Mike Holt's NEC 2005 Index

Introduction

This index is a free resource from Mike Holt Enterprises, Inc. It was designed to help you find what you're looking for in the Code book in seconds! This index lists all those difficult key words and gives you the section where these words appear in the code. It's a great tool to get you familiar with those hard to find references in the NEC! Use this index along with your Code Book and Tabs and you'll be in great shape!

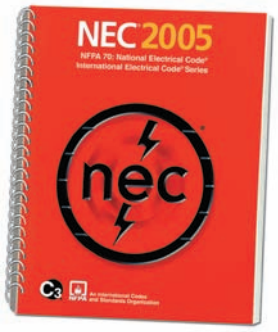
About the Author

Mike Holt worked his way up through the electrical trade from an apprentice electrician to become one of the most recognized experts in the world as it relates to electrical power installation. He was a Journeyman Electrician, Master Electrician, and Electrical Contractor. Mike came from the real world, and his dedication to electrical training is the result of his own struggles as an electrician looking for a program that would help him succeed in this challenging industry.

It is for reasons like this that Mike continues to help the industry by providing free resources such as this index. It is the goal of Mike Holt and everyone on the Mike Holt Team to do everything in our power to aid in your pursuit of excellence.

For more great Free resources from Mike Holt visit www.NECcode.com

Code Book



This spiral edition makes the code book much easier to use. The spiral coil allows you to conveniently study by placing the book folded on your desk. It lays flat and you can even put it on a hook in your truck. The most widely adopted element of a building code in the United States and the world, the NEC® is the benchmark for safe and efficient electrical installations. Whether your jurisdiction adopts the 2005 Code immediately or down the road, you need to extend your knowledge and take advantage of the benefits right away, not months or years behind your peers in the electrical industry. NFPA product.

Tabs

These peel and stick tabs are a great way to customize your 2005 Code book. Included with the tabs is a 16" x 20" Raceway Poster and an Ohms Wheel Sticker.

The National Electrical Code

The *National Electrical Code (NEC)* is written for persons who understand electrical terms, theory, safety procedures, and electrical trade practices. These individuals include electricians, electrical contractors, electrical inspectors, electrical engineers, designers, and other qualified persons. The *Code* was not written to serve as an instructive or teaching manual for untrained individuals [90.1(C)].

Learning to use the *NEC* is somewhat like learning to play the game of chess; it's a great game if you enjoy mental warfare. You must first learn the names of the game pieces, how the pieces are placed on the board, and how each piece moves.

In the electrical world, this is equivalent to completing a comprehensive course on basic electrical theory, such as:

- What electricity is and how is it produced
- Dangers of electrical potential: fire, arc blast, arc fault, and electric shock
- Direct current
- Series and parallel circuits
- Electrical formulas
- Alternating current
- Induction, motors, generators, and transformers

Once you understand the fundamentals of the game of chess, you're ready to start playing the game. Unfortunately, at this point all you can do is make crude moves, because you really do not understand how all the information works together. To play chess well, you will need to learn how to use your knowledge by working on subtle strategies before you can work your way up to the more intriguing and complicated moves.

Again, back to the electrical world, this is equivalent to completing a course on the basics of electrical theory. You have the foundation upon which to build, but now you need to take it to the next level, which you can do by reading this textbook.

Not a Game

Electrical work isn't a game, and it must be taken very seriously. Learning the basics of electricity, important terms and concepts, as well as the basic layout of the *NEC* gives you just enough knowledge to be dangerous. There are thousands of specific and unique applications of electrical installations, and the *Code* doesn't cover every one of them. To safely apply the *NEC*, you must understand the purpose of a rule and how it affects the safety aspects of the installation.

NEC Terms and Concepts

The *NEC* contains many technical terms, so it's crucial that *Code* users understand their meanings and their applications. If you do not understand a term used in a *Code* rule, it will be impossible to properly apply the *NEC* requirement. Be sure you understand that Article 100 defines the terms that apply to *two or more* Articles. For example, the term "Dwelling Unit" applies to many Articles. If you do not know what a Dwelling Unit is, how can you possibly apply the *Code* requirements for it?

In addition, many Articles have terms that are unique for that specific Article. This means that the definition of those terms is only applicable for that given Article. For example, Article 250 Grounding and Bonding has the definitions of a few terms that are only to be used within Article 250.

Small Words, Grammar, and Punctuation

It's not only the technical words that require close attention, because even the simplest of words can make a big difference to the intent of a rule. The word "or" can imply alternate choices for equipment wiring methods, while "and" can mean an additional requirement. Let's not forget about grammar and punctuation. The location of a comma "," can dramatically change the requirement of a rule.

Slang Terms or Technical Jargon

Electricians, engineers, and other trade-related professionals use slang terms or technical jargon that isn't shared by all. This makes it very difficult to communicate because not everybody understands the intent or application of those slang terms. So where possible, be sure you use the proper word, and do not use a word if you do not understand its definition and application. For example, lots of electricians use the term "pigtail" when describing the short conductor for the connection of a receptacle, switch, luminaire, or equipment. Although they may understand it, not everyone does. Figure 1

NEC Style and Layout

Before we get into the details of the *NEC*, we need to take a few moments to understand its style and layout. Understanding the structure and writing style of the *Code* is very important before it can be used effectively. If you think

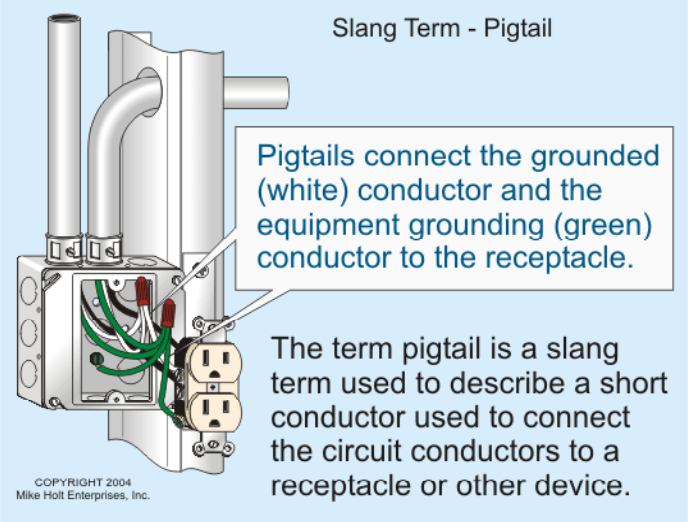


Figure 1

about it, how can you use something if you don't know how it works? Okay, let's get started. The *National Electrical Code* is organized into nine components.

- Table of Contents
- Chapters 1 through 9 (major categories)
- Articles 90 through 830 (individual subjects)
- Parts (divisions of an Article)
- Sections and Tables (*Code* requirements)
- Exceptions (*Code* permissions)
- Fine Print Notes (explanatory material)
- Index
- Annexes (information)

1. Table of Contents. The Table of Contents displays the layout of the Chapters, Articles, and Parts as well as the page numbers. It's an excellent resource and should be referred to periodically to observe the interrelationship of the various *NEC* components. When attempting to locate the rules for a particular situation, knowledgeable *Code* users often go first to the Table of Contents to quickly find the specific *NEC* section that applies.

2. Chapters. There are nine Chapters, each of which is divided into Articles. The Articles fall into one of four groupings: General Requirements (Chapters 1 through 4), Specific Requirements (Chapters 5 through 7), Communications Systems (Chapter 8), and Tables (Chapter 9).

- Chapter 1 General
- Chapter 2 Wiring and Protection
- Chapter 3 Wiring Methods and Materials
- Chapter 4 Equipment for General Use
- Chapter 5 Special Occupancies
- Chapter 6 Special Equipment
- Chapter 7 Special Conditions
- Chapter 8 Communications Systems (Telephone, Data, Satellite, and Cable TV)
- Chapter 9 Tables—Conductor and Raceway Specifications

3. Articles. The *NEC* contains approximately 140 Articles, each of which covers a specific subject. For example:

- Article 110 General Requirements
- Article 250 Grounding
- Article 300 Wiring Methods
- Article 430 Motors
- Article 550 Mobile Homes, Manufactured Homes, and Mobile Home Parks.
- Article 680 Swimming Pools, Spas, Hot Tubs, and Fountains
- Article 725 Remote-Control, Signaling, and Power-Limited Circuits
- Article 800 Communications Systems

4. Parts. Larger Articles are subdivided into Parts. For example, Article 110 has been divided into multiple parts:

- Part I. General (Sections 110.1—110.23)
- Part II. 600 Volts, Nominal, or Less (110.26—110.27)
- Part III. Over 600 Volts, Nominal (110.30—110.59)

Note: *Because the Parts of a Code Article aren't included in the Section numbers, we have a tendency to forget what "Part" the* NEC *rule is relating to. For example, Table 110.34(A) contains the working space clearances for electrical equipment. If we aren't careful, we might think this table applies to all electrical installations, but Table 110.34(A) is located in Part III, which contains the requirements for Over 600 Volts, Nominal installations. The rules for working clearances for electrical equipment for systems 600V or less are contained in Table 110.26(A)(1), which is located in Part II. 600 Volts, Nominal, or Less.*

5. Sections and Tables.

Sections: Each *NEC* rule is called a *Code* Section. A *Code* Section may be broken down into subsections by letters in parentheses (A), (B), etc. Numbers in parentheses (1), (2), etc., may further break down a subsection, and lowercase letters (a), (b), etc., further breaks the rule down to the third level. For example, the rule requiring all receptacles in a dwelling unit bathroom to be GFCI protected is contained in Section 210.8(A)(1). Section 210.8(A)(1) is located in Chapter 2, Article 210, Section 8, subsection

(A), sub-subsection (1).

Many in the industry incorrectly use the term "Article" when referring to a *Code* Section. For example, they say "Article 210.8," when they should say "Section 210.8."

Tables: Many *Code* requirements are contained within Tables, which are lists of *NEC* requirements placed in a systematic arrangement. The titles of the Tables are extremely important; they must be carefully read in order to understand the contents, applications, limitations, etc., of each Table in the *Code*. Many times notes are provided in a table; be sure to read them as well, since they are also part of the requirement. For example, Note 1 for Table 300.5 explains how to measure the cover when burying cables and raceways, and Note 5 explains what to do if solid rock is encountered.

6. Exceptions. Exceptions are *Code* requirements that provide an alternative method to a specific requirement. There are two types of exceptions—mandatory and permissive. When a rule has several exceptions, those exceptions with mandatory requirements are listed before the permissive exceptions.

Mandatory Exception: A mandatory exception uses the words "shall" or "shall not." The word "shall" in an exception means that if you're using the exception, you're required to do it in a particular way. The term "shall not" means it isn't permitted.

Permissive Exception: A permissive exception uses words such as "is permitted," which means that it's acceptable to do it in this way.

7. Fine Print Note (FPN). A Fine Print Note contains explanatory material intended to clarify a rule or give assistance, but it isn't a *Code* requirement.

8. Index. The Index contained in the *NEC* is excellent and is helpful in locating a specific rule.

How to Locate a Specific Requirement

How to go about finding what you're looking for in the *Code* depends, to some degree, on your experience with the *NEC*. *Code* experts typically know the requirements so well that they just go to the *NEC* rule without any outside assistance. The Table of Contents might be the only thing very experienced *Code* users need to locate their requirement. On the other hand, average *Code* users should use all of the tools at their disposal, and that includes the Table of Contents and the Index.

Table of Contents: Let's work out a simple example: What *NEC* rule specifies the maximum number of disconnects permitted for a service? If you're an experienced *Code* user, you'll know that Article 230 applies to "Services," and because this Article is so large, it's divided up into multiple parts (actually 8 parts). With this knowledge, you can quickly go to the Table of Contents (page 70-2) and see that it lists the Service Equipment Disconnecting Means requirements in Part VI, starting at page 70-77.

Note: The number 70 precedes all page numbers because the *NEC* is standard number 70 within the collection of *NFPA* standards.

Index: If you used the Index, which lists subjects in alphabetical order, to look up the term "service disconnect," you would see that there's no listing. If you tried "disconnecting means," then "services," you would find the Index specifies that the rule is located at 230, Part VI. Because the *NEC* doesn't give a page number in the Index, you'll need to use the Table of Contents to get the page number, or flip through the *Code* to Article 230, then continue to flip until you find Part VI.

As you can see, although the index is very comprehensive, it's not that easy to use if you do not understand how the index works. But if you answer the 1,099 questions or 100-question final exam contained in the *Workbook to Accompany Undertstanding the National Electrical Code—Residential Wiring Edition* you'll become a master at finding things in the *Code* quickly.

Many people complain that the NEC only confuses them by taking them in circles. As you gain experience in using the Code and deepen your understanding of words, terms, principles, and practices, you will find the NEC much easier to understand and use than you originally thought.

Customizing Your *Code* Book

One way to increase your comfort level with the *Code* is to customize it to meet your needs. You can do this by highlighting and underlining important *NEC* requirements, and by attaching tabs to important pages.

Highlighting: As you read through this textbook and answer the questions in the workbook, be sure you highlight those requirements in the *Code* that are most important to you. Use yellow for general interest and orange for important requirements you want to find quickly. Be sure to highlight terms in the Index and Table of Contents as you use them.

Because of the size of the 2005 *NEC*, I recommend you highlight in green the Parts of Articles that are important for your applications, particularly:

Article 230 Services
Article 250 Grounding
Article 430 Motors

Underlining: Underline or circle key words and phrases in the *NEC* with a red pen (not a lead pencil) and use a 6-in. ruler to keep lines straight and neat. This is a very handy way to make important requirements stand out. A small 6-in. ruler also comes in handy for locating specific information in the many *Code* tables.

Tabbing the NEC: Placing tabs on important *Code* Articles, Sections, and Tables will make it very easy to access important *NEC* requirements. However, too many tabs will defeat the purpose. You can order a custom set of *Code* tabs, designed by Mike Holt, online at www.MikeHolt.com, or by calling us at 1.888.NEC.Code (1.888.632.2633)

Mike Holt's NEC 2005 Index

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Mike Holt's 2005 Grounding versus Bonding Library

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If you want to really understand the *NEC*, this series is for you. Mike explains, in great detail, the history of the rule, the reason for the rule, and how to apply the *Code* for everyday use. This program explains the 2005 *Code*, how to use the *NEC*, general installation requirements, branch circuits, feeders, services and overcurrent protection, grounding versus bonding, conductors, cables, and more…

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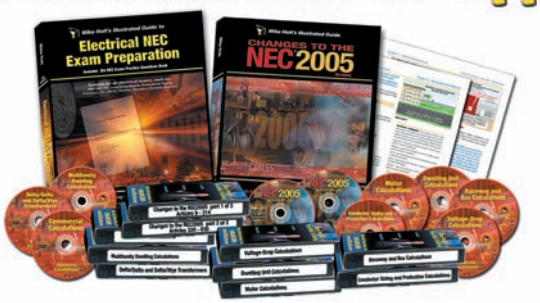

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