

INSTALLATION INSTRUCTIONS

Single Car Clopay WindCode® Instructions

(For use with Insulated and Uninsulated Steel Residential Garage Door Instruction Manual)

Things to Know Before You Begin

This is a supplement to the Clopay **Steel Residential Garage Door Instructions (Steel)** and **Insulated Steel Garage Door Instructions (Insulated)** (Referred to as MANUAL). It covers important information unique to Clopay WindCode® Doors. For all other information and safety warnings concerning your Clopay WindCode® garage door, see the MANUAL. Read all of the information below before beginning installation.

WindCode® doors require additional struts and hinge attachments beyond what is required on standard doors. The installation and attachment of these struts and hinges are outlined in this manual. Specifically, these instructions cover the following hardware attachment:

- 1) Attachment of Hinges
- 2) Top Bracket Installation
- 3) Addition and Attachment of Struts
- 4) Jamb / Track Configuration
- 5) Track Bracket Placement

Each Clopay WindCode® door is included in one of nine categories: W1 - W9. Each category covers a different range of windload and subsequently, a specific strut configuration. (Tables 1 & 2)



Consumer Hotline

1-800-225-6729

NOTE: It is the buyer's responsibility to purchase the garage door required to meet local building codes.

Clopay WindCode® garage doors not installed with the proper reinforcement (struts, hinges, jamb brackets, track, fasteners) will not perform as designed to meet the building code requirements.

Windload reinforcement on single car doors (9'0" wide and under) is configured differently than strutting on double car doors (9'2" wide and over).

An electric impact gun is strongly recommended for installation of WindCode® doors.

To determine what door you have, locate the identification sticker found on the end of the door package. This sticker will identify the door size, door model, and windload category. (FIG. 1)

Table 1

Windload Category	Test Windload (P.S.F.)	Approximate Test MPH Gust Speed
W1	16 to 23	90
W2	24 to 28	100
W3	29 to 33	110
W4	34 to 42	120
W5	43 to 54	140
W6	55 to 60	150
W7	60 to 68	155
W8	69 to 81	170
W9	81 +	180

WindCode®
Door Model
↓

Door Width
↓

Door Height
↓

82W5
SW
8'00 x 7'00
WXZ
25P

WINDOWS: S3	SGL STRGTH	SPRINGS: EUS	EXTENSION	PART # A747628
WINDOW TRIM: F24		PACK: U 1	UNIPAC	I.D. # 48397276520753
INSUL: F	FOAM	RADIUS: 12	MISC:	COMMENT: WINDOW PLACEMENT SPECIAL PRODUCTION INSTR. KEYING INSTRUCTIONS
LOCK: 3	LOCK BAR	LIFT: S	MOUNT: AKR	

IDENTIFICATION STICKER (Located On Package)
(Example: Model 82 Windload Category W5)

Fig. 1

Strut Attachment

Struts are placed lengthwise across the door to add strength. Strut configurations vary depending on WindCode® category and door size. Table 2 shows six of the most common WindCode® doors and refers to a specific drawing in this manual. These drawings (Figures 11 to 16 in the back of this supplement) include specific strut configuration and detailed technical information for each door. After reviewing the strut configuration, turn to page 3 to begin the actual installation. For specifications and drawings for other door models please call the Clopay Consumer Hotline at 1-800-225-6729.

Table 2

Model Number	Windload Category	Door Width	Strutting* Configuration	Corresponding Figure / Drawing	Pushnuts Required
73/75/80/82/ 84A/90/94	W4	Up to 9'0" (Single Car)	1 per section	Figure 11 / 300159	No
2400/2401/4400/ 4401/4300/4301/ 4310/ HDG/HDGL	W4	Up to 9'0" (Single Car)	1-1-0-1**	Figure 12 / 100773	No
1000/183/ 187/1001	W5	Up to 9'0" (Single Car)	1 per section	Figure 13 / 101242	No
2400/2401/4400/ 4401/4300/4301/ 4310/HDG/HDGL	W6	Up to 9'0" (Single Car)	2 on first section, 1 on all other sections	Figure 14 / 101526	No
84A/94	W7	Up to 9'0" (Single Car)	2 per section (only 1 on 3rd section)	Figure 15 / 101702-24	Yes, Fig. 8
2400/2401/4400/ 4401/4300/4301/ 4310/HDG	W8	Up to 9'0" (Single Car)	2 per section	Figure 16 / 101703	No

* The bottom section is considered the first section, the second section from the bottom is considered the second section, etc.
 **Strut pattern is found only on doors that are four sections high (6'6" to 7'0"). A strut pattern of 1-1-0-1-0 for doors that are five sections high (7'6" to 8'0")

Bottom Section Strut Installation

Strut Attachment on Bottom of Bottom Section

Depending on the strutting configuration of the WindCode® Door, there are two possible positions that a strut can be installed. For the correct placement, see Table 2 and the corresponding Figures 11 to 16. Position bottom bracket as shown in MANUAL. Position the strut according to the correct figure for the corresponding door model. Drill one $\frac{5}{32}$ " hole at the top and one $\frac{5}{32}$ " hole at the bottom of the strut at all hinge locations. If an electric impact gun is used, no holes need to be drilled beforehand. Attach strut to door section with $\frac{1}{4}$ " x $\frac{3}{4}$ " self-tapping screws at each drilled hole. (FIG. 2A & 2B)

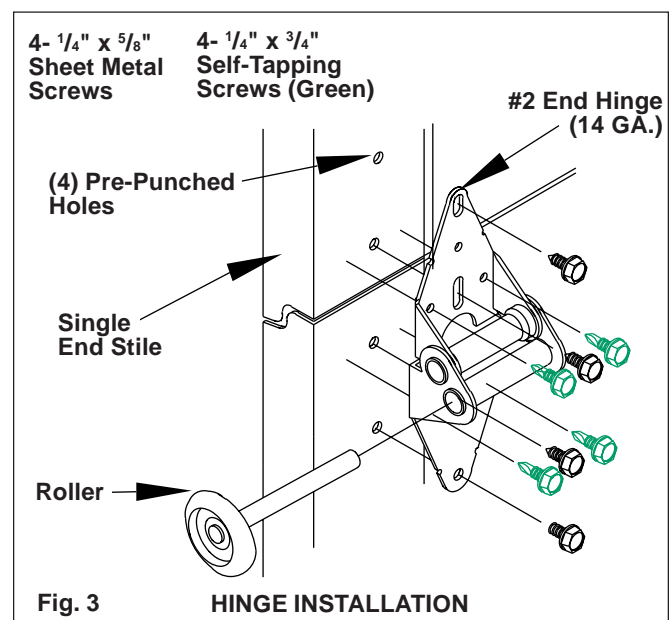
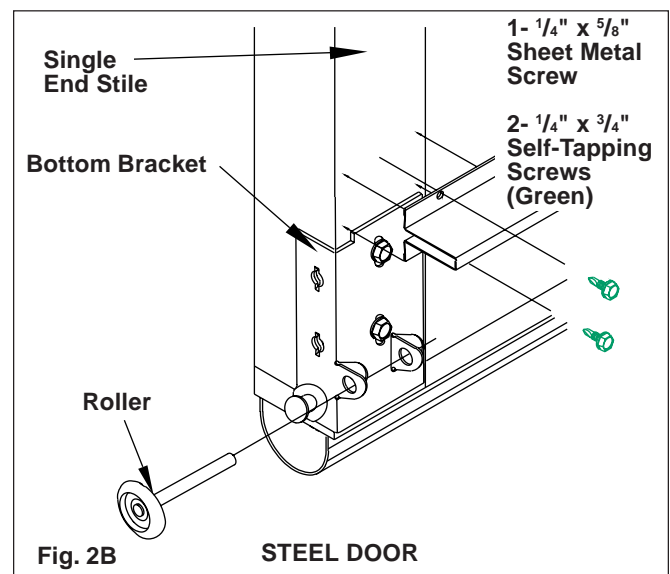
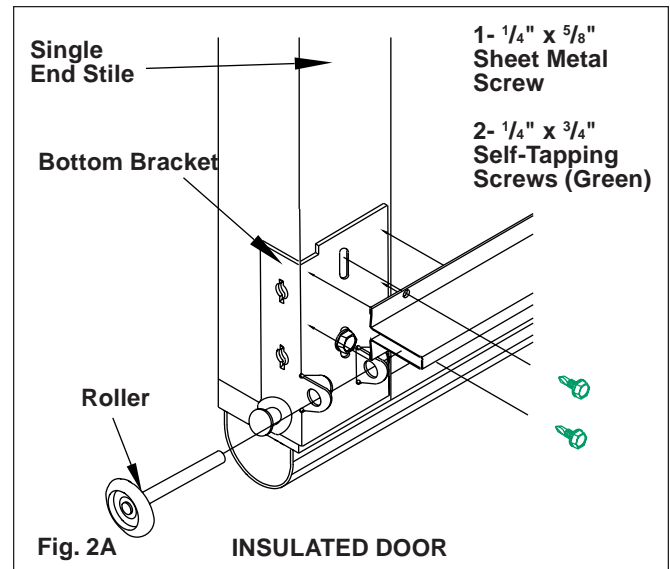
NOTE: For some models, pushnuts are required with the roller installation. Refer to Table 2 to determine which models use pushnuts. (FIG. 8)

End Hinge Installation

End Hinges

14 Gauge hinges are used at all end stile locations (for more detail see MANUAL). Insert the (4) sheet metal screws as indicated in the MANUAL. Insert the (4) $\frac{1}{4}$ " x $\frac{3}{4}$ " self-tapping screws per hinge as shown. (You may have to pilot drill $\frac{5}{32}$ " holes before installing self-tapping screws.) (FIG. 3)

NOTE: For some models, pushnuts are required with the roller installation. Refer to Table 2 to determine which models use pushnuts. (FIG. 8)



Intermediate Section Strut Installation

The strut installation for the intermediate section is different for steel and insulated doors. Refer to the appropriate section below.

Single Hinge Strut Attachment (Steel)

Depending on the strutting configuration of the WindCode® Steel Door, there are two possible positions that a strut can be installed. For the correct placement, see Table 2 and the corresponding Figures 11 to 16. To attach strut, position the strut on the door. Drill one $\frac{5}{32}$ " hole at the top and one $\frac{5}{32}$ " hole at the bottom of the strut at all hinge locations. If an electric impact gun is being used, no holes need to be drilled beforehand. Attach strut to door section with $\frac{1}{4}$ " x $\frac{3}{4}$ " self-tapping screws at each drilled hole. (FIG. 4)

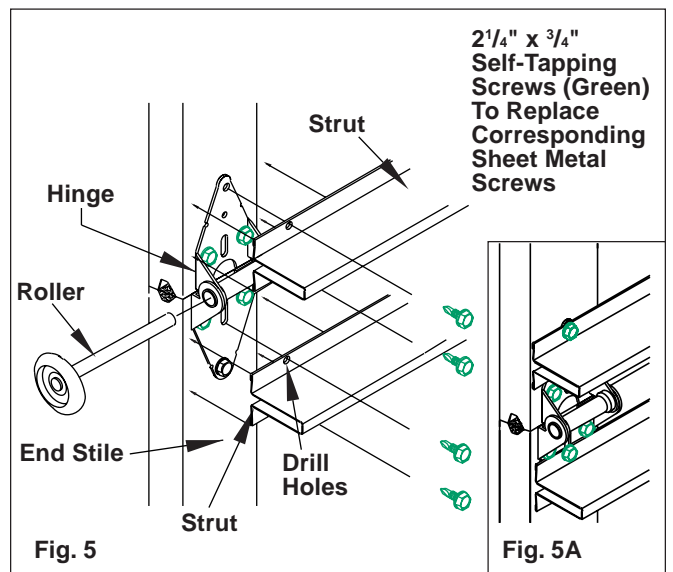
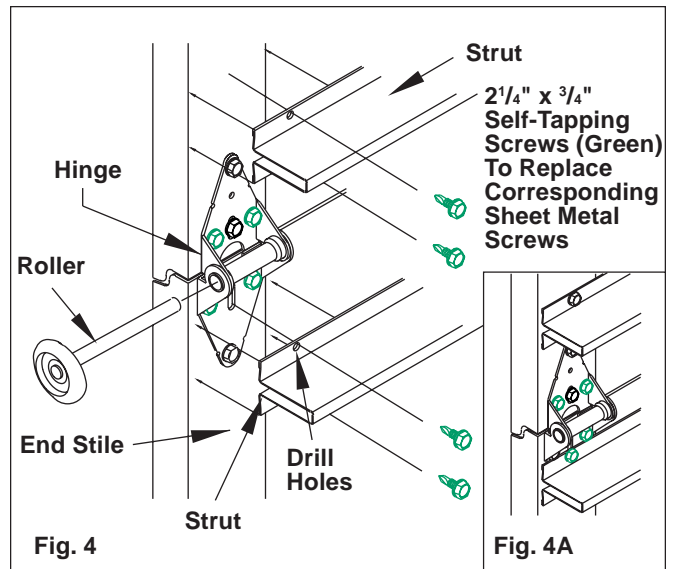
Note that the strut on the top of the section overlaps the bottom leaf of the hinge. If required, a strut mounted at the bottom of the section can be mounted above the hinge leaf. (FIG. 4A)

NOTE: For some models, pushnuts are required with the roller installation. Refer to Table 2 to determine which models use pushnuts. (FIG. 8)

Single Hinge Strut Attachment (Insulated)

Depending on the strutting configuration of the WindCode® insulated door, there are two possible positions that a strut can be installed. For the correct placement, see Table 2 and the corresponding Figures 11 to 16. For insulated doors the struts must overlap the hinge leaves on both the top and bottom. To attach strut, position the strut on the door. Drill one $\frac{5}{32}$ " hole at the top and one $\frac{5}{32}$ " hole at the bottom of the strut at all hinge locations. If an electric impact gun is used, no holes need to be drilled beforehand. Attach strut to door section with $\frac{1}{4}$ " x $\frac{3}{4}$ " self-tapping screws at each drilled hole. (FIG. 5 & 5A)

NOTE: For some models, pushnuts are required with the roller installation. Refer to Table 2 to determine which models use pushnuts. (FIG. 8)



Top Bracket Installation

Top Bracket

In most instances, WindCode® doors use a heavier gauge top bracket. Due to this, the holes in the bracket will not line up with the holes in the stiles. Install the top of the top brackets approximately 3" to 3½" below the top of the section with (4) ¼" x ¾" self-tapping screws. Once installed, the slide adjustments must be aligned so that the roller lines up with the track so the door will close flush to the door jamb. (FIG. 6)

NOTE: For some models, pushnuts are required with the roller installation. Refer to Table 2 to determine which models use pushnuts. (FIG. 8)

Top Section Strut Attachment

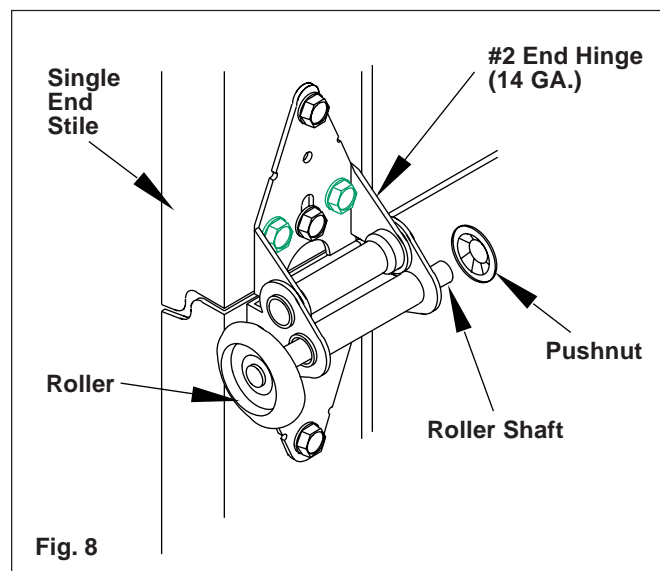
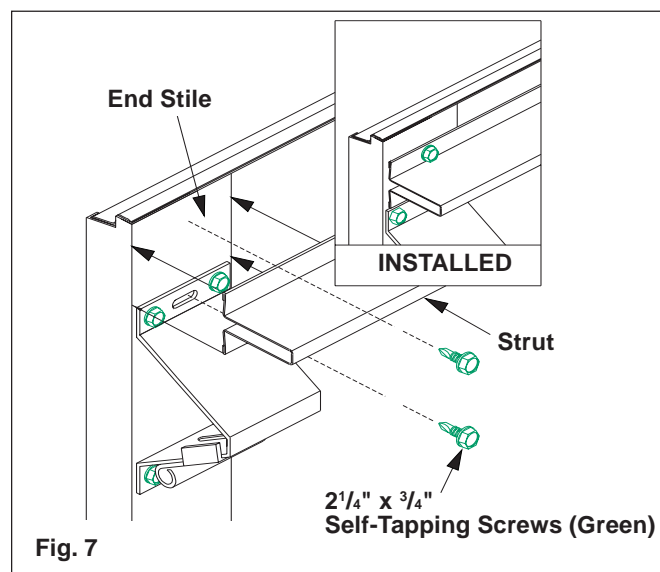
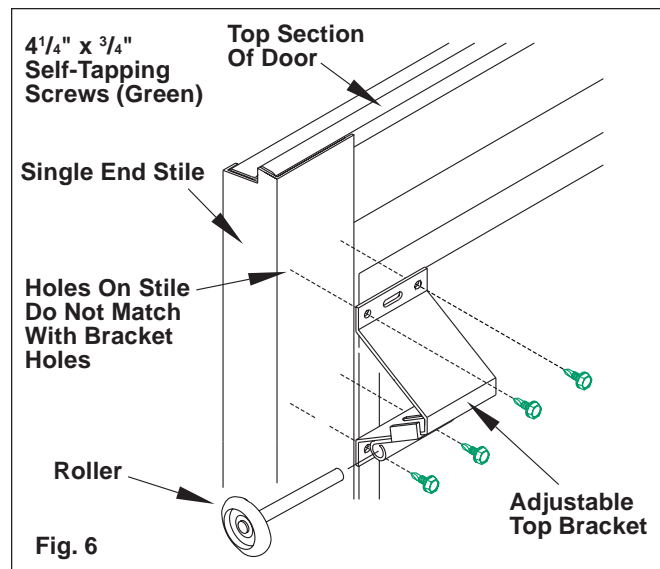
Depending on the strutting configuration of the WindCode® door, a strut may be required on the top section (See Table 2 and corresponding drawing). To attach a strut at the top of the top section it must be placed above the top roller bracket. Drill one 5/32" hole at the top and one 5/32" hole at the bottom of the strut at all hinge (or back-up plate (insulated) locations.) If an electric impact gun is used, no holes need to be drilled beforehand. Attach strut to door section with ¼" x ¾" self-tapping screws at each drilled hole. (FIG. 7)

NOTE: For some models, pushnuts are required with the roller installation. Refer to Table 2 to determine which models use pushnuts. (FIG. 8)

Roller and Pushnut

To install the pushnut roller, slide the roller into the hinge then slide the pushnut onto the shaft of the roller until it is within an 1/8" to 1/4" from the hinge. (FIG. 8)

NOTE: Do NOT install pushnut before installing roller into hinge. Use ½" Deep Draw socket and hammer to tap on pushnuts.



Jamb Configuration



IMPORTANT

The design of the supporting structural elements (i.e. door jamb) shall be the responsibility of the professional of record for the building or structure and in accordance with current building codes for the loads listed on the technical drawing (attached) for the specific model.

It is also important that the vertical 2 x 6 wood jambs are attached to the supporting structure in a method that is sufficient to transfer the loads exerted by the wind pressures. Some suggested vertical jamb attachment methods are included in the drawings. (FIG. 11 to 16)

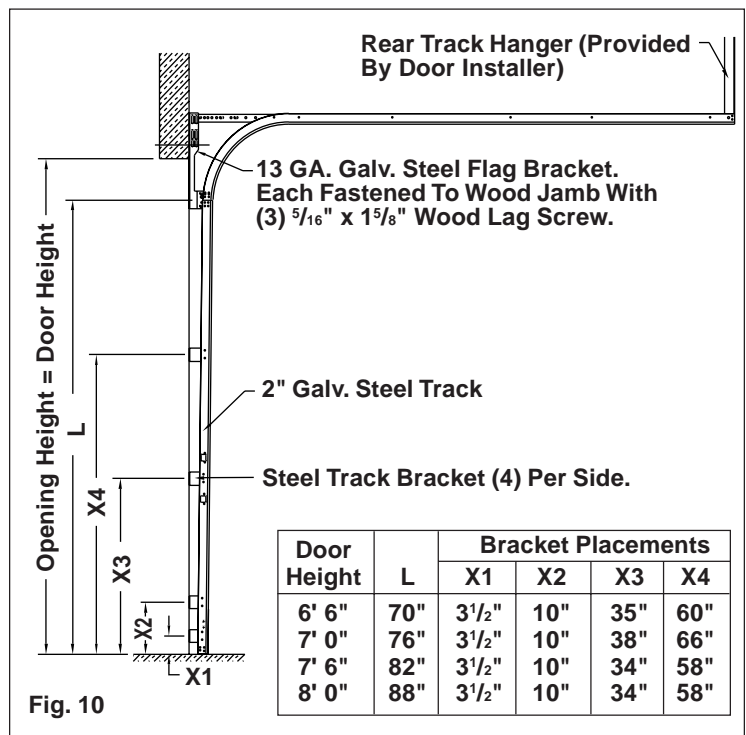
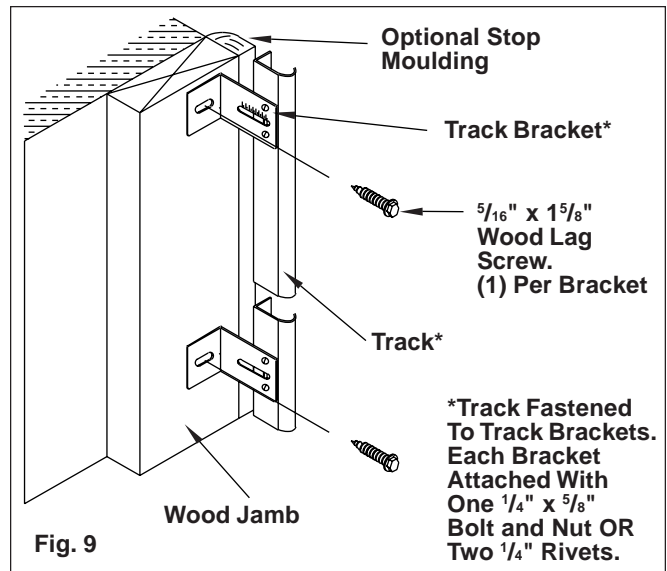
Track Bracket Placement

Track bracket placement are configured differently according to height. Typically, WindCode® doors require more track brackets than non-WindCode® doors. However, each track bracket is attached to the track and jamb using the same fasteners and method of attachment as shown in the MANUAL. (FIG. 9 & 10)

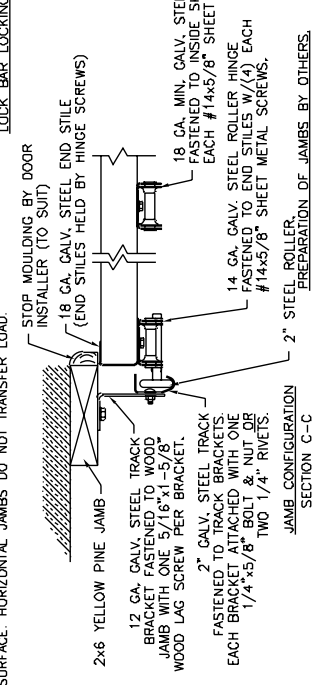
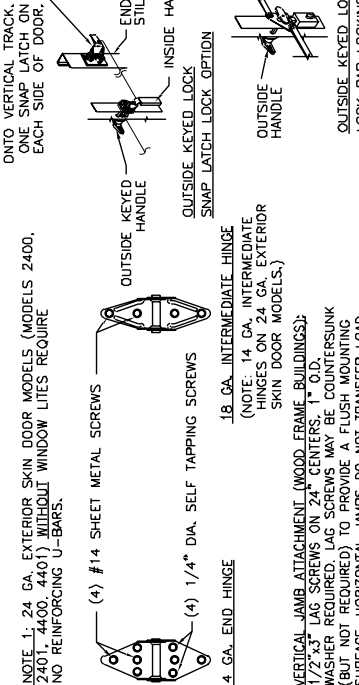
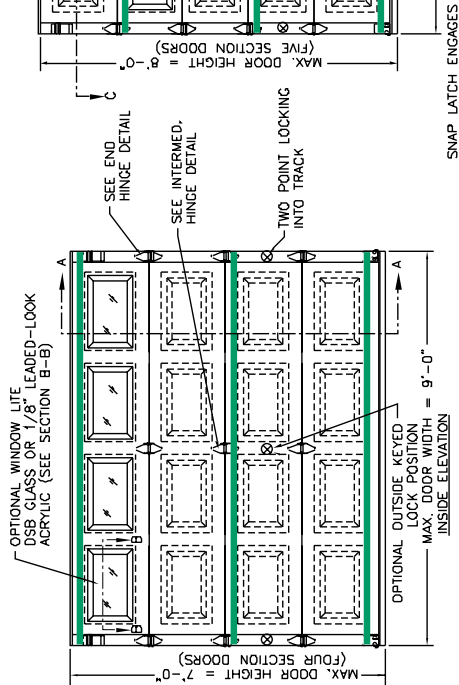
Opener Reinforcement Installation

Attachment of Opener Reinforcement

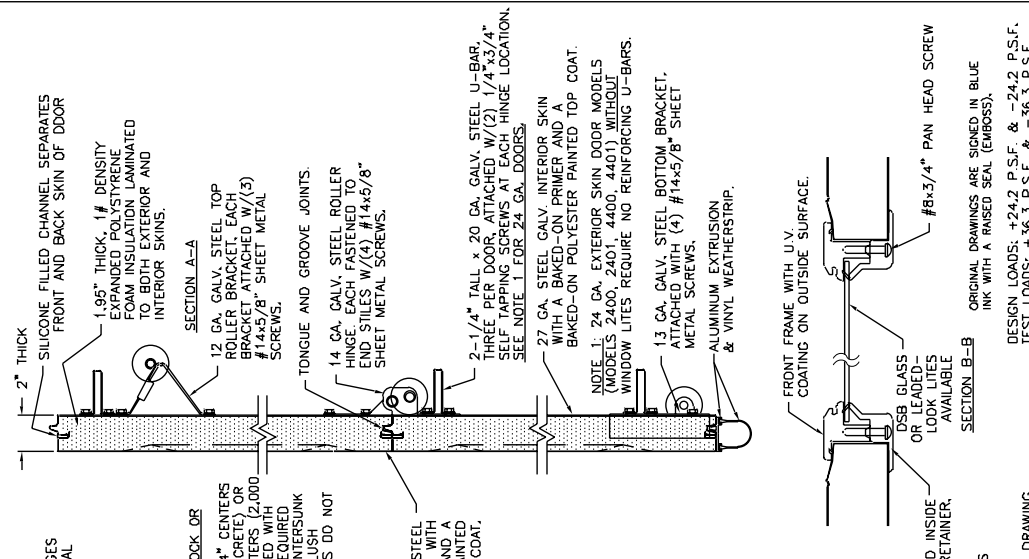
Refer to the MANUAL for installation instructions. If the Clopay WindCode® door requires a strut across the top of the top section, this takes the place of any horizontal angle iron required by the MANUAL. The vertical angle as shown in the MANUAL is still required on WindCode® Doors.



MODELS 2400, 2401, 4400, 4401 (24 GA. EXTERIOR SKIN)
 MODELS 2310, 4310, HDGL (25 GA. EXTERIOR SKIN)
 MODELS HDG, 4300, 4301 (27 GA. EXTERIOR SKIN)



REV.	DATE	DESCRIPTION
D0	8/96	REDRAWN; ADDED MODEL 4310 WINDOW LITES
D1	12/1989	ADDED JAMB ATTACHMENT INFORMATION



SCALE	NOTED	PLDT.	MAX. SIZE
8/9/96	1-36	9'0" x 8'0"	
DATE:	DESCRIPTION:	WINDLOAD MODELS 2400, 2401, 4400, 4401, 4310, HDG, HDGL, 4300, 4301	
DRAWN BY: MWW	CHECKED BY:		
		DRAWING NUMBER: 100773	REV: 05

NOTE 2: THE DESIGN OF THE SUPPORTING STRUCTURAL ELEMENTS SHALL BE THE RESPONSIBILITY OF THE PROFESSIONAL OF RECORD FOR THE BUILDING OR STRUCTURE AND IN ACCORDANCE WITH CURRENT BUILDING CODES FOR THE LOADS LISTED ON THIS DRAWING.

DESIGN LOADS: +24.2 P.S.F. & -24.2 P.S.F.
 TEST LOADS: +36.3 P.S.F. & -36.3 P.S.F.

ORIGINAL DRAWINGS ARE SIGNED IN BLUE INK WITH A RAISED SEAL (EMBOSSED).

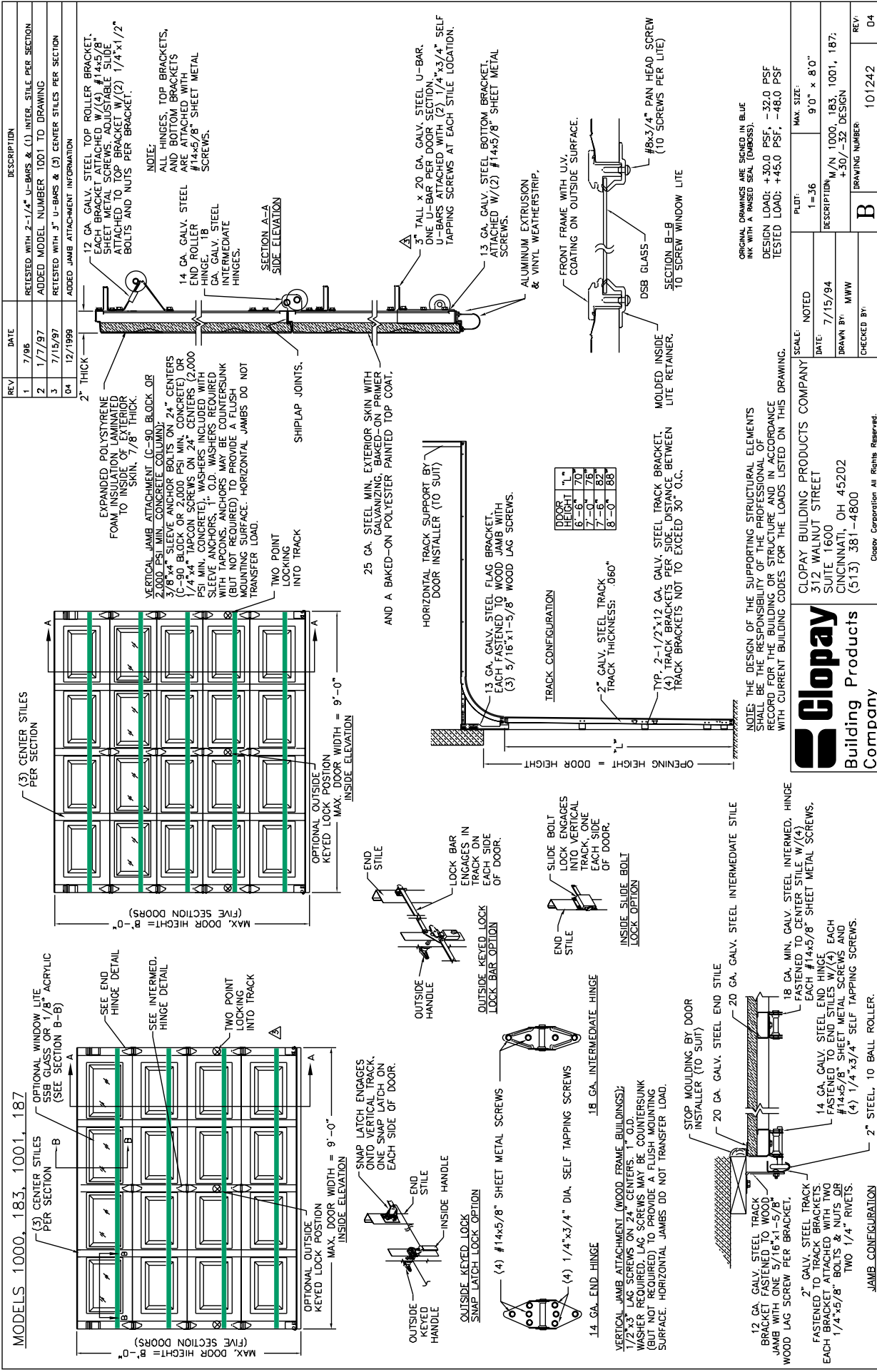
Glopay
 Building Products
 Company

CLOPAY BUILDING PRODUCTS COMPANY
 312 WALNUT STREET
 SUITE 1600
 CINCINNATI, OH 45202
 (513) 381-4800

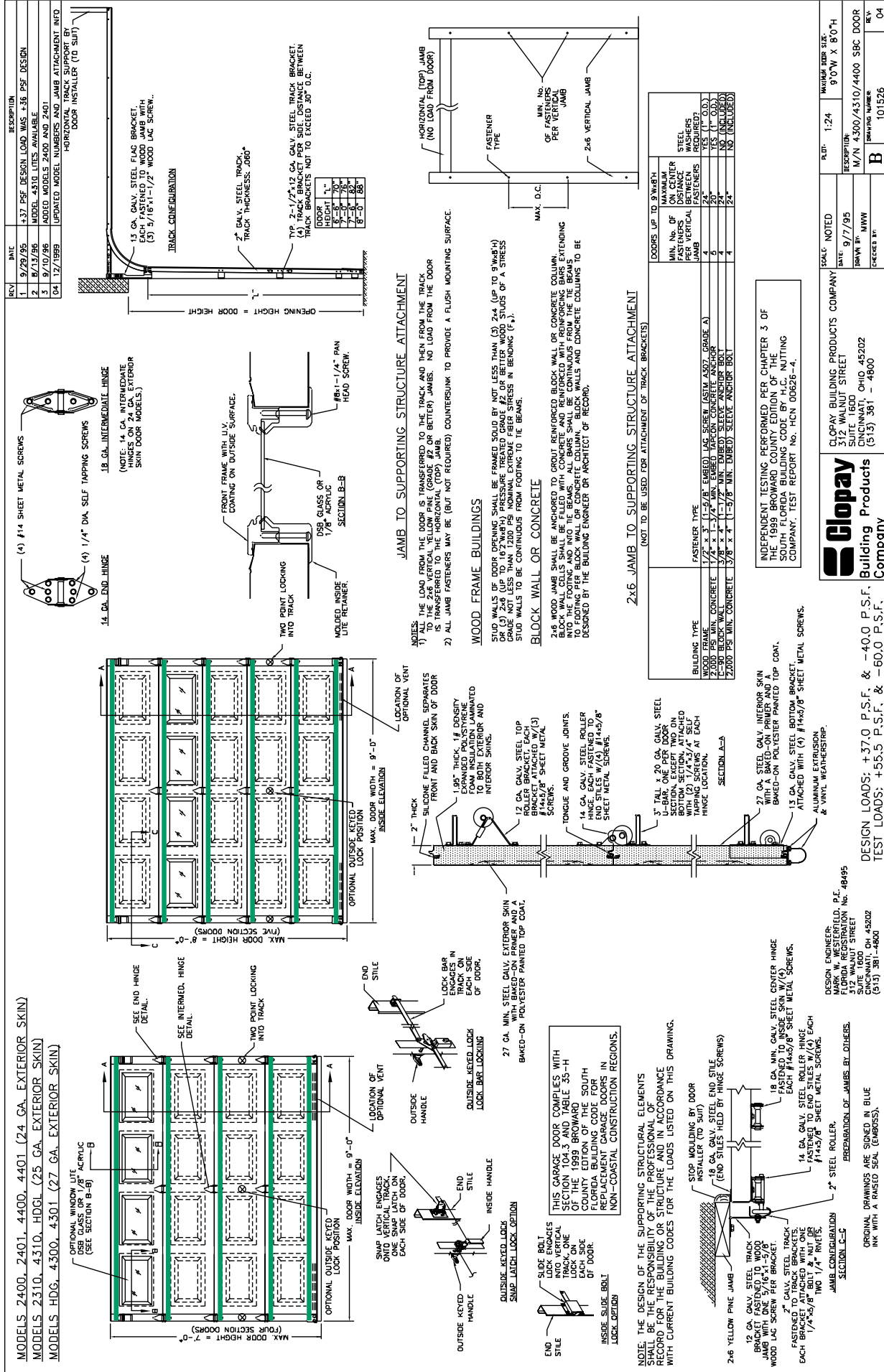
Copy Corporation. All Rights Reserved.

CATEGORY: W4 MODELS: 2400, 2401, 2310, 4400, 4401, 4310, 2300, HDG, 4300, 4301, HDGL
 STRUT PLACEMENT SHOWN IN GREEN

Fig. 12



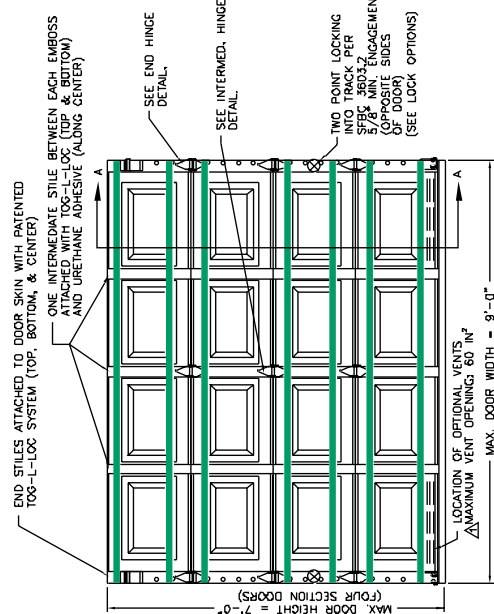
CATEGORY: W5 MODELS: 1000, 183, 187, 1001
STRUT PLACEMENT SHOWN IN GREEN



CATEGORY: W6 MODELS: 2400, 2401, 4400, 4401, 4310, HDGL, 2310, HDG, 4300, 4301, HDGL
 STRUT PLACEMENT SHOWN IN GREEN

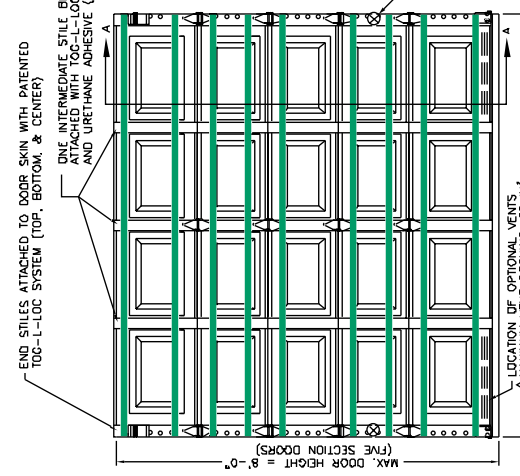
Fig. 14

MODELS 83, 84A, 93, 94



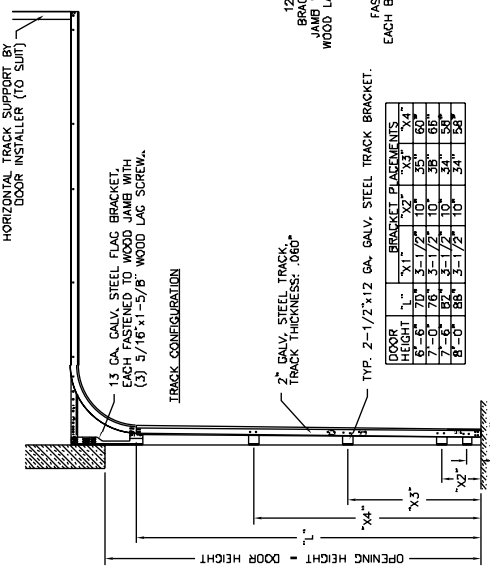
NOTE 1:
 DOORS 6'8" HIGH CONSIST OF (4) SECTIONS; (2) OF 21" & (2) OF 18".
 DOORS 7'0" HIGH CONSIST OF (4) SECTIONS; (4) OF 21".
 DOORS 7'6" HIGH CONSIST OF (5) SECTIONS; (5) OF 18".
 DOORS 8'0" HIGH CONSIST OF (5) SECTIONS; (2) OF 21" & (3) OF 18".

NOTE 2:
 SUPPORTING STRUCTURAL ELEMENTS SHALL BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER FOR WIND LOADS SHOWN ON THIS DRAWING.

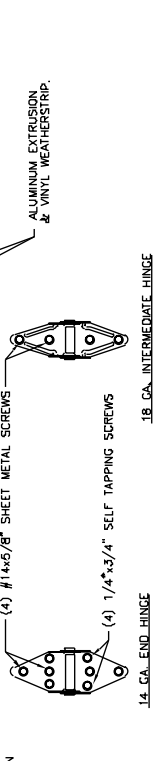
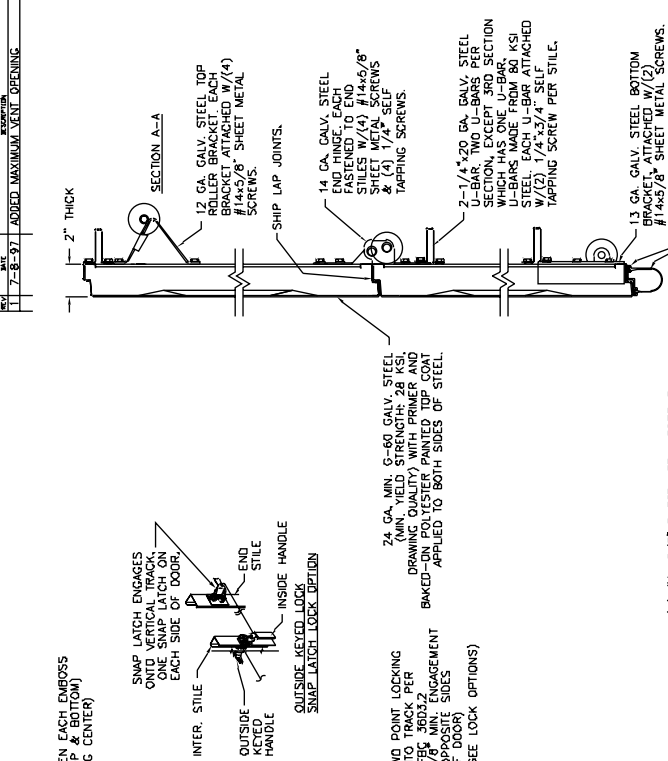


INSTALLER	RETAIL MODEL	DESCRIPTION*
93	83	24 GA. STEEL END STILES
94	84A	24 GA. STEEL SKIN, 18 GA. PAINTED STEEL END STILES

* ALL DOOR MODELS ARE RAISED PANEL EMBOSSED



DOOR HEIGHT	BRACKET PLACEMENTS
6'-6"	1" x 2" x 3" x 4"
7'-0"	3-1/2" x 5" x 6"
7'-6"	3-1/2" x 5" x 6"
8'-0"	3-1/2" x 5" x 6"



DESIGN LOADS: +42.0 PSF & -48.0 PSF.
 TEST LOADS: +63.0 PSF & -72.0 PSF.

THE 2x6 VERTICAL WOOD JAMBS ARE TO BE GRADE 2 OR BETTER YELLOW PINE. NO LOAD IS TRANSFERRED TO THE HORIZONTAL (TOP) JAMB. ALL JAMB FASTENERS TO THE FOOTING (TO BE PROVIDED) COUNTERSINK TO PROVIDE A FLUSH MOUNTING SURFACE.

2x6 WOOD JAMB CAN BE ANCHORED TO GROUT REINFORCED CONCRETE OR BRICK. WOOD WELLS CONTAINIOUS 75 BAR EXTENDING INTO THE FOOTING AND INTO THE BEAMS. ANCHORS CAN BE 1/4" x 3/4" EMBED TAPCON CONCRETE ANCHORS STARTING AT NO MORE THAN 8" FROM BOTTOM RAIL. LOCK ANCHOR STARTING AT NO MORE THAN 8" FROM BOTTOM AND 24" O.C.

APPROVED AS COMPLYING WITH THE SOUTH FLORIDA BUILDING CODE
 DATE AUGUST 21, 1997

BY: *[Signature]*

PRODUCT CONTROL DIVISION
 BUILDING CODE COMPLIANCE OFFICE
 ACCEPTANCE NO. 97-012202

DESIGN ENGINEER:
 MARK W. WESTERFIELD
 FLORIDA REGISTRATION NO. 48495
 MECHANICAL ENGINEERING

7/11/97

Glopap
 Building Products Company

CLONAY BUILDING PRODUCTS COMPANY
 1000 WEST STREET
 SUITE 1600
 CINCINNATI, OHIO 45302
 (513) 381-4800

SCALE: PLOT 1=42
 DATE: 11/18/96
 DRAWN BY: MWW
 CHECKED BY: B

CONSTRUCTION NUMBER: 97-012202
 REVISION: 0303
 SHEET NO.: 84A, 85, 94

PROJECT NO.: 101702-24

CATEGORY: W7 MODELS: 84A, 94
 STRUT PLACEMENT SHOWN IN GREEN

