requiring immediate attention and major expense. Preventive maintenance, on the other hand, is designed to monitor the ongoing maintenance needs of a building by regularly identifying and repairing minor problems, thereby minimizing the need for major repairs and expenses in the future.

The most important diagnostic component of a good preventive maintenance program is the periodic "physical." The basic tools needed to conduct a building's yearly checkup consist of a notebook and pencil (to record your observations), a penknife (to scrape and poke with), a flashlight (to help you see poorly lit features) and, if available, binoculars (to examine upper story walls, roofs and other high places from ground level). You can make your building's physical as detailed as you like. However, you should include an inspection of the following areas once each year.

### THE "BUILDING PHYSICAL": WHAT TO LOOK FOR

#### Exterior -

**Roof:** tears; cracks; surface bubbling; warped, cupped, missing shingles, or similar deterioration; cracks, holes, or other signs of flashing deterioration around chimneys, vent pipes, etc.

**Masonry walls (including foundations):** missing or deteriorating mortar; cracked, or spalling bricks; excessive bowing or cracking of wall surface; displacement of masonry materials.

**Wooden sidings/trim:** loose, split, rotted, or warped shingles, clapboards, or trim; blistering, peeling, or cracked paint; mildew on paint surface.

**Gutters and downspouts:** damaged or missing sections, blockages caused by accumulation of debris (such as leaves); displacement.

**Chimneys:** deterioration of mortar or bricks; excessive leaning.

**Windows and Doors:** debris (such as dirt or leaves) along sills which may lead to mildew or wood rot; condition of weatherstripping and caulking; rot, mold, or mildew on wood; broken sash weight cords; deteriorating glazing putty; loose or broken glass; blistered, peeling, or cracked paint on sash and casings.

**Porches and steps:** rot, mold, or mildew on wood surfaces; broken railings, floorboards, or stair treads; blistering, peeling, or cracked paint; excessive settlement of porch base or columns.

**Yard Plantings:** excessive overgrowth of trees and shrubs along sides of building; creeping vines on masonry surfaces; growth of fungus and moss in damp areas.

#### Interior -

**Walls, ceilings, and trim:** water stains or streaks which may indicate leakage; buckled plaster or wallpaper; buckled floor boards; misaligned door and window frames; blistering or cracking paint.

**Attics:** water stains on rafters and floorboards and around chimneys, vent pipes, etc. which may indicate leakage; insect damage.

**Basement:** water stains or puddles which may indicate leakage; extensive condensation on walls; mold or mildew along joists and sills which may indicate excessive moisture levels; excessive bowing or cracking of foundation walls; signs of termites or similar pest infestations; cracked or severely deflecting structural members.

Once you have established your systematic review program, and begun to identify necessary repairs, you are ready to tackle rehabilitation.

The extent and complexity of the work involved in rehabilitating any any building depends on a variety of interrelated factors, including the overall condition of the building, its projected use, the financial resources of its owner, and the owner's physical and technical abilities. In this brochure, providing a detailed description of the full range of repair problems and solutions associated with Stacked Duplexes would be impossible; for detailed and comprehensive information on repair techniques, consult a few of the publications listed at the end of the brochure. However, whether completely renovating or simply interested in limited repairs, the following information may help you get started.

#### REHABILITATION: SOME GENERAL GUIDELINES

(1) **Planning** - Before a hammer or saw is lifted, make sure you have determined all major issues, such as: work to be undertaken; how to pay for it; limitations and requirements of current zoning ordinances, building and fire codes; work you can do on your own; and work to be done by professional contractors. Thorough planning greatly helps in minimizing the risk of unanticipated expenses.

(2) **Prioritizing** - List the necessary repairs in descending order of importance and schedule your work accordingly.

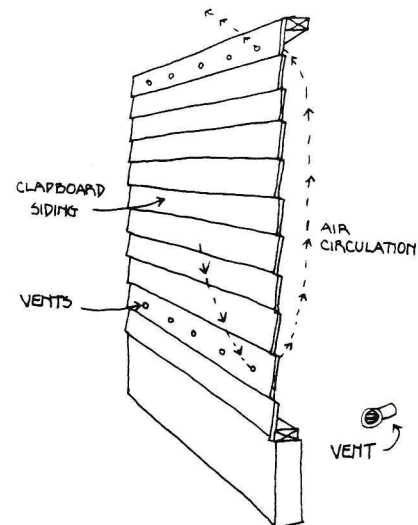
(3) **Preserving** - Try to retain or restore those architectural features which visually define the building's historic character. Stacked Duplexes which retain historic features are more visually appealing, valuable, and marketable than those which do not.

(4) **Performing** - When performing repairs, always: (a) Use quality materials which do not damage or deteriorate easily. Inexpensive materials will usually lead to more extensive future maintenance costs. (b) Know your limitations. Even the most avid "do-it-yourselfer" has limited technical skills and physical abilities. Do not attempt to make repairs that exceed these limits; it could not only wind up costing you more money; it could also lead to dangerous accidents.

#### REHABILITATION: POSSIBLE PROBLEMS, CAUSES, REMEDIES

##### (1) Paint Deterioration -

On wall surfaces, blistering and peeling often result from either a buildup of excessive moisture within the wall cavity behind the paint or from using an incompatible paint type. For example, if oil paint is applied over latex, peeling of the top coat can sometimes result. Some possible remedies which may help to alleviate moisture problems include: repairing leaky roofs, repairing and sealing walls and floors in damp basements to reduce or eliminate moisture penetration into wall cavities from this source; painting or wallpapering interior sides of the affected walls with products designed to act as vapor barriers; and, in extreme cases, installing a system of louvered upper and lower wall plugs designed to vent the exterior wall cavities through natural convection. Once the problem has been fixed, the affected area should be thoroughly cleaned, scraped and/or sanded, primed with a high-quality oil-based primer, and repainted with latex or oil paint according to the manufacturer's specifications.



VENTING EXTERIOR WALLS

Excessive cracking of surface paint is usually caused by improper application techniques, such as painting a surface which is dirty or greasy, or painting when it's too cold or damp. Cracking can also result when paint that is several layers thick becomes excessively hard and brittle with age and is no longer able to expand and contract with the wood siding in response to temperature and humidity changes.

Cracking can usually be dealt with by thoroughly cleaning and carefully sanding the affected area, removing sanding residue and repainting under weather conditions specified by the manufacturer. Remember, sanding should either be done by hand or with an orbital or reciprocating power tool. Avoid using rotary sanders; they can dig into the wood and leave marks which remain visible after painting. Stripping old paint completely should only be undertaken when the problem is extreme. If stripping is necessary, avoid using blowtorches, chemical strippers and abrasive methods such as sandblasting; these methods can cause severe damage to the siding. Paint should be

removed by hand with a wide putty knife or scraper and heat plates or guns designed for this purpose. When using this method, **always** take adequate precautions against fire and toxic fumes.

For mildew problems, trim back trees or shrubs which may be inhibiting the evaporation process and/or repair leaky gutter systems. To remove mildew, scrub the affected area with a soft brush and a solution containing a cup of non-ammoniated detergent, a quart of household bleach, and a gallon of water (for stubborn spots, use an extra quart of bleach). Once the mildew is removed, thoroughly rinse the siding with a direct stream of water from a spray nozzle. After the surface is completely dry, repaint with primer and paint which is designed to be "mildew resistant."

## (2) Wood Siding -

Splitting, warping, and rotting of wood sidings can be caused by a variety of factors, including excessive moisture levels within wall cavities, excessive weathering due to lack of paint, or the use of poor-quality materials. A buildup of mildew or mold on siding surfaces is often caused by leaky gutters, or plantings which reduce air circulation along a wall.

Split clapboards can often be repaired by gently spreading the two edges of the split slightly apart, applying wood glue along each edge, and then forcing the two edges back together. The two sections can be held in place with finishing nails set above and below the split. After the glue has completely dried, remove the finishing nails, fill the holes with wood putty, and lightly sand the area smooth prior to priming and repainting.

Warped clapboards can be straightened by drilling several holes through the board and inserting wood screws. Then tighten the screws until the warp flattens out. **Caution:** to avoid splitting the board, always tighten the screws in gradual stages over a period of several days. Wet the board as thoroughly as possible prior to tightening the screws. Putty over the screws and sand the surface until smooth before repainting.

For rotted or damaged clapboards make a vertical cut on each side of the affected section with a small saw. Using a hammer and chisel, pull the nails which hold the top and bottom of the section in place and remove the section in pieces. Replace the section with a new piece, fill any joints with wood putty, and lightly sand joints smooth before priming and repainting.

Rotted, cracked or warped wood shingles can be replaced on an individual basis in the same manner outlined for clapboards, except there is no need for making cuts with a saw.

## (3) Masonry -

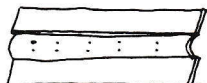
Most mortar deterioration results from the combined effects of weathering and air pollution. Excessive spalling and cracking of bricks usually result from the combined effects of deteriorated mortar or improper repointing. Water gets inside cracks and joints. It expands and contracts with temperature changes, cracking and displacing the surrounding masonry. Air pollution contributes greatly to the buildup of dirt and deposits on brick wall surfaces. Mixed with water, these deposits often stain brick.

### REPAIRING CLAPBOARDS



CRACKED CLAPBOARDS

- GLUE CRACK
- NAIL CLOSED

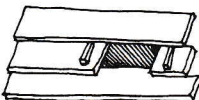


WARPING CLAPBOARD

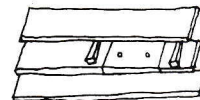
- SCREW FLAT AT SLOW INTERVALS



REPLACING DAMAGED CLAPBOARD



- SAW EITHER SIDE OF DAMAGED SECTION
- INSERT WEDGES AND REMOVE DAMAGED PIECES



- NEW SECTION CUT TO SIZE AND GLUED OR SCREWED IN PLACE
- JOINTS ARE FILLED AND SANDED, THEN PAINTED
- WEDGES REMOVED

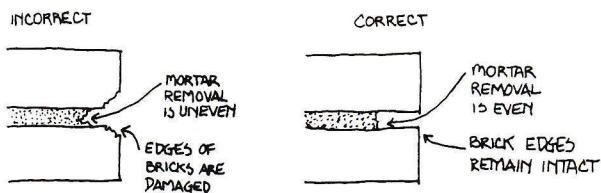
Deteriorated mortar should be repointed. Loose mortar should be removed from the affected area by hand with a hammer and chisel to a uniform depth of 1/2-1". To ensure a good bond, flush chiseled joints with water prior to refilling them with new mortar. **Important Precautions:** When removing old mortar, don't chip the edges of the surrounding bricks. This will accelerate the deterioration of the brick. Make sure that new mortar matches the color and composition of the original mortar. Most older buildings have bricks designed for use with soft lime mortar; hard cement-based mortars can lead to damage to the surrounding bricks. If you are unsure of what type of mortar to use, have some of the original analyzed at a high school or college chemistry laboratory to determine the proper mix. Finally, never refill a joint completely; finished joints should always be slightly recessed.

Minor cracks in bricks can usually be repaired by filling them with tinted sealant designed for that purpose. Severely cracked, broken, or spalling bricks

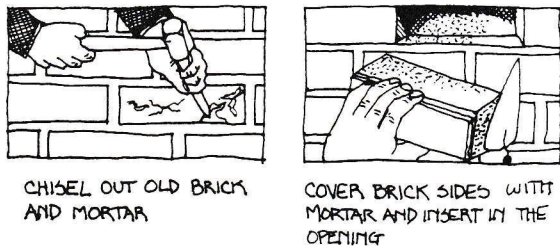
should be replaced by chiseling out the damaged brick and surrounding mortar, laying a shallow mortar bed on the bottom, top, and sides of the cavity, and inserting a brick "battered" on all but the finish side with mortar prior to final pointing. The new brick should match the original brick as closely as possible in size, color, and texture.

Proper removal of dirt deposits from brick can be accomplished in two ways: (a) hand scrubbing with soft bristled brushes and rinsing with water sprayed under low to moderate pressure; and b) chemical cleaning. Chemical cleaning is a highly technical and potentially dangerous procedure which should be undertaken only by competent and knowledgeable professionals. **Never** utilize abrasive cleaning methods such as sandblasting on exterior brick. They can irreparably damage brick. Also, never coat brick with clear "waterproof" sealants such as silicone. It is an unnecessary expense which can result in major maintenance problems in the future if moisture gets trapped beneath the sealant.

#### REPOINTING: REMOVING OLD MORTAR



#### REPLACING A DAMAGED BRICK



#### (4) Roofs -

Exposure to rain, sunlight, and air pollution will eventually lead to the deterioration of roof surfacing and flashing materials and leakage. Your first step toward curing these problems should be to assess the existing condition of the roof. (You may want to contact a reputable roofing contractor to help with this.) If deterioration is extensive, replacement may prove more effective and economical than piecemeal patching. However, under certain circumstances, patching can be useful and cost-effective. For example, as a **temporary** measure, existing leaks should be repaired immediately to prevent water damage in the rest of the building until the new roof is installed.

For roof systems in which the bulk of the surface fabric and/or flashing is essentially sound, selective repair can often provide new life for an older roof at moderate cost. For example, assume the asphalt shingles on a Stacked Duplex's roof are in good condition. However, the flashing which seals the edge

of the roof at the juncture of a chimney stack has deteriorated and is leaking. Sometimes this problem can be cured by removing the shingles immediately around the chimney stack, replacing the deteriorated flashing, sealing it, and resetting the shingles back in place.

#### (5) Energy Conservation -

Excessive infiltration (flow of air into and out of a building), inefficient heating/cooling systems, and lack of insulation are among the most typical reasons for high heating and cooling costs.

Excessive infiltration can account for 40 percent of the heating and cooling costs of older buildings. To reduce infiltration, make sure that all doors and window openings are properly weatherstripped and caulked. Storm windows and doors should be installed and functioning properly. Cracks and crevices along foundation walls (especially where they meet wooden sills) should be sealed with appropriate caulking materials.

Like infiltration, inefficient heating/cooling systems are a leading cause of high energy costs in older buildings. Have your system serviced at least once a year to ensure peak operating efficiency. Consider upgrading old heating equipment with more efficient units. Automatic thermostats which raise or lower temperature levels when a building is vacant are also helpful. On days which are not too hot, turn air conditioners off and open the windows instead. Stacked Duplex windows usually provide good cross-ventilation.

Most owners today recognize the potential benefits of insulated walls and roofs; however, many are unaware of the potential dangers posed by improperly installing insulation, especially in older buildings.

A safe and effective way to insulate a side wall with interior wall surfaces that are already in need of replacement is to remove the interior wall surface, install fiberglass batt insulation between the exposed studs, cover it with an appropriate vapor barrier material such as polyfilm and install a new interior finish surface directly over the vapor barrier.

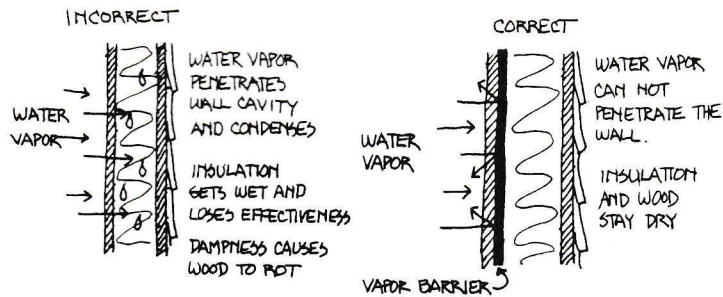
In order to avoid ripping out plaster, many property owners decide to have insulation blown into the wall cavities. Be careful! Blown-in insulation techniques rarely include provisions for effective vapor barriers. Without them, when warm water vapor from the interior comes in contact with cold insulation during the winter it will condense into water. The result is soggy and ineffective insulation. Since air cannot circulate through the wall, moisture may become trapped and cause rot in the walls or peeling exterior paint.

Remember, if you are going to go to the trouble and expense of insulating, make sure it is done right. Otherwise you may spend a lot and gain little.

#### (6) Exterior Paint Color -

From a visual standpoint, exterior color is one of the most important character-defining features of a building. Often, well-intentioned owners who have worked hard to repair, replace, or retain exterior trim or siding materials on a Stacked Duplex realize too late that the new paint color scheme they've used on a building is inappropriate for one or more of the

## INSULATING SIDE WALLS



following reasons: too many colors were used; not enough colors were used; the colors chosen are from the wrong historical era.

You can usually avoid this problem if you take the following steps. First, try to determine the original color scheme of the building. Carefully scrape off the paint along the edges of sidings and trim features at several locations on the **north** side of the building until the bottom paint layer is exposed. When scraping, angle your knife slightly; this will help to make the color of each layer of paint more visible. Then wet the scraped area; this will allow you to determine the original base color more accurately.

If this method proves unsuccessful, or you don't like the particular color scheme you've uncovered, consult publications which describe appropriate different color schemes for the period in which your Stacked Duplex was built. You can also refer to charts published by various paint manufacturers which describe documented historic colors and color schemes. Since some of these publications can be expensive to purchase, you may want to call a local or state historic preservation organization. Often, these organizations keep this information on file as a public service. These groups can also provide invaluable assistance if you have questions or want further guidance.

## (7) Exterior Trim -

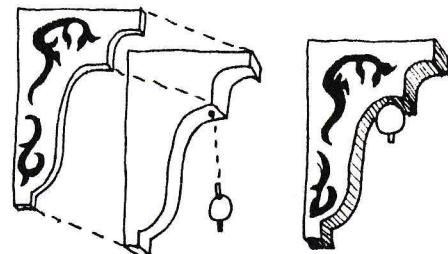
Like paint color, moldings, brackets, porches, and other ornamental trim features provide special character to the exterior of a building. Whether you do the work yourself or have it done, retaining, repairing, or replacing these features will be a worthwhile investment in the total value of your property.

For loose trim features such as moldings, carefully refasten the feature by drilling holes, countersinking and screwing the trim back on. Before scraping and repainting, fill the screw hole with putty and sand lightly.

Epoxies, polyesters and synthetic resins available on the market today often allow for repair rather than replacement of partially rotted or broken features such as porch posts and railings. Using these materials, rotted sections can often be cut out and refilled; broken or cracked brackets, balusters, moldings, doors, and other wooden features can often be reglued. Features beyond repair can be reproduced with

a jig or sabre saw and drill and stock lumber, using an intact similar feature as a model. Intricate features such as brackets can often be made in sections and then glued together with waterproof epoxies. If exact reproduction of a feature such as a molding is not possible, approximate the size and shape of the original as closely as you can. If a major feature such as a front porch is missing entirely, try to locate an old photograph on which to base the design of the new porch. If you can't find a photograph, look at similar nearby Stacked Duplexes which retain old porches; these may help to give you an idea of the size, shape and details of the porch which was removed from your building.

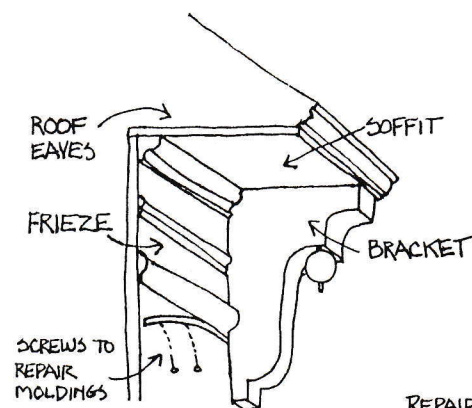
## DUPLICATING A BRACKET



PLYWOOD CUT-OUT WITH FLORAL DESIGN IS APPLIED TO BRACKET BLOCK WITH GLUE

FINISHED BRACKET WITH SANDED JOINTS AND BALL PENDANT

## CORNICE DETAIL AND REPAIR



REPAIR OR REPLACE DAMAGED MOLDINGS OR FRIEZE BOARDS.

THEN CAULK JOINTS CLOSED BETWEEN MOLDINGS AND FRIEZE

SAND SMOOTH AND PAINT

## RESOURCE PUBLICATIONS

(1) The following publications can be obtained upon request from the U.S. Superintendent of Documents, Government Printing Office, Washington, D.C. 20240. Most are available for a minimal charge.

**Condensation Problems in Your House: Prevention and Solution.** By L.O. Anderson and G.E. Sherwood, 1974.

**Principals for Protecting Wood Buildings From Decay.** By J.C. Sheffer and A.F. Verrall, 1973.

**Wood Siding: Installing, Finishing, Maintaining.** 1973.

**Preservation Brief # 1: The Cleaning and Waterproof Coating of Masonry Buildings.** By Robert C. Mack, 1977.

**Preservation Brief # 2: Repointing Mortar Joints in Historic Brick Buildings.** By Robert C. Mack, 1976.

**Preservation Brief #4: Roofing for Historic Buildings.** By Sarah M. Sweetster, 1978.

**Preservation Brief # 3: Conserving Energy in Historic Buildings.** By Baird M. Smith, 1978.

**In the Bank... Or Up the Chimney.** By U.S. Department of Housing and Urban Development, 1975.

**The Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings.** 1983.

**Subterranean Termites: Their Prevention and Control in Buildings.** By H.R. Johnston, 1975.

(2) The following are privately printed publications which are available from the sources noted.

**A Field Guide to American Houses.** By Virginia and Lee McAlester, 1984. Available from Alfred A. Knopf, Inc. New York, NY.

**American Architecture Since 1780: A Guide to Styles.** By Marcus Whiffen, 1969. Available from The MIT Press, Massachusetts Institute of Technology, Cambridge, MA 02142.

**How to Date a House.** 1976. Available from The Old-House Journal, 69-A 7th Ave., Brooklyn, NY 11217.

**How to Date a House.** By David M. Hart, 1975. Available from the Society for the Preservation of New England Antiquities, 141 Cambridge St., Boston, MA 02114.

**The Eight Most Common Mistakes in Restoring Historic Houses.** By Morgan W. Phillips, 1975. Available from the Society for the Preservation of New England Antiquities, 141 Cambridge St., Boston MA 02114.

**Inspection Checklist for Vintage Houses.** 1977. Available from The Old-House Journal, 69-A 7th Ave., Brooklyn, NY 11217.

**Old House Woodwork Restoration.** By Ed Johnson, 1983. Available from The Old-House Journal, 69-A 7th Ave., Brooklyn, NY 11217.

**The Care of Old Buildings Today: A Practical Guide.** By Donald Insall, 1974. Available from the Preservation Bookshop, 740 Jackson Pl., N.W., Washington, DC 20006.

**How to Buy and Fix Up An Old House.** 1976. Available from Home-Tech Publications, 7315 Wisconsin Ave., Bethesda, MD 20014.

**Century of Color.** By Roger Moss. Available from J.D. Dewell and Company, 1010 State Street, New Haven, CT 06511.

**American Shelter.** By Lester Walker, 1981. Available from The Overlook Press, Lewis Hollow Road, Woodstock, NY 12498.

**Illustrated Dictionary of Historic Architecture.** Edited by Cyril M. Harris, 1977. Available from Dover Publications, 180 Varick Street, New York, NY 10014.

**Insulating the Old House.** Edited by Sally E. Nielson, 1977. Available from Greater Portland Landmarks, 165 State Street, Portland, ME 04101.

Text and drawings by Paul Loether and Preston Maynard

Published by The New Haven Preservation Trust, 1985