

**REVISION RECORD
FOR THE STATE OF CALIFORNIA
SUPPLEMENT
September 11, 2006
2004 Title 24, Part 3, California Electrical Code**

PLEASE NOTE: *This revision record is reissued to correct the title to read "SUPPLEMENT" instead of "ERRATA."* The date of this supplement is for identification purposes only. See the History Note Appendix for the adoption and effective dates of the provisions.

It is suggested that the section number, as well as the page number be checked when inserting this material and removing the superceded material. In case of doubt, rely on the section numbers rather than the page numbers because the section numbers must run consecutively.

It is further suggested that the superceded material be retained with this revision record sheet so that the prior wording of any section can be easily ascertained. Please keep the removed pages with this revision page for future reference.

NOTE

Due to the fact that the application date for a building permit establishes the California Building Standards Code provisions that are effective at the local level, which apply to the plans, specifications, and construction for that permit, it is strongly recommended that the removed pages be retained for historical reference.

Title 24, Part 3

Remove Existing Pages	Insert Blue-Colored Pages
70-xlix	70-xlix
70-13 and 70-14	70-13 and 70-14
70-91 and 70-92	70-91 and 70-92
70-233 through 70-238	70-233 through 70-238
70-397 and 70-398	70-397 and 70-398
70-711	70-711

**REVISION RECORD
FOR THE STATE OF CALIFORNIA
ERRATA
January 31, 2007
2004 Title 24, Part 3, California Electrical Code**

PLEASE NOTE: The date of this supplement is for identification purposes only. See the History Note Appendix for the adoption and effective dates of the provisions.

It is suggested that the section number, as well as the page number be checked when inserting this material and removing the superceded material. In case of doubt, rely on the section numbers rather than the page numbers because the section numbers must run consecutively.

It is further suggested that the superceded material be retained with this revision record sheet so that the prior wording of any section can be easily ascertained. Please keep the removed pages with this revision page for future reference.

NOTE

Due to the fact that the application date for a building permit establishes the California Building Standards Code provisions that are effective at the local level, which apply to the plans, specifications, and construction for that permit, it is strongly recommended that the removed pages be retained for historical reference.

Title 24, Part 3

Remove Existing Pages	Insert Buff-Colored Pages
70-xxvii & 70-xxviii	70-xxvii & 70-xxviii
70-233 & 70-234	70-233 & 70-234
70-711	70-711

ARTICLE 390—UNDERFLOOR RACEWAYS

ENFORCING AUTHORITY	Local Building Official		Local Fire Official	Local Health Official	State Agency							
ADOPTING AGENCY	HCD		DSA AC	SFM	DHS	DSA SS	OSHPD				* DOSH	BSC
	1	2					1	2	3	4		
Adopts entire NEC article without amendments	X	X				X	X	X	X	X		X
Adopt entire NEC article as amended (amendments listed below)												
Adopt only those sections which are listed below												

ARTICLE 392—CABLE TRAYS

ENFORCING AUTHORITY	Local Building Official		Local Fire Official	Local Health Official	State Agency							
ADOPTING AGENCY	HCD		DSA AC	SFM	DHS	DSA SS	OSHPD				* DOSH	BSC
	1	2					1	2	3	4		
Adopts entire NEC article without amendments	X	X				X						X
Adopt entire NEC article as amended (amendments listed below)							X	X	X	X		
Adopt only those sections which are listed below												
392.4 CA							X	X	X	X		

ARTICLE 394—CONCEALED KNOB-AND-TUBE WIRING

ENFORCING AUTHORITY	Local Building Official		Local Fire Official	Local Health Official	State Agency							
ADOPTING AGENCY	HCD		DSA AC	SFM	DHS	DSA SS	OSHPD				* DOSH	BSC
	1	2					1	2	3	4		
Adopts entire NEC article without amendments		X				X	X	X	X	X		X
Adopt entire NEC article as amended (amendments listed below)	X											
Adopt only those sections which are listed below												
394.12 Exception CA	X											

ARTICLE 396—MESSENGER SUPPORTED WIRING

ENFORCING AUTHORITY	Local Building Official		Local Fire Official	Local Health Official	State Agency							
ADOPTING AGENCY	HCD		DSA AC	SFM	DHS	DSA SS	OSHPD				* DOSH	BSC
	1	2					1	2	3	4		
Adopts entire NEC article without amendments	X	X				X	X	X	X	X		X
Adopt entire NEC article as amended (amendments listed below)												
Adopt only those sections which are listed below												

ARTICLE 398—OPEN WIRING ON INSULATORS

ENFORCING AUTHORITY	Local Building Official		Local Fire Official	Local Health Official	State Agency							
ADOPTING AGENCY	HCD		DSA AC	SFM	DHS	DSA SS	OSHPD				* DOSH	BSC
	1	2					1	2	3	4		
Adopts entire NEC article without amendments	X	X				X	X	X	X	X		X
Adopt entire NEC article as amended (amendments listed below)												
Adopt only those sections which are listed below												

*DOSH has not adopted the 1996, 1999, or the 2002 edition of the National Electrical Code. The 1995 edition of the California Electrical Code remains effective. The ♦ designation indicates that the State Fire Marshal’s adoption of this chapter or individual sections is applicable to structures subject to HCD 1 and/or HCD 2.

ARTICLE 400—FLEXIBLE CORDS AND CABLES

ENFORCING AUTHORITY	Local Building Official		Local Fire Official	Local Health Official	State Agency							
	HCD		DSA AC	SFM	DHS	DSA SS	OSHDP				* DOSH	BSC
	1	2					1	2	3	4		
Adopt entire NEC article without amendments	X	X				X	X	X	X	X		X
Adopt entire NEC article as amended (amendments listed below)												
Adopt only those sections which are listed below				X								
400.6-10 NEC				X								
400.12-14 NEC				X								
400.30-36 NEC				X								

ARTICLE 402—FIXTURE WIRES

ENFORCING AUTHORITY	Local Building Official		Local Fire Official	Local Health Official	State Agency							
	HCD		DSA AC	SFM	DHS	DSA SS	OSHDP				* DOSH	BSC
	1	2					1	2	3	4		
Adopt entire NEC article without amendments	X	X				X	X	X	X	X		X
Adopt entire NEC article as amended (amendments listed below)												
Adopt only those sections which are listed below												

ARTICLE 404—SWITCHES

ENFORCING AUTHORITY	Local Building Official		Local Fire Official	Local Health Official	State Agency							
	HCD		DSA AC	SFM	DHS	DSA SS	OSHDP				* DOSH	BSC
	1	2					1	2	3	4		
Adopts entire NEC article without amendments	X	X				X			X			X
Adopt entire NEC article as amended (amendments listed below)							X	X		X		
Adopt only those sections which are listed below				X								
404.8(A) (2) CA							X	X		X		
404.8(C) CA				X								

ARTICLE 406—RECEPTACLE, CORD CONNECTORS, AND ATTACHMENT PLUGS (CAPS)

ENFORCING AUTHORITY	Local Building Official		Local Fire Official	Local Health Official	State Agency							
	HCD		DSA AC	SFM	DHS	DSA SS	OSHDP				* DOSH	BSC
	1	2					1	2	3	4		
Adopts entire NEC article without amendments	X	X				X			X			X
Adopt entire NEC article as amended (amendments listed below)							X	X		X		
Adopt only those sections which are listed below				X								
406.8(C)(1) CA							X	X		X		
406.3(G) w/excep. 1, 2, 3, 4 CA				X								

*DOSH has not adopted the 1996, 1999, or the 2002 edition of the National Electrical Code. The 1995 edition of the California Electrical Code remains effective. The ♦ designation indicates that the State Fire Marshal's adoption of this chapter or individual sections is applicable to structures subject to HCD 1 and/or HCD 2.

(B) Used as a Raceway. Enclosures shall not be used as junction boxes, auxiliary gutters, or raceways for conductors feeding through or tapping off to other switches or overcurrent devices, unless the enclosure complies with 312.8.

404.4 Wet Locations. A switch or circuit breaker in a wet location or outside of a building shall be enclosed in a weatherproof enclosure or cabinet that shall comply with 312.2(A). Switches shall not be installed within wet locations in tub or shower spaces unless installed as part of a listed tub or shower assembly.

404.5 Time Switches, Flashers, and Similar Devices. Time switches, flashers, and similar devices shall be of the enclosed type or shall be mounted in cabinets or boxes or equipment enclosures. Energized parts shall be barriered to prevent operator exposure when making manual adjustments or switching.

Exception: Devices mounted so they are accessible only to qualified persons shall be permitted without barriers, provided they are located within an enclosure such that any energized parts within 152 mm (6.0 in.) of the manual adjustment or switch are covered by suitable barriers.

404.6 Position and Connection of Switches.

(A) Single-Throw Knife Switches. Single-throw knife switches shall be placed so that gravity will not tend to close them. Single-throw knife switches, approved for use in the inverted position, shall be provided with a locking device that ensures that the blades remain in the open position when so set.

(B) Double-Throw Knife Switches. Double-throw knife switches shall be permitted to be mounted so that the throw is either vertical or horizontal. Where the throw is vertical, a locking device shall be provided to hold the blades in the open position when so set.

(C) Connection of Switches. Single-throw knife switches and switches with butt contacts shall be connected so that their blades are de-energized when the switch is in the open position. Bolted pressure contact switches shall have barriers that prevent inadvertent contact with energized blades. Single-throw knife switches, bolted pressure contact switches, molded case switches, switches with butt contacts, and circuit breakers used as switches shall be connected so that the terminals supplying the load are de-energized when the switch is in the open position.

Exception: The blades and terminals supplying the load of a switch shall be permitted to be energized when the switch is in the open position where the switch is connected to circuits or equipment inherently capable of providing a backfeed source of power. For such installations, a permanent sign shall be installed on the switch enclosure

or immediately adjacent to open switches with the following words or equivalent: WARNING — LOAD SIDE TERMINALS MAY BE ENERGIZED BY BACKFEED.

404.7 Indicating. General-use and motor-circuit switches, circuit breakers, and molded case switches, where mounted in an enclosure as described in 404.3, shall clearly indicate whether they are in the open (off) or closed (on) position.

Where these switch or circuit breaker handles are operated vertically rather than rotationally or horizontally, the up position of the handle shall be the (on) position.

Exception: Vertically operated double-throw switches shall be permitted to be in the closed (on) position with the handle in either the up or down position.

404.8 Accessibility and Grouping.

C (A) Location.

C (I) All switches and circuit breakers used as switches shall be located so that they may be operated from a readily accessible place. They shall be installed so that the center of the grip of the operating handle of the switch or circuit breaker, when in its highest position, is not more than 2.0 m (6 ft 7 in.) above the floor or working platform.

Exception No. 1: On busway installations, fused switches and circuit breakers shall be permitted to be located at the same level as the busway. Suitable means shall be provided to operate the handle of the device from the floor.

Exception No. 2: Switches and circuit breakers installed adjacent to motors, appliances, or other equipment that they supply shall be permitted to be located higher than specified in the foregoing and to be accessible by portable means.

Exception No. 3: Hookstick operable isolating switches shall be permitted at greater heights.

C (2) [For OSHPD 1, 2, & 4] Switches shall not be installed **A** within shower rooms or stalls or be accessible from within **C** these areas. Switches shall not be installed within 5 feet **A** (1.52 m) of the perimeter of bathtubs.

(B) Voltage Between Adjacent Devices. A snap switch shall not be grouped or ganged in enclosures with other snap switches, receptacles, or similar devices, unless they are arranged so that the voltage between adjacent devices does not exceed 300 volts, or unless they are installed in enclosures equipped with permanently installed barriers between adjacent devices.

(C) [For DSA/AC] Installation Height. Where access for persons with disabilities is required by Article 89.7, the center of the grip of the operating handle of controls or switches intended to be used by the occupant of the room or area to control lighting and receptacle outlets, appliances or cooling, heating and ventilating equipment, shall be 48 inches (1219 mm) above the floor or working platform.

404.9 Provisions for General-Use Snap Switches.

(A) Faceplates. Faceplates provided for snap switches mounted in boxes and other enclosures shall be installed so as to completely cover the opening and, where the switch is flush mounted, seat against the finished surface.

(B) Grounding. Snap switches, including dimmer and similar control switches, shall be effectively grounded and shall provide a means to ground metal faceplates, whether or not a metal faceplate is installed. Snap switches shall be considered effectively grounded if either of the following conditions is met.

(1) The switch is mounted with metal screws to a metal box or to a nonmetallic box with integral means for grounding devices.

(2) An equipment grounding conductor or equipment bonding jumper is connected to an equipment grounding termination of the snap switch.

Exception to (B): Where no grounding means exists within the snap-switch enclosure or where the wiring method does not include or provide an equipment ground, a snap switch without a grounding connection shall be permitted for replacement purposes only. A snap switch wired under the provisions of this exception and located within reach of earth, grade conducting floors, or other conducting surfaces shall be provided with a faceplate of nonconducting, noncombustible material.

(C) Construction. Metal faceplates shall be of ferrous metal not less than 0.76 mm (0.030 in.) in thickness or of nonferrous metal not less than 1.02 mm (0.040 in.) in thickness. Faceplates of insulating material shall be noncombustible and not less than 2.54 mm (0.010 in.) in thickness, but they shall be permitted to be less than 2.54 mm (0.010 in.) in thickness if formed or reinforced to provide adequate mechanical strength.

404.10 Mounting of Snap Switches.

(A) Surface-Type. Snap switches used with open wiring on insulators shall be mounted on insulating material that separates the conductors at least 13 mm (½ in.) from the surface wired over.

(B) Box Mounted. Flush-type snap switches mounted in boxes that are set back of the wall surface as permitted in 314.20 shall be installed so that the extension plaster ears are seated against the surface of the wall. Flush-type snap switches mounted in boxes that are flush with the wall surface or project from it shall be installed so that the mounting yoke or strap of the switch is seated against the box.

404.11 Circuit Breakers as Switches. A hand-operable circuit breaker equipped with a lever or handle, or a power-operated circuit breaker capable of being opened by hand in the event of a power failure, shall be permitted to serve as a switch if it has the required number of poles.

FPN: See the provisions contained in 240.81 and 240.83.

404.12 Grounding of Enclosures. Metal enclosures for switches or circuit breakers shall be grounded as specified in Article 250. Where nonmetallic enclosures are used with metal raceways or metal-armored cables, provision shall be made for grounding continuity.

Except as covered in 404.9(B), Exception, nonmetallic boxes for switches shall be installed with a wiring method that provides or includes an equipment ground.

404.13 Knife Switches.

(A) Isolating Switches. Knife switches rated at over 1200 amperes at 250 volts or less, and at over 600 amperes at 251 to 600 volts, shall be used only as isolating switches and shall not be opened under load.

(B) To Interrupt Currents. To interrupt currents over 1200 amperes at 250 volts, nominal, or less, or over 600 amperes at 251 to 600 volts, nominal, a circuit breaker or a

HISTORY NOTE APPENDIX
California Electrical Code
California Code of Regulations, Title 24, Part 3

Notes

For prior history, see the History Note Appendix to the *California Electrical Code*, 2001 Triennial Edition effective November 1, 2002

1. (SFM 01/02) Adoption of the 2002 edition of the *National Electric Code* of the National Fire Protection Association (CCR, Title 24, Part 3) with necessary California amendments. Approved by the Building Standards Commission on May 14, 2003 and effective on August 1, 2005.
2. (OSHPD 05/02) Adoption of the 2002 edition of the *National Electric Code* of the National Fire Protection Association (CCR, Title 24, Part 3) with necessary California amendments. Approved by the Building Standards Commission on May 14, 2003 and effective on August 1, 2005.
3. (HCD 01/02) Adoption of the 2002 edition of the *National Electric Code* of the National Fire Protection Association (CCR, Title 24, Part 3) with necessary California amendments. Approved by the Building Standards Commission on May 14, 2003 and effective on August 1, 2005.
4. (DSA AC 02/02) Adoption of the 2002 edition of the *National Electric Code* of the National Fire Protection Association (CCR, Title 24, Part 3) with necessary California amendments. Approved by the Building Standards Commission on May 14, 2003 and effective on August 1, 2005.
5. (DSA SS 02/02) Adoption of the 2002 edition of the *National Electric Code* of the National Fire Protection Association (CCR, Title 24, Part 3) with necessary California amendments. Approved by the Building Standards Commission on May 14, 2003 and effective on August 1, 2005.
6. (BSC 01/02) Adoption/Approval of the 2002 edition of the *National Electric Code* of the National Fire Protection Association (CCR, Title 24, Part 3) with necessary California amendments. Adoption of the 2002 edition of the *National Electric Code* of the National Fire Protection Association (CCR, Title 24, Part 3) on behalf of the Department of Health Services (DHS) for commissaries and public swimming pools. Approved by the Building Standards Commission on May 14, 2003 and effective on August 1, 2005.
7. February 2, 2005 errata, cover page and page 70-711: correct the effective date to August 1, 2005.
8. (OSHPD 03/04) Amend Articles 89, Sub-articles 089.7 (A) & (B) and 517, Sub-article 577.33 filed May 23, 2006; effective 180 days after Publication. Approved by the California Building Standards Commission on May 17, 2006.
9. HCD 04/04 Repeal Chapter 4, Article 404.8(C) and Amend Article 406.3 filed May 23, 2006; effective 180 days after Publication. Approved by the California Building Standards Commission on May 17, 2006.
10. (DSA/AC 05/04) Change without regulatory effect to Article 406, to carry forward exceptions for buildings regulated under their authority, filed with Secretary of State on June 28, 2006, effective 180 days after publication.
11. September 1, 2006 errata, page 70-91, §250.52 (A)(5)(b): Change "(3/8 in.)" to "(5/8 in.)" in two places to correlate with the 2002 National Electrical Code.
12. Errata to correct publication date from September 11, 2006 to November 3, 2006 for the code changes described in items 8 and 9 to correlate with related changes to other Parts of Title 24; to correct the effective date in item 10 above and to correct a publication error for DSA/AC provisions in Article 404.

