

NORA TECHNICIAN
CERTIFICATION
PROGRAM



NORA

TECHNICIANS MANUAL
LIQUID HEATING FUELS

This manual is not intended as a substitute for the manufacturer installation, operation and/or service instructions which should always be consulted and considered the first and best reference for installing, commissioning and servicing equipment.

This manual describes recommended and well-established practices for installing and maintaining liquid fuel burners, furnaces, boilers, water heaters, storage tanks and piping. Additionally, it describes how venting and chimneys affect the equipment's operation. However, the "correct" way of doing things may change over time due to new technologies, new research, or safety issues that become better understood. Therefore, you must continue your education after reading this manual. Take continuing education classes (NORA has CEU classes available at no-charge at Learning.NORAweb.org) and communicate with manufacturers and local authorities regarding changes.

We describe building and installation codes and we discuss manufacturers' instructions. Each of these is important for installing equipment, but unfortunately, the relationships between them is not always synchronized. Sometimes they appear to conflict.

The book relies on well-established model codes. NFPA 31, *Standard for the Installation of Oil Burning Equipment*, is the predominant model code for oil equipment installations. Many states adopt this code and use it in their jurisdiction. Unfortunately, sometimes it takes time for a jurisdiction to adopt changes that

are made to the code; they may use old editions or may use competing model codes. Additionally, some NFPA changes may occur between editions of this book. Unless your county or state adopts these model codes they are not "legally" required. However, they generally reflect best practices, and customers will expect that from you.

Each state, county, or city may adopt a local building or fire code. Usually these will be based on uniform national codes (NFPA 31), but occasionally there will be variances or changes to address local problems or issues. Some areas may rely on a different model code than NFPA 31, or their code may not be based on a national model. These codes are the law in the area in which you are working and you must follow them.

Finally, each manufacturer provides instructions on how to install their equipment. The codes generally defer to the manufacturer and state, but the manufacturer must be specific. For example, if the manufacturer says, "Use a draft regulator if necessary", and the codebook says, "draft regulators are required", then you must use a draft regulator. In describing draft regulators, NFPA says they must be used "unless the appliance design, conditions of installation or combinations thereof preclude excessive chimney draft, or the appliance is listed for use without one." Thus, NFPA says that a draft regulator must be used unless you can determine that the final installation will not allow excessive draft or the appliance is listed for use without the draft regulator.

National Oilheat Research Alliance



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The editors have made their best effort to be sure the material in the book is accurate. However, any book with as much detail about such a wide range of subjects, with as many contributors as this text has enjoyed and over as many rewrites and revisions as the text has endured, is bound to have a few mistakes, omissions, and controversial opinions. We take this opportunity to apologize for any confusion or inconvenience that may result from any of these factors. However, NORA, nor those responsible for the preparation of this Manual, make any representations or guarantee, or assume or accept any responsibility or liability, with respect thereto.

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