

Second Edition

# Systems & Standards



Carson Dunlop & Associates

PRINCIPLES OF HOME INSPECTION

# INTRODUCTION

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This book has two primary goals:

- To provide you with a sound introduction to the components, materials, and mechanics of building systems that you will encounter and evaluate as a home inspector;
- To provide you with a solid understanding of inspection processes, strategies, and standards of practice that will help define the scope of your inspections.

## SCOPE OF CONTENT

Home inspection requires comprehensive technical knowledge of building systems and practices, which are always evolving. Home inspectors must acquire a significant range of knowledge and skills to be proficient.

This book is intended as a starting point for prospective inspectors. It is a comprehensive *introduction* to home inspection. As such, it focuses on the most common, geographically widespread house systems and components you are likely to encounter. Certain systems that are used in narrow regions of the United States that are becoming obsolete, or that are too new to have become prevalent are omitted in order to better focus on critical components and general strategies.

All major house systems are covered, including:

- Exterior
- Roofing
- Structure
- Insulation and ventilation
- Interior
- Electrical
- Heating and cooling
- Plumbing

In addition, the book provides an introduction to report writing, a critical task for home inspectors.

The depth of this book is sufficient to allow the general practitioner home inspector to conduct a performance-based inspection of a house. There is always more material that you can study and other courses that you can take. Where relevant, we reference other volumes in the *Principles of Home Inspection* series that provide further depth on topics in this book.

## APPROACHES AND FEATURES

As authors of this text, we are home inspectors, not professional educators. So we went to education design specialists at the university level to help develop the layout, organization, and approach of this book. We hope that the combination of our content and their teaching format creates an efficient, enjoyable learning experience that develops real understanding.

This book takes a consistent approach to presenting house systems and components:

1. *Background information* about the component is provided, including its function, materials, and relationship to surrounding components and systems.
2. Typical *problems* of the component are summarized and then discussed in more detail.
3. Practical *implications* of each problem are presented.
4. The discussion concludes with *strategies* for locating and evaluating the problems.

This consistent presentation is designed to help you easily locate and retain key information as well as develop a methodical approach to your own inspections.

Learning features of the book include:

- **Learning objectives:** At the beginning of each chapter you will find a list of concepts you should master by the end of the chapter.
- **Implications and strategies:** These designations help form a consistent presentation of the basic information that home inspectors need to know in order to identify and evaluate problems.
- **Margin notes and boldface terms:** These tools help you find and review key concepts and terminology.
- **Over 340 detailed technical illustrations:** Paralleling text, these illustrations show what components and systems *should* look like, as well as what they look like when they are damaged or failing.
- **Inspector in the House:** Real inspectors provide advice and insight based on some of their most challenging and intriguing inspections.
- **Review questions and answers:** Over 900 end-of-chapter questions help test your understanding and retention of key concepts and techniques.

## STANDARDS

Standards help define a consistent scope of professional practice for home inspectors to use in their day-to-day work. They stipulate the obligations and limits of your job and help clients know exactly what to expect.

When Standards are referenced throughout this book, we specifically mean the ASHI® (American Society of Home Inspectors) Standards of Practice. The ASHI Standards are not the only standards for home inspectors, but we present them in this book because they are thorough, widely used, and a good example of home inspection standards generally. Even if your state or professional organiza-

tion uses different standards, you are likely to find many similarities between them and the ASHI Standards.

The Standards provide a list of things you must inspect, and a list of things you are not required to inspect. They provide no information on *how* to inspect things.

## CODE REFERENCES

Being familiar with codes can be helpful in your work as a home inspector. Therefore, where applicable, this book includes code references. You should remember, however, that a home inspection is not a code compliance inspection. Codes are useful in knowing what is required in new homes, but most existing homes will not comply with all requirements of current codes. Codes are updated regularly, and different codes are used in various jurisdictions over time.

Unless otherwise noted, code references in this book are based on the International Residential Code (IRC), 2006 version. Although a number of building codes exist, the IRC is widely adopted and increasingly recognized as a primary reference. Electrical references are based on the National Electrical Code (NEC) 2008 version.

Part of your responsibility as a home inspector is to learn the rules that apply where you work. They may vary from IRC 2006, especially with respect to numbers. Numbers are not always based on extensive research or demonstrable performance results, but sometimes on experience and tradition. As a result, they can vary from code to code.

We believe it is far more important to understand the rationale for code issues than to know the exact numbers. Therefore, when citing code, this book consistently references the safety and performance issues behind it. You can always look up a number quickly. You can't quickly look up the understanding that allows you to make competent professional judgments in the field.

One of the dangers of using codes is that inspectors rely on a simple number or rule to write up a defect. It takes them off the hook from making a reasoned value judgment. While inspectors might like it, it doesn't provide great value to homebuyers. Some things perform just fine, even though they don't comply with current codes. Remember that your goal as a home inspector is to determine whether a house can perform its intended functions safely and consistently, rather than apply a set of rules without regard for why they exist.



# PRINCIPLES OF HOME INSPECTION

## Systems & Standards

### Second Edition

The second edition of this best-selling introduction to home inspection gives beginning inspectors a solid foundation in house systems. Thorough coverage of house components and functions is provided, along with an introduction to standards of practice and report writing. Veteran home inspectors will also find this book to be an invaluable reference.

#### Topics

Standards and reports

Exteriors

Roofing

Structure

Insulation and ventilation

Interiors

Electrical systems

Gas furnaces

Oil furnaces

Hot water boilers

Chimneys and fireplaces

Electric heating

Air conditioning and heat pumps

Plumbing

The book includes several useful features to help students master concepts and develop strong inspection skills:

- Clearly written discussion of home system components follows a consistent problem-implication-strategy approach.
- 340 detailed technical illustrations focus on important details of visual inspections.
- “Inspector in the House” sidebars describe real-life experiences of practicing home inspectors, with insights on common mistakes and best practices for avoiding them.
- End-of-chapter review questions allow students to test their understanding and retention of key concepts.
- Margin notes aid in locating and reviewing important facts and techniques.

#### About the Authors

Carson Dunlop & Associates is a consulting engineering firm devoted exclusively to building inspections since 1978. This textbook reflects their extensive experience and research, with contributions from home inspectors across North America. The book and its companion volumes were created in cooperation with educators, instructional designers, and technical artists.

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