

# INSTALLATION INSTRUCTIONS

## Double Car Clopay WindCode® Supplemental 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.

An electric impact gun will be needed for installation of WindCode™ Doors. If your door requires the attachment of C-Channels, a 7/16" socket and 6" extension will be needed along with an impact gun.

**NOTE:** It is the buyer's responsibility to purchase the garage door needed.

These instructions cover the following hardware attachment:

- 1) Double Top & Bottom Bracket Installations
- 2) Attachment of Double Hinges
- 3) Addition of Struts / C-Channel
- 4) Track Bracket Placement (for specific models only)

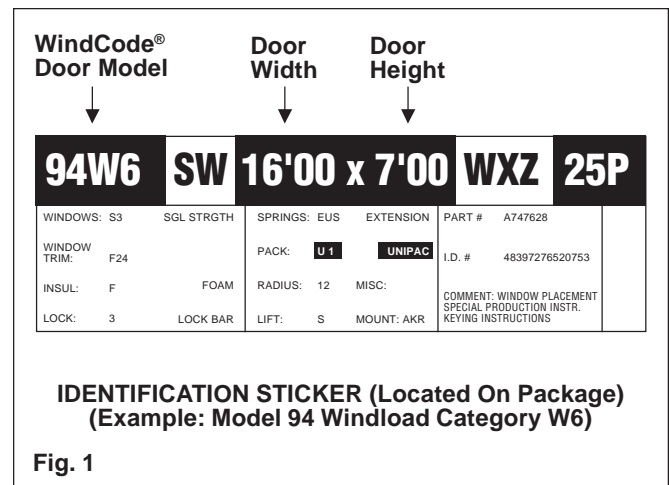
**Table 1**

| 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                             |



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).

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)



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.

## Reinforcement Attachment

Reinforcements are placed lengthwise across the door to add strength. Reinforcement configurations vary depending on WindCode® category and door size. Table 2 shows ten of the most common WindCode® doors and refers to a specific drawing in this manual. These drawings (Figures 13 to 22 in the back of this supplement) include specific reinforcement configuration and detailed technical information for each door. After reviewing the reinforcement 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.

| Model Number  | Windload Category | Door Width                  | Reinforcement* Configuration  | Correspond. Fig. / Draw. | Double End Stiles / Hinges | Pushnuts Req. | Threaded Rollers | Angle Mt. Track | Track Config. |
|---|-------------------|-----------------------------|-------------------------------|--------------------------|----------------------------|---------------|------------------|-----------------|---------------|
| 183/1000/187/1001                                   | W3                | 9'2"-16'0"<br>(Double Car)  | Struts:<br>2-1-2-1*           | Figure 13 /<br>101784    | Yes                        | Yes           | No               | No              | Figure 10     |
| 73/75/84A/94  | W4                | 16'2"-18'0"<br>(Double Car) | 4" C-Channel<br>1 per section | Figure 14 /<br>101312    | No                         | No            | No               | No              | Figure 10     |
| 1000/183/187/1001                                   | W5                | 9'2"-16'0"<br>(Double Car)  | 4" C-Channel<br>1 per section | Figure 15 /<br>101345    | Yes                        | No            | No               | No              | Figure 10     |
| 73/75/84A/94  | W6                | 9'2"-16'2"<br>(Double Car)  | 4" C-Channel<br>1 per section | Figure 16 /<br>101539    | Yes                        | No            | Yes              | No              | Figure 11     |
| 73/75/84A/94  | W6                | 16'4"-18'2"<br>(Double Car) | 6" C-Channel<br>1 per section | Figure 17 /<br>101485    | Yes                        | Yes           | No               | No              | Figure 11     |
| 2400/2401/4400/<br>4401/4300/4301/<br>4310/HDG/HDGL | W6                | 9'2"-16'2"<br>(Double Car)  | 4" C-Channel<br>1 per section | Figure 18 /<br>101486    | Yes                        | No            | No               | No              | Figure 11     |
| 2400/2401/4400/<br>4401/4300/4301/<br>4310/HDG/HDGL | W6                | 16'4"-18'2"<br>(Double Car) | 6" C-Channel<br>1 per section | Figure 19 /<br>101487    | Yes                        | No            | Yes              | No              | Figure 11     |
| 73/75/84A/94  | W7                | 9'2"-16'2"<br>(Double Car)  | 6" C-Channel<br>1 per section | Figure 20 /<br>101309    | Yes                        | No            | Yes              | No              | Figure 11     |
| 84A/94**  | W8                | 9'2"-16'2"<br>(Double Car)  | 6" C-Channel<br>1 per section | Figure 21A-B<br>101300   | Yes                        | No            | Yes              | Yes             | Figure 11     |
| 2400/2401/4400/<br>4401/4300/4301/<br>4310/HDG/HDGL | W8                | 9'2"-16'2"<br>(Double Car)  | 6" C-Channel<br>1 per section | Figure 22A-D<br>101488   | Yes                        | Yes           | No               | No              | Figure 11     |

\* The bottom section is considered the first section, the second section from the bottom is considered the second section, etc.

\*\*Doors sometimes called 84AD and 94D.

## Top Bracket Installation

### Double Top Bracket

If your door has double end hinges then install two top brackets instead of one. Double top brackets are installed side-by-side. Each Top bracket is installed exactly like a single top bracket. Once installed, the slide adjustments must be aligned so that the long stem roller can be inserted through both slide adjustments. (FIG. 2)

**NOTE:** Rollers with pushnuts or threaded rollers with flange nuts may be used on windload doors. (FIG. 3)

To install the pushnut roller simply slide the roller into the hinges and after the track is installed, slide the pushnut on the rod of the roller until it is within a  $\frac{1}{8}$ " to  $\frac{1}{4}$ " of the hinge.

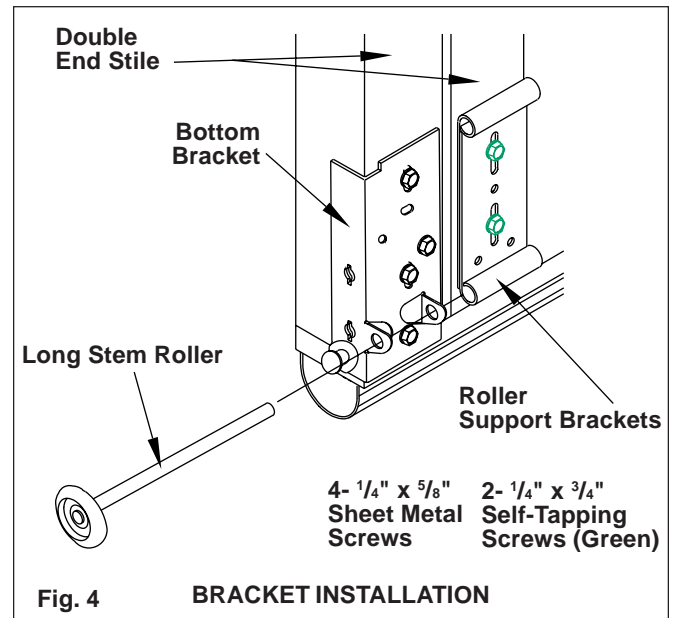
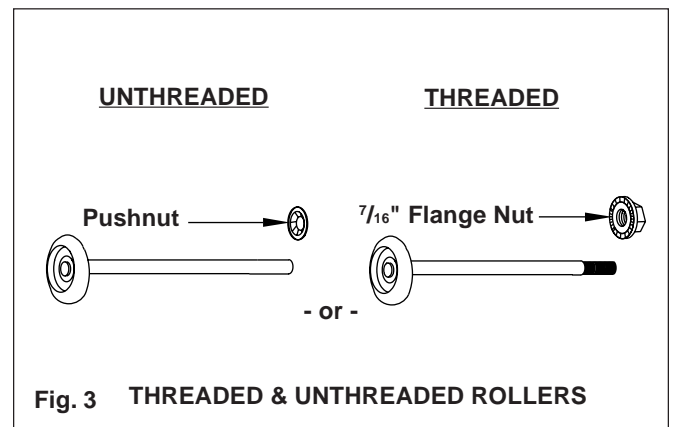
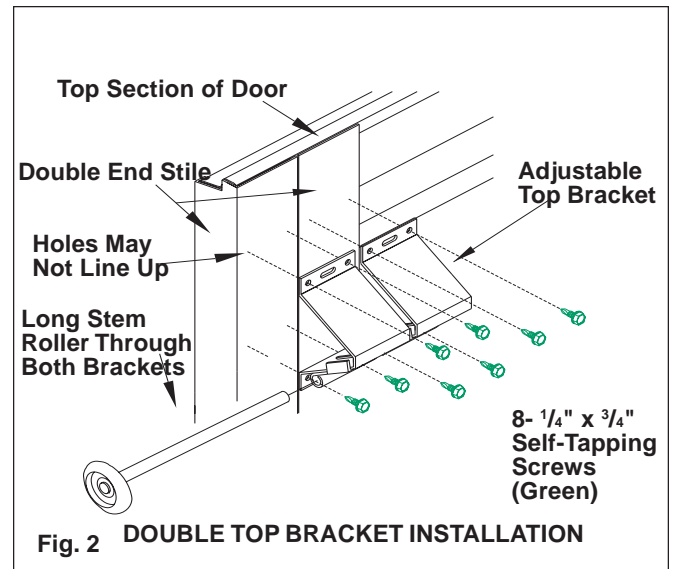
To install a threaded roller proceed as before and after track is installed, thread the  $\frac{7}{16}$ " flange nut on the rod until the  $\frac{7}{16}$ " flange nut is within  $\frac{1}{8}$ " to  $\frac{1}{4}$ " of the hinge.

## Bottom Bracket Installation

### Double Bottom Bracket

Position bottom bracket as shown in MANUAL. Align the roller support bracket tube with the roller holes in the bottom bracket, so that the long stem roller can be inserted through the bottom bracket and roller support bracket. Attach with (2)  $\frac{1}{4}$ " x  $\frac{3}{4}$ " self-tapping screws. (FIG. 4)

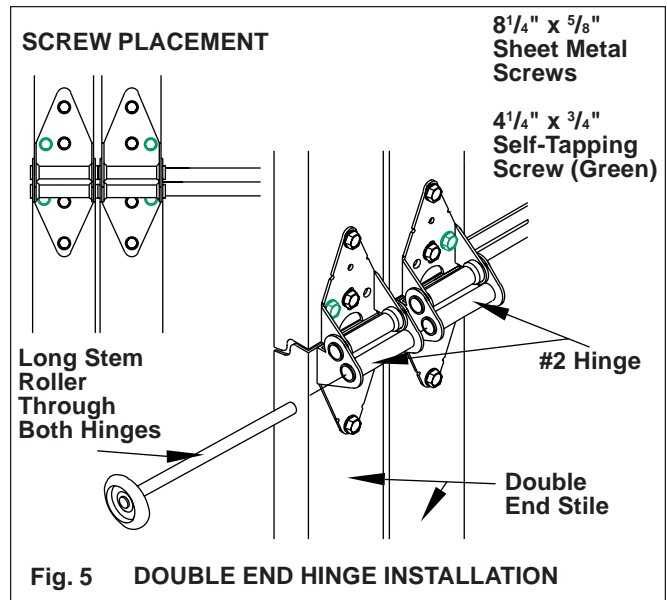
**NOTE:** A second roller support bracket can be used as a shim to allow the long stem roller free movement.



## End Hinge Installation

### Double End Hinges

14 Gauge hinges are used at end stile locations (for more detail, see MANUAL). Place two end hinges on the double end stile as shown. Attach each end hinge to end stile by inserting (4) #14 x  $\frac{5}{8}$ " sheet metal screws through the prepunched holes in the end stile. Insert (2)  $\frac{1}{4}$ " 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. 5)



## Strut / C-Channel Attachment

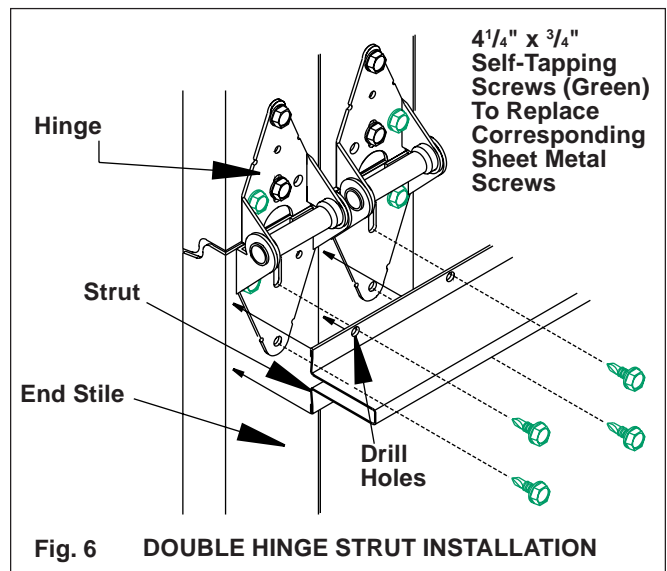
Depending on the Model and windload category of your door, different reinforcements will be used. Consult the accompanying drawing outlined in Table 2 to see the required reinforcement type (strut or c-channel) and placement.

## Strut Installation

### Double Hinge Strut Attachment

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 stile locations. Attach strut to door section with  $\frac{1}{4}$ " x  $\frac{3}{4}$ " self-tapping screws through drilled holes. (FIG. 6)

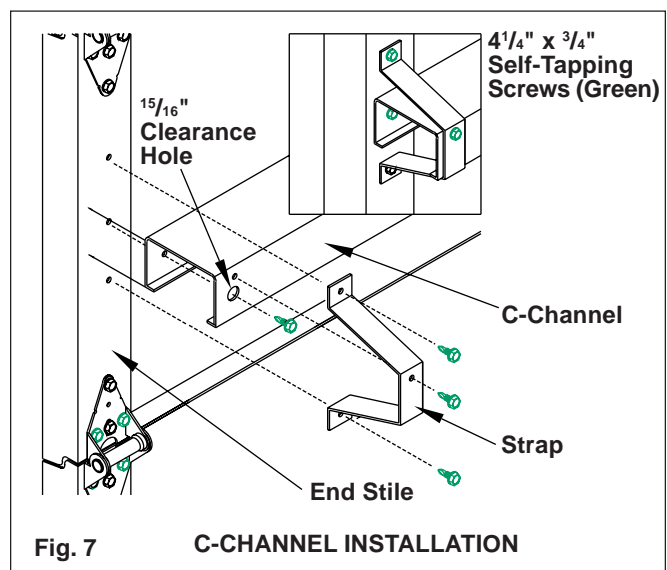
Note that the strut overlaps the hinge leaves.



## C-Channel Installation

### Pan Door C-Channel Attachment

Position the C-channel on the door. Attach C-channel to door section with (1)  $\frac{1}{4}$ " x  $\frac{3}{4}$ " self-tapping screws through drilled holes at each stile location. Then attach one C-channel strap at center hinge and end hinge locations (See Figures 14-22). C-channel straps are attached to the C-channel with (1)  $\frac{1}{4}$ " x  $\frac{3}{4}$ " self-tapping screws, and attached to the door with (2)  $\frac{1}{4}$ " x  $\frac{3}{4}$ " self-tapping screws. (FIG. 7)



## EPS Door C-Channel Attachment

Before attaching C-channel, a backer plate should be placed behind where the C-channel is to be installed. Position the C-channel on the door.

Attach C-channel to door section with (1)  $\frac{1}{4}$ " x  $\frac{3}{4}$ " self-tapping screws through drilled holes at each hinge location. Then attach one C-channel strap at center hinge and end hinge locations. (See Figures 14-22).

C-Channel straps are attached to the C-channel with (1)  $\frac{1}{4}$ " x  $\frac{3}{4}$ " self-tapping screw, and attached to the door with (2)  $\frac{1}{4}$ " x  $\frac{3}{4}$ " self-tapping screws. (FIG. 8 and 9)

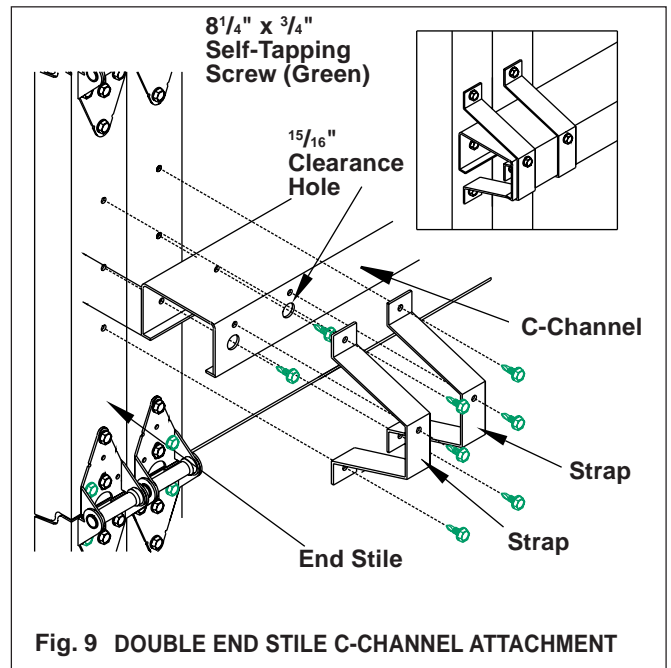
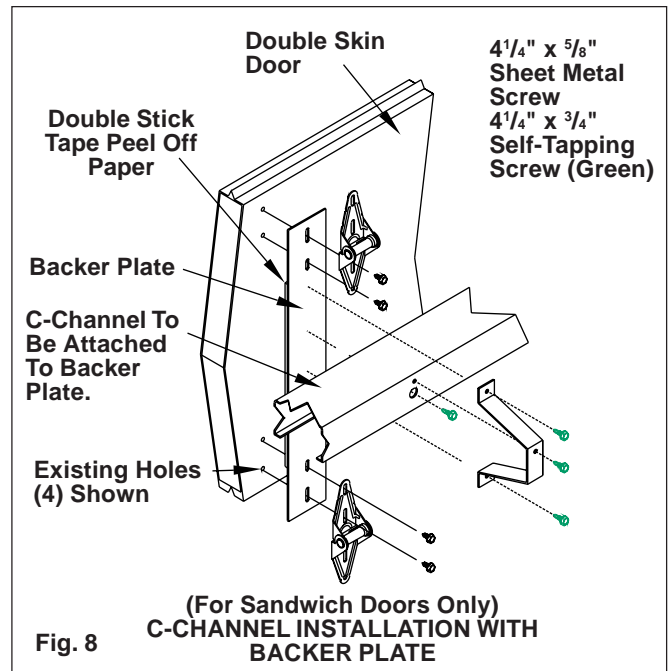
## Jamb Configuration



**IMPORTANT**

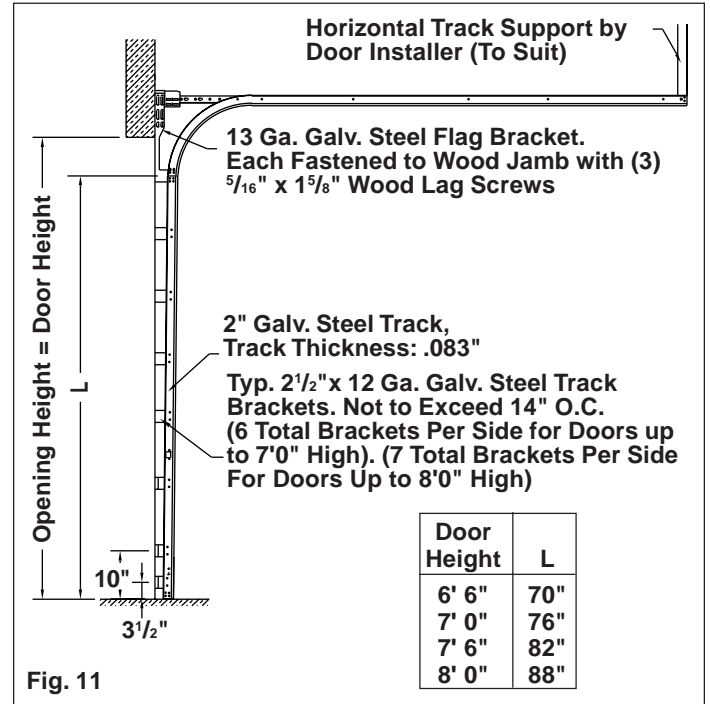
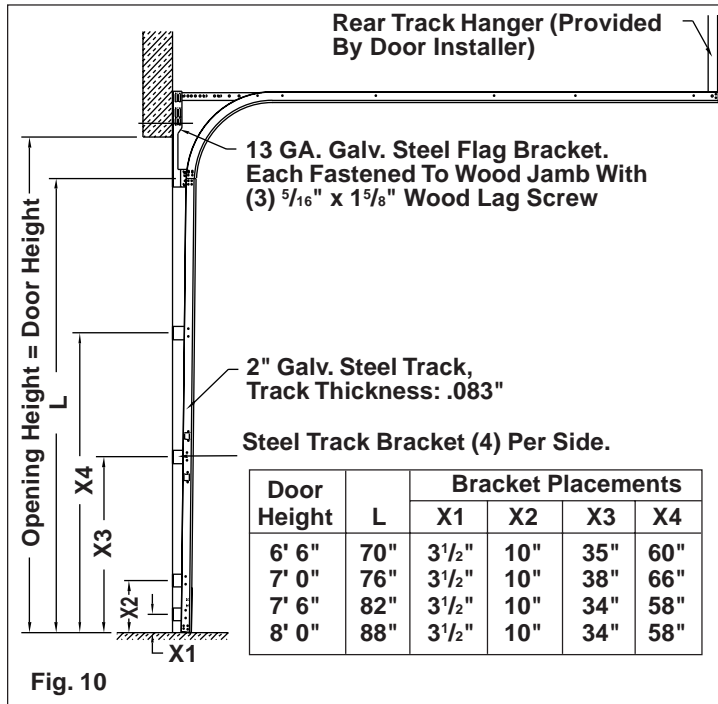
The design of the supporting structural elements (i.e. door jamb) shall be the responsibility of the professional of record for the building or structure and in accordance with current building codes for the loads listed on the technical drawing (attached) for the specific model.

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. 13 to 22)



## Track Configuration

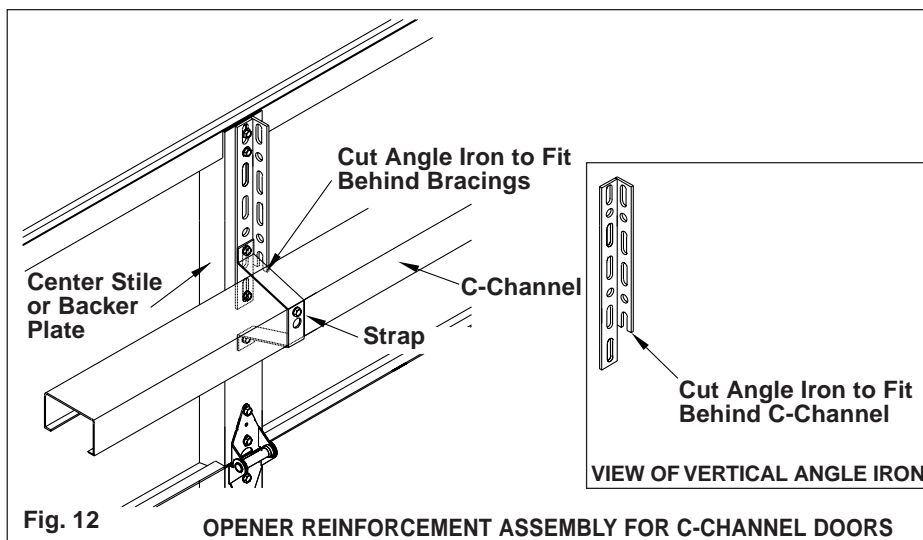
For corresponding track configuration refer to Table 2. (FIG. 10 & 11)



## Opener Reinforcement Installation

### Attachment of Opener Reinforcement

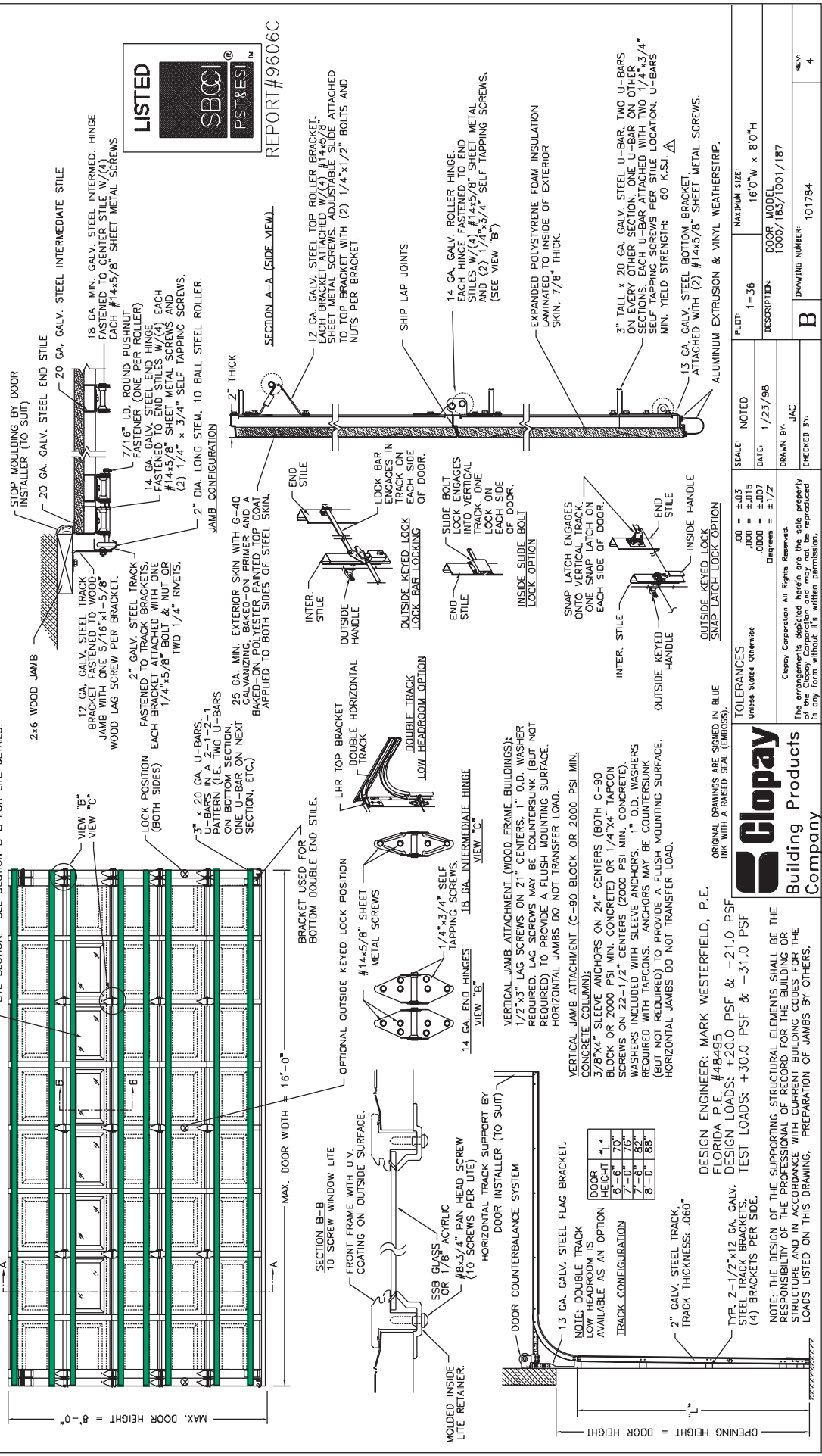
Refer to the MANUAL for installation instructions. If the Clopay WindCode® door requires a strut across the top section, this takes the place of any horizontal angle iron required by the MANUAL. The vertical angle as shown in the MANUAL is still required on WindCode® Doors. (FIG. 12)



NOTE 1:  
DOORS UP TO 7'-0" HIGH CONSIST OF (4) SECTIONS (NOT SHOWN)  
DOORS OVER 7'-0" HIGH CONSIST OF (5) SECTIONS (SHOWN).

MODELS 1000, 183, 1001, 187

DOOR TESTED WITH OPTIONAL SSB OR 1/8" ACRYLIC WINDOW LITE SECTION. SEE SECTION B-B FOR LITE DETAILS.

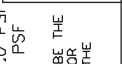


REPORT #9606C

| REV | DATE     | DESCRIPTION                             |
|-----|----------|---|
| 1   | 2/18/98  | U-BAR MIN. YIELD SPECIFIED AS 50 KSI    |
| 2   | 3/16/00  | ADD JAMB ATTACHMENT AND LHR TRACK NOTES |
| 3   | 5/30/00  | ADDED MODEL 1001 & 187                  |
| 4   | 11/10/00 | QTY (1) WAS (2) FOR TRACK BOLTS         |

| SCALE:                 | NOTED   | PLDT:             |
|------------------------|---------|-------------------|
| 1/8" = 1'-0"           | 1/23/98 | 1=36              |
| 1/4" = 3'-0"           |         | MAXIMUM SIZE:     |
| 1/2" = 6'-0"           |         | 16'0" W x 8'0" H  |
| 3/4" = 9'-0"           |         | DOOR MODEL        |
| 1" = 12'-0"            |         | 1000/183/1001/187 |
| DRAWN BY: JAC          |         |                   |
| CHECKED BY:            |         |                   |
| DRAWING NUMBER: 101784 |         |                   |
| REV: 4                 |         |                   |

TOLERANCES  
Unless Stated Otherwise  
.00 = ±.03  
.000 = ±.015  
Degrees = ±1/2°



DESIGN ENGINEER: MARK WESTERFIELD, P.E.  
FLORIDA P.E. #48495  
DESIGN LOADS: +20.0 PSF & -21.0 PSF  
TEST LOADS: +50.0 PSF & -31.0 PSF

NOTE: 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. PREPARATION OF JAMBS BY OTHERS.

| DOOR HEIGHT | 1"  |
|-------------|-----|
| 6'-6"       | 70" |
| 7'-0"       | 76" |
| 7'-6"       | 82" |
| 8'-0"       | 88" |

CATEGORY: W3 MODELS: 183, 1000, 187, 1001  
STRUTS PLACEMENT SHOWN IN GREEN

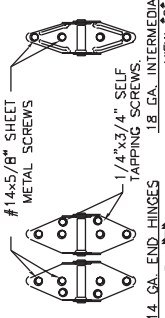
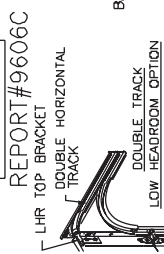
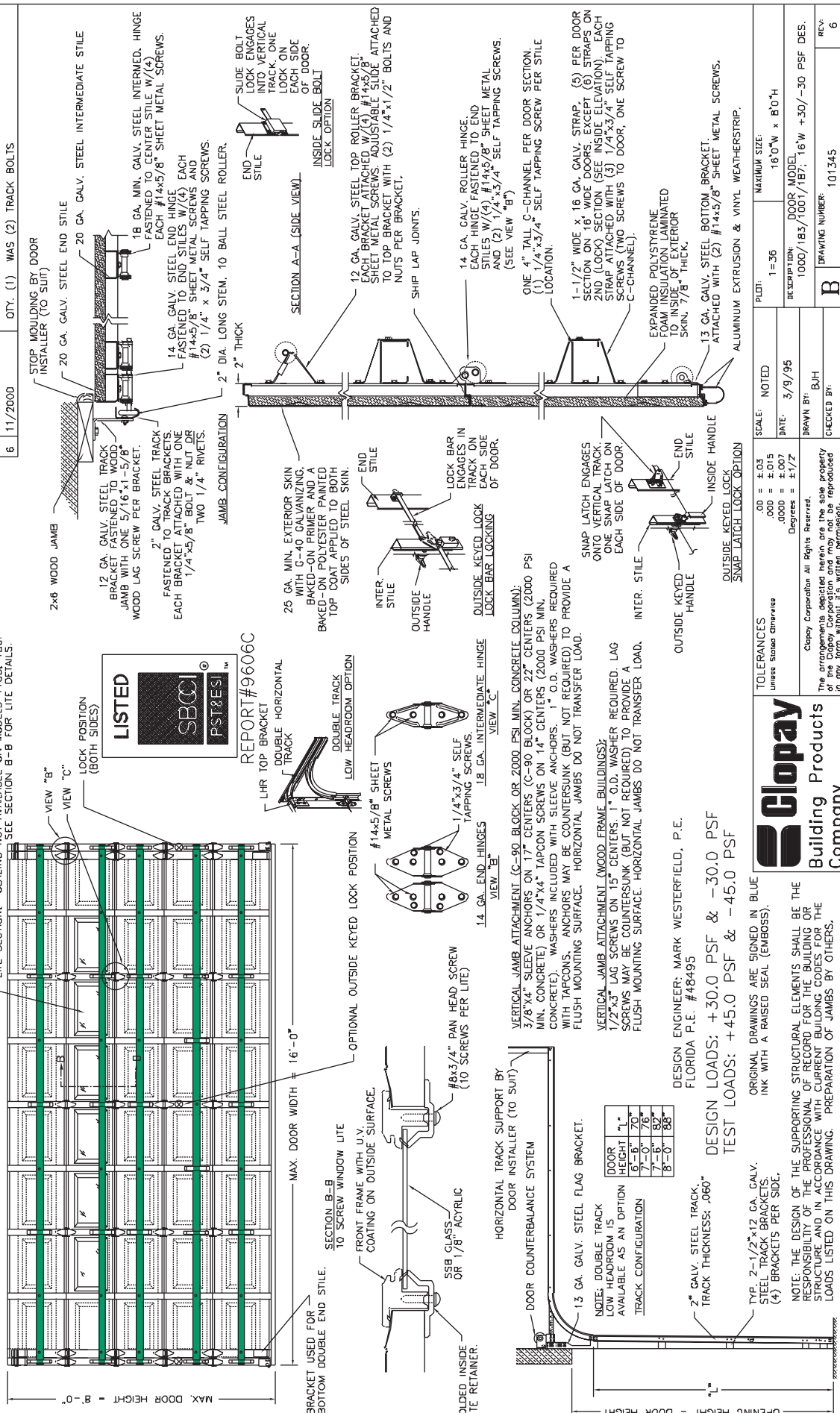




MODELS 1000, 183, 1001, 187

NOTE 1: DOORS UP TO 7'-0" HIGH CONSIST OF (4) SECTIONS (NOT SHOWN). DOORS OVER 7'-0" HIGH CONSIST OF (5) SECTIONS (SHOWN).

DOOR TESTED WITH OPTIONAL SSB OR 1/8" ACRYLIC WINDOW LITE SECTION. GLAZING NOT AVAILABLE ON MODELS 1000, 186. SEE SECTION B-B FOR LITE DETAILS.



VERTICAL JAMB ATTACHMENT (C-90 BLOCK OR 2000 PSI MIN. CONCRETE COLUMN): 3/8"x4" SLEEVE ANCHORS ON 17" CENTERS (C-90 BLOCK) OR 22" CENTERS (2000 PSI MIN. CONCRETE) OR 1/4"x4" TAPCON SCREWS ON 14" CENTERS (2000 PSI MIN. CONCRETE). WASHERS INCLUDED WITH SLEEVE ANCHORS. 1" O.D. WASHERS REQUIRED WITH TAPCONS. ANCHORS MAY BE COUNTERSUNK (BUT NOT REQUIRED) TO PROVIDE A FLUSH MOUNTING SURFACE. HORIZONTAL JAMBS DO NOT TRANSFER LOAD.

VERTICAL JAMB ATTACHMENT (WOOD FRAME BUILDINGS): 1/2"x3" LAG SCREWS ON 15" CENTERS. 1" O.D. WASHER REQUIRED. LAG SCREWS MAY BE COUNTERSUNK (BUT NOT REQUIRED) TO PROVIDE A FLUSH MOUNTING SURFACE. HORIZONTAL JAMBS DO NOT TRANSFER LOAD.

DESIGN ENGINEER: MARK WESTERFIELD, P.E. FLORIDA P.E. #48495

DESIGN LOADS: +30.0 PSF & -30.0 PSF  
TEST LOADS: +45.0 PSF & -45.0 PSF

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

NOTE: 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. PREPARATION OF JAMBS BY OTHERS.

| DOOR HEIGHT | 1" |
|-------------|----|
| 6'-0"       | 70 |
| 7'-0"       | 76 |
| 8'-0"       | 82 |



DESIGN ENGINEER: MARK WESTERFIELD, P.E. FLORIDA P.E. #48495

DESIGN LOADS: +30.0 PSF & -30.0 PSF  
TEST LOADS: +45.0 PSF & -45.0 PSF

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

NOTE: 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. PREPARATION OF JAMBS BY OTHERS.

| DOOR HEIGHT | 1" |
|-------------|----|
| 6'-0"       | 70 |
| 7'-0"       | 76 |
| 8'-0"       | 82 |

| REV | DATE     | DESCRIPTION                                  |
|-----|----------|--|
| 3   | 10/30/98 | MOVED C-CHANNEL TO BOTTOM OF WINDOW SECTION  |
| 4   | 03/21/00 | ADD LHR TRACK NOTE AND JAMB ATTACHMENT NOTES |
| 5   | 09/30/00 | ADDED MODEL 1001                             |
| 6   | 11/2000  | QTY. (1) WAS (2) TRACK BOLTS                 |

| SCALE | NOTED | MAXIMUM SIZE   |
|-------|-------|----------------|
| 1:36  |       | 16'0"W x 8'0"H |

| REVISION | DATE   | BY  | CHKD BY |
|----------|--------|-----|---------|
| 1        | 3/9/95 | BJH |         |

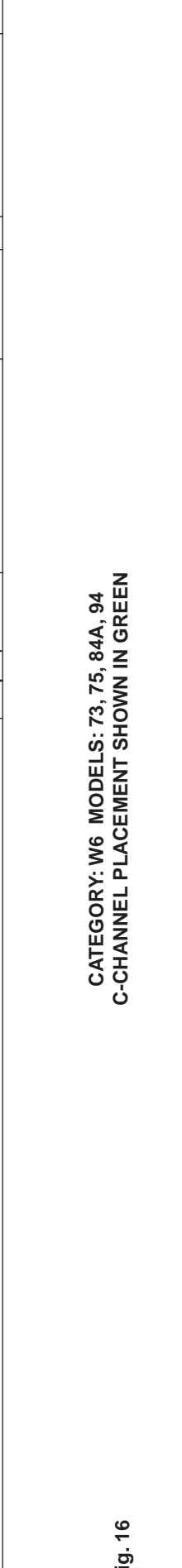
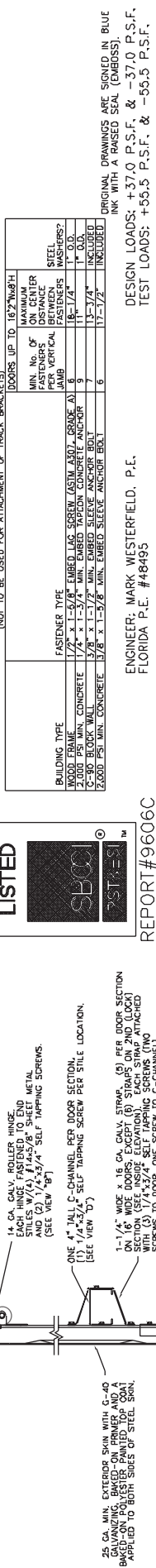
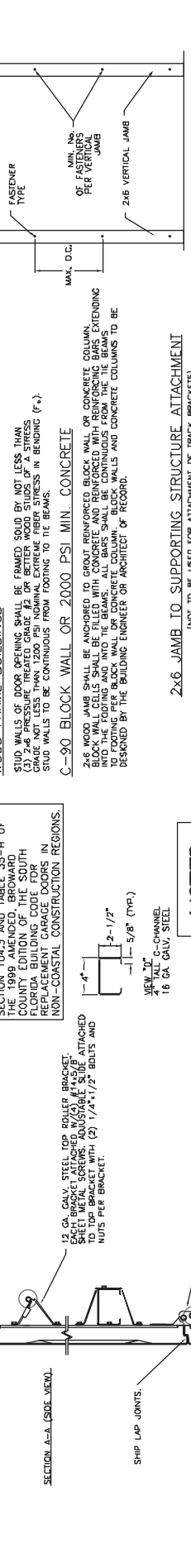
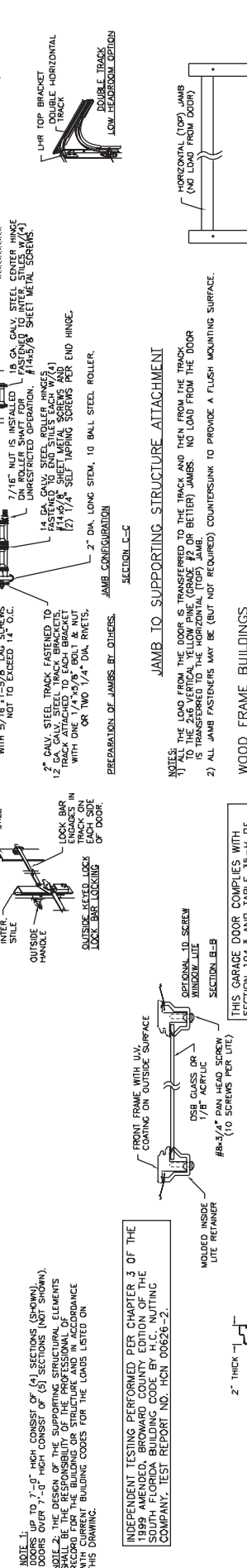
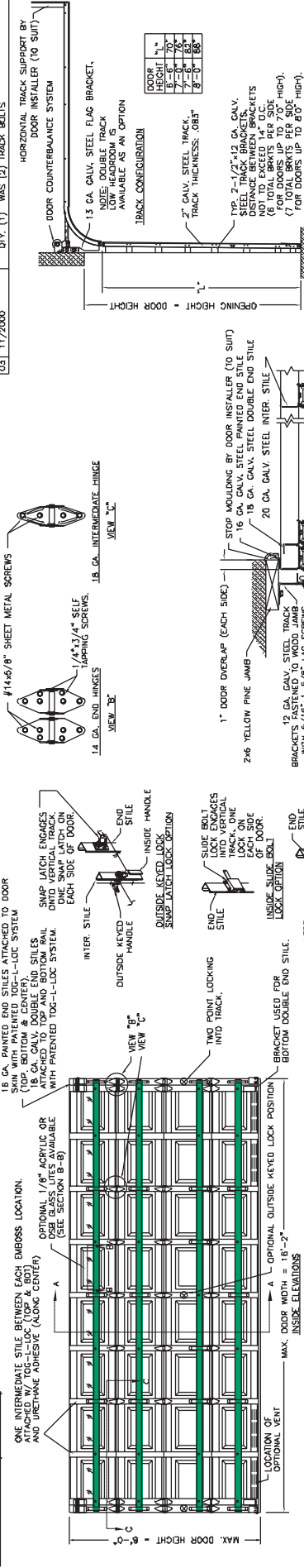
| REVISION | DATE   | BY  | CHKD BY |
|----------|--------|-----|---------|
| 1        | 3/9/95 | BJH |         |

| REVISION | DATE   | BY  | CHKD BY |
|----------|--------|-----|---------|
| 1        | 3/9/95 | BJH |         |

| REVISION | DATE   | BY  | CHKD BY |
|----------|--------|-----|---------|
| 1        | 3/9/95 | BJH |         |

CATEGORY: W5 MODELS: 1000, 183, 1001, 187  
C-CHANNEL PLACEMENT SHOWN IN GREEN

MODELS 84A, 94 (24 GAUGE)  
MODELS 73, 75 (25 GAUGE)



ORIGINAL DRAWINGS ARE SIGNED IN BLUE INK WITH A BASED SEAL (EMBOSSED).  
DESIGN LOADS: +37.0 P.S.F. & -37.0 P.S.F.  
TEST LOADS: +55.5 P.S.F. & -55.5 P.S.F.

ENGINEER: MARK WESTERFIELD, P.E.  
FLORIDA P.E. #48495

SCALE: NOTED  
DATE: 9/25/95  
DRAWN BY: MWW  
MODEL: 73/75/84A/94  
CHECKED BY: 101539  
REV: 03

16'2" W x 8'0" H

DESCRIPTION: CLOPAY BUILDING PRODUCTS COMPANY  
312 WALNUT STREET, SUITE 1600  
CINCINNATI, OHIO 45202  
DRAWN BY: MWW  
MODEL: 73/75/84A/94  
CHECKED BY: 101539

Company: Clopay Building Products Company  
Building Products Company

Checked By: Clopay Corporation at Region Warehouse

Fig. 16





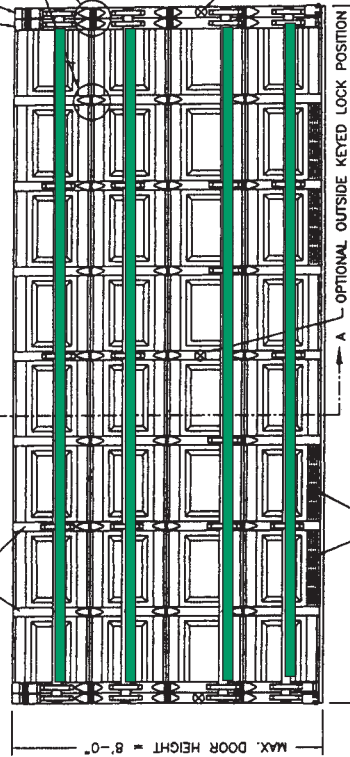




| REV | DATE      | DESCRIPTION                            |
|-----|-----------|--|
| 1   | 3/27/95   | ADDED JAMB DWG & CHART TO PAGE 4       |
| 2   | 11/3/97   | REFIT DWG TO 2 PAGES                   |
| 3   | 2/13/98   | DOSK; VENT AREA; TRACK NOTE TO PG. 1   |
| 4   | 12/6/2000 | DEL. M/N 87/97; DDS/G-40 WAS DOSK/G-60 |

18 GA. GALV. DOUBLE END STILES ATTACHED TO TOP AND BOTTOM RAIL WITH PATENTED TOG-L-LOC SYSTEM.

ONE INTERMEDIATE STILE BETWEEN EACH EMBOSS LOCATION. ATTACHED W/ PATENTED TOG-L-LOC SYSTEM (TOP & BOT) AND URETHANE ADHESIVE (ALONG CENTER)



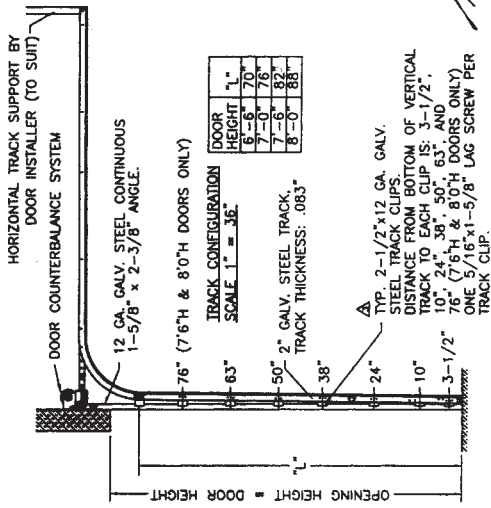
LOCK POSITION (BOTH SIDES)  
TWO POINT LOCKING  
UNIFORMS TO SPEC  
5/8" MIN. ENGAGEMENT  
DOOR TESTED FOR  
FORCED ENTRY WITH  
BOTH OUTSIDE KEYS  
LOCK AND INSIDE  
SLIDE BOLT LOCK  
OPTIONS (SEE  
LAYOUT OF EACH  
LOCK ON NEXT PAGE).

24 GA. DOS STEEL (MIN. YIELD STRENGTH: 38 KSI) EXTERIOR SKIN WITH G-40 MIN. GALVANIZING, BAKED-ON PRIMER AND A BAKED-ON POLYESTER PAINTED TOP COAT APPLIED TO BOTH SIDES OF STEEL SKIN. (ASTM No. A653-97).

SHIP LAP JOINTS.

| INSTALLER MODEL | DESCRIPTION  |
|-----------------|--|
| 83              | WOODGRAIN TEXTURE, RAISED PANEL, GALV. INTER. STILES |
| 84              | WOODGRAIN TEXTURE, RAISED PANEL, GALV. INTER. STILES |

NOTE:  
DOORS UP TO 7'-0" HIGH CONSIST OF (4) SECTIONS (SHOWN).  
DOORS OVER 7'-0" HIGH CONSIST OF (5) SECTIONS (NOT SHOWN).



| DOOR HEIGHT | L" |
|-------------|----|
| 6'-6"       | 70 |
| 7'-0"       | 76 |
| 7'-6"       | 82 |
| 8'-0"       | 88 |

TRACK CONFIGURATION  
SCALE 1" = 36"

12 GA. GALV. STEEL CONTINUOUS 1-5/8" x 2-3/8" ANGLE.

76" (7'6" & 8'0" DOORS ONLY)

63"

50" 2" GALV. STEEL TRACK, TRACK THICKNESS: .083"

38"

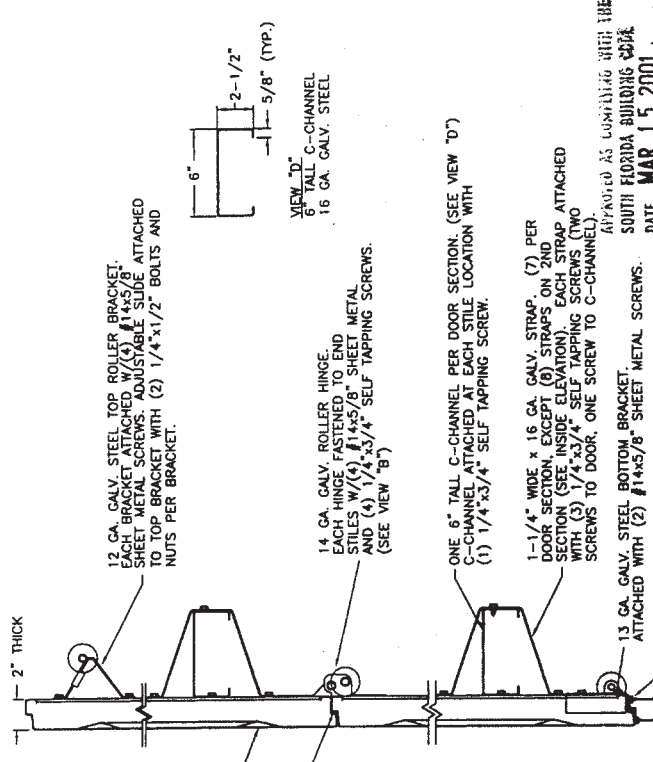
24"

10"

3-1/2"

OPENING HEIGHT = DOOR HEIGHT

DOOR TRACK CLIPS.  
DISTANCE FROM BOTTOM OF VERTICAL TRACK TO EACH CLIP IS: 3-1/2", 10", 24", 38", 50", 63", AND 76" (7'6" & 8'0" DOORS ONLY).  
ONE 5/16"x1-5/8" LAG SCREW PER TRACK CLIP.



12 GA. GALV. STEEL TOP ROLLER BRACKET. EACH BRACKET ATTACHED W/ (4) #14x5/8" SHEET METAL SCREWS. ADJUSTABLE SLIDE ATTACHED TO TOP BRACKET WITH (2) 1/4"x1/2" BOLTS AND NUTS PER BRACKET.

14 GA. GALV. ROLLER HINGE. EACH HINGE FASTENED TO END STILES W/ (4) #14x5/8" SHEET METAL AND (4) 1/4"x3/4" SELF TAPPING SCREWS. (SEE VIEW "B")

13 GA. GALV. STEEL BOTTOM BRACKET. ATTACHED WITH (2) #14x5/8" SHEET METAL SCREWS.

ONE 6" TALL C-CHANNEL PER DOOR SECTION. (SEE VIEW "D")  
(1) 1/4"x3/4" SELF TAPPING SCREW.

1-1/4" WIDE x 16 GA. GALV. STRAP. (7) PER DOOR SECTION. EXCEPT (6) STRAPS ON 2ND SECTION (SEE INSIDE ELEVATION). EACH STRAP ATTACHED WITH (3) 1/4"x3/4" SELF TAPPING SCREWS (TWO SCREWS TO DOOR, ONE SCREW TO C-CHANNEL).

APPROVED AS SHOWN WITH THE SOUTH FLORIDA BUILDING CODE  
DATE MAR 15 2001  
BY [Signature]  
PRODUCT CONTROL DEPARTMENT  
BUILDING CODE COMPLIANCE OFFICE  
ACCEPTANCE NO. 00-1212-02

ALUMINUM EXTRUSION & VINYL WEATHERSTRIP.  
SECTION A-A (SIDE VIEW)  
SCALE 1" = 9"

DESIGN ENGINEER  
MARK W. WESTERFELD, P.E.  
FLORIDA REGISTRATION No. 48495

DESIGN LOADS: +46.6 P.S.F. & -52.0 P.S.F.

TOLERANCES  
Unless Shown Otherwise  
±.00 ±.03  
±.000 ±.015  
±.000 ±.007  
Degrees ±1/2

CLOPAY BUILDING PRODUCTS  
312 WALCOTT STREET, SUITE 1600  
CINCINNATI, OHIO 45202

SCALE: NOTED  
DATE: 2/15/95  
DRAWN BY: MMW  
CHECKED BY:

PAGE: 1 OF 2  
MAX. SIZE: 16'2"W x 8'0"H  
DESCRIPTION: DOUBLE CAR HURRICANE PAN DOOR  
DRAWING NUMBER: B  
REV: 4

CATEGORY: W8 MODELS: 84A, 94  
C-CHANNEL PLACEMENT SHOWN IN GREEN

**2x6 JAMB TO SUPPORTING STRUCTURE ATTACHMENT**

- NOTES:
- 1) THE LOAD FROM THE DOOR IS TRANSFERRED TO THE TRACK AND THEN FROM THE TRACK TO THE WOOD JAMBS (GRADE 2 OR BETTER YELLOW PINE). NO LOAD FROM THE DOOR IS TRANSFERRED TO THE HORIZONTAL JAMB (TOP JAMB).
  - 2) EACH VERTICAL JAMB SEES A MAXIMUM DESIGN LOAD OF +2,982.4 LB & -3,328 LB.
  - 3) ALL JAMB FASTENERS MAY BE (BUT NOT REQUIRED) COUNTERSUNK TO PROVIDE A FLUSH MOUNTING SURFACE.

**WOOD FRAME BUILDINGS**

STUD WALLS OF DOOR OPENING SHALL BE FRAMED SOLID BY NOT LESS THAN (3) 2x6 PRESSURE TREATED GRADE #2 OR BETTER WOOD STUD OF A STRESS GRADE NOT LESS THAN 1200 PSI NOMINAL EXTREME FIBER STRESS IN BENDING ( $F_b$ ). STUD WALLS TO BE CONTINUOUS FROM FOOTING TO THE BEAMS AND IN ACCORDANCE WITH SFCB SECTION 2905.1.

**BLOCK WALL OR CONCRETE**

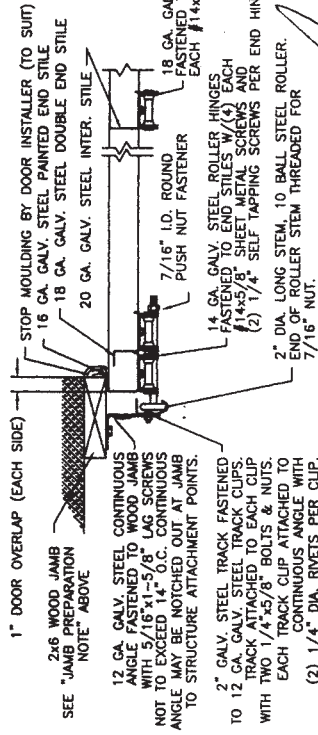
2x6 WOOD JAMB SHALL BE ANCHORED TO GROUT REINFORCED BLOCK WALL OR CONCRETE COLUMN. BLOCK WALL CELLS SHALL BE FILLED WITH CONCRETE AND REINFORCED WITH #5 BAR EXTENDING INTO THE FOOTING AND INTO THE BEAMS. ALL BARS SHALL BE CONTINUOUS FROM THE TIE BEAMS TO FOOTING PER BLOCK WALL OR CONCRETE COLUMN. BLOCK WALLS AND CONCRETE COLUMNS TO BE DESIGNED BY BUILDING PROFESSIONAL OF RECORD AND IN ACCORDANCE WITH SFCB SECTION 2704.2.

**2x6 JAMB TO SUPPORTING STRUCTURE ATTACHMENT**

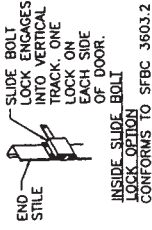
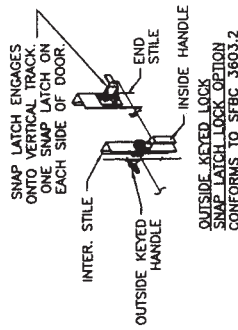
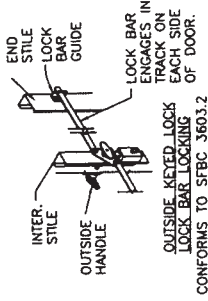
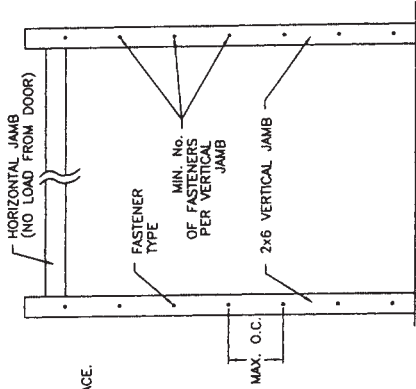
(NOT TO BE USED FOR ATTACHMENT OF TRACK ANGLE TO 2x6 VERTICAL JAMBS OR SUPPORTING STRUCTURE)

| BUILDING TYPE          | FASTENER TYPE   | MIN. No. OF FASTENERS PER VERTICAL JAMB | MAXIMUM ON CENTER DISTANCE BETWEEN FASTENERS | STEEL FASTENERS REQUIRED? |
|------------------------|---|---|--|---------------------------|
| WOOD FRAME             | 1/2" x 3" EMBED LAG SCREW (ASTM A307 GRADE A)                     | 6                                       | 16"  | YES                       |
| WOOD WALL OR CONCRETE  | 1/4" x 1-3/4" MIN. EMBED TAPCON CONCRETE ANCHOR                   | 5                                       | 16"  | YES                       |
| BLOCK WALL OR CONCRETE | 3/8" x 1-3/4" MIN. EMBED RAWL-STUD EXPANSION ANCHOR (7400 SERIES) | 5                                       | 19"  | NO                        |
| BLOCK WALL OR CONCRETE | 3/8" x 1-3/4" MIN. EMBED RAWL-LOCK/BOLT ANCHOR BOLT (5000 SERIES) | 6                                       | 16"  | NO                        |

MINIMUM DISTANCE BETWEEN CENTER OF ANCHOR AND EDGE OF CONCRETE BLOCK: 3". EXCLUDING STUCCO THICKNESS. CLOPAY DOES NOT SUPPLY JAMB ATTACHMENT FASTENERS.



JAMB CONFIGURATION



| REV | DATE    | DESCRIPTION                            |
|-----|---------|--|
| 1   | 3/27/95 | ADDED JAMB DWG & CHART TO PAGE 4       |
| 2   | 11/3/97 | REFIT DWG TO 2 PAGES                   |
| 3   | 2/13/98 | REV. JAMB ATTACH. FASTENERS ON PG. 2   |
| 4   | 12/7/00 | DEL. M/N B7/94; DDS/G-40 WAS DOKS/G-60 |

JAMB PREPARATION NOTE: TRACK SHALL BE FASTENED TO PRESSURE TREATED 2x6 YELLOW PINE CONTINUOUS ANGLE TRACK WITH 1/2" LAG SCREWS PER SIDE UP TO 7'0" HIGH AND (13) LAG SCREWS PER SIDE (UP TO 8'0" HIGH). THE METHOD OF ATTACHMENT TO THE SUPPORTING STRUCTURE OF THE PRESSURE TREATED 2x6 WOOD JAMBS SHALL BE APPROVED BY THE PROFESSIONAL OF RECORD FOR THE STRUCTURE AND IN ACCORDANCE WITH CURRENT BUILDING CODES FOR THE LOADS LISTED ON THIS DRAWING OR AS SHOWN ON PAGE 4 OF THIS DRAWING. PREPARATION OF JAMBS BY OTHERS.

ALL MOUNTING OF TRACK, ANGLES, HORIZONTAL TRACK SUPPORTS, AND ALL OTHER DOOR HARDWARE TO BE INSTALLED PER CLOPAY INSTALLATION INSTRUCTIONS SUPPLIED WITH DOOR SYSTEM UNLESS OTHERWISE NOTED.

DESIGN ENGINEER  
MARK W. WESTERFIELD, P.E.  
FLORIDA REGISTRATION No. 48495

DESIGN LOADS: +46.6 P.S.F. & -52.0 P.S.F.



TOLERANCES  
Unless Shaded Otherwise

.00 = ±.03  
.000 = ±.015  
Degrees = ±1/2

CLOPAY BUILDING PRODUCTS  
312 WILSON STREET, SUITE 1800  
CINCINNATI, OHIO 45202

| SCALE  | NOTED   | PAGE | MAX. SIZE        |
|--------|---------|------|------------------|
| 2 OF 2 | 2/15/95 | 2    | 16.2" W x 8.0" H |

| DESCRIPTION                   | REVISION |
|-------------------------------|----------|
| DOUBLE CAR HURRICANE PAN DOOR |          |
| B                             | 101.300  |
| BRAVING NUMBER:               | 4        |

APPROVED AS COMPLYING WITH THE  
SOUTH FLORIDA BUILDING CODE  
DATE **MAR 15 2001**  
BY   
PRODUCT CONTROL DIVISION  
BUILDING CODE COMPLIANCE OFFICE  
ACCEPTANCE NO. **00-121203**



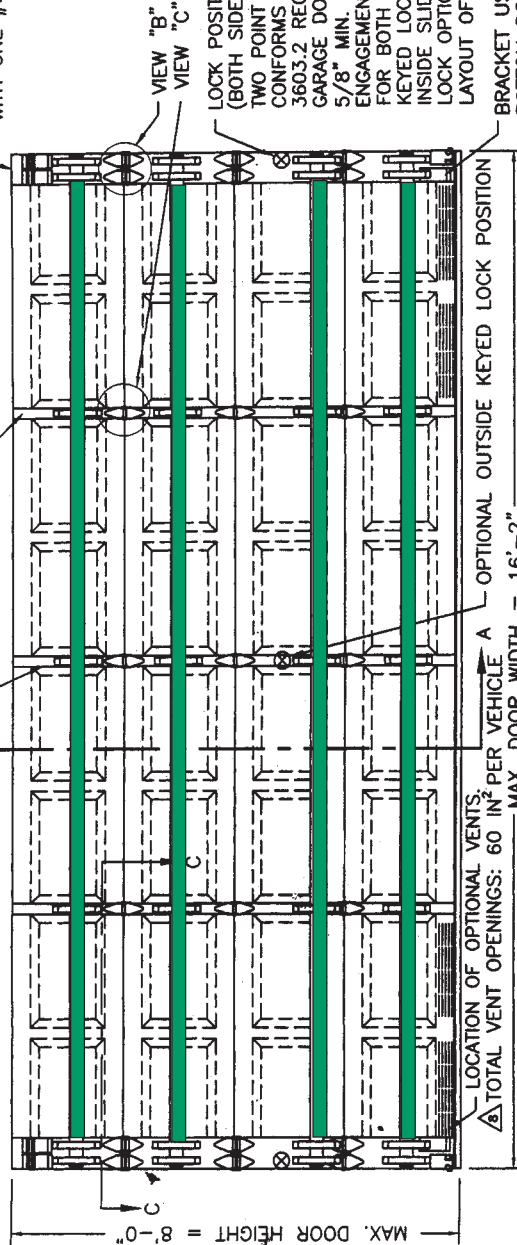
CLOPAY MODELS 2400, 2401, 4300, 4301, 4310, 4400, 4401, HDG, HDGL  
 HOLMES MODELS 66, 67, 68

| REV | DATE   | DESCRIPTION                               |
|-----|--------|---|
| 4   | 9/96   | ADD MODELS 2400 & 2401                    |
| 5   | 12/98  | DELETE M/N 2200, 2201, 4200; ADD M/N 2310 |
| 6   | 4/99   | SCREW NOTE REV. ON PAGE 1                 |
| 7   | 4/2001 | ADD HOLMES M/N & HDGL; DEL. 2300/01/10    |
| 8   | 6/2001 | CHANGE VENT NOTE                          |

(1) 20 GA. x 2" GALV. STEEL BACKER PLATE AT EACH INTERMEDIATE HINGE LOCATION. BACKER PLATE ATTACHED WITH DOUBLE SIDED ACRYLIC ADHESIVE TO BACK OF DOOR.

(2) 1/4" x 3/4" TEK SCREWS LOCATED AT 1-1/4" & 3-1/2" FROM BOTTOM AND TWO FROM TOP

16 GA. DOUBLE END STYLE EACH END STYLE MEASURES 5-3/4" x 2-1/8" x 3/8" ATTACHED WITH ONE #8x1/2" WAFER SCREW.



NOTE 1:  
 DOORS 6'6" 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 GARAGE DOORS WITH WIND LOADS SHOWN ON THIS DRAWING.

NOTE 3: LOCKING DEVICE TO CONFORM TO SOUTH FLORIDA BUILDING CODE (SEE INSIDE ELEVATION FOR POSITION ON DOOR.)

DESIGN LOADS: +46.6 P.S.F. & -52.0 P.S.F.

APPROVED AS COMPLYING WITH THE SOUTH FLORIDA BUILDING CODE  
 DATE **JUL 26 2001**  
 BY *[Signature]*  
 PRODUCT CONTROL DIVISION  
 BUILDING CODE COMPLIANCE OFFICE  
 ACCEPTANCE NO. **01-04 20-06**

*[Signature]*  
 6/16/2001

PAGE 1 OF 4

| SCALE        | NOTED                  | PLT#                                    | MAX DOOR SIZE              |
|--------------|------------------------|---|----------------------------|
| 6/7/95       | 1=24                   | 16'2"W x 8'0"H                          |                            |
| DESIGNER M/N | 2400, HDGL, 66, 67, 68 | DESCRIPTION                             | M/N 2400, HDGL, 66, 67, 68 |
| DRAWN BY     | KFH                    | 2401, 4300, 4301, 4310, 4400, 4401, HDG |                            |
| CHECKED BY   | B                      | DRAWING NUMBER                          | 101488                     |
|              |                        | REV                                     | 8                          |

CLOPAY BUILDING PRODUCTS COMPANY  
 312 WALNUT STREET, SUITE 1600  
 CINCINNATI, OHIO 45202  
 (513) 381-4800  
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**Clopay**  
 Building Products  
 Company

DESIGN ENGINEER  
 MARK W. WESTERFIELD, P.E.  
 MECHANICAL ENGINEERING  
 FLORIDA REGISTRATION No. 48495

CATEGORY: W8 MODELS: 2400, 2401, 4400, 4401, 4300, 4301, 4310, HDG, HDGL  
 C-CHANNEL PLACEMENT SHOWN IN GREEN

CLOPAY MODELS 2400, 2401, 4300, 4301, 4310, 4400, 4401, HDG, HDGL  
 HOLMES MODELS 66, 67, 68

2" THICK

SECTION A-A (SIDE VIEW)  
 SCALE 2" = 1'

TONGUE AND GROOVE JOINTS.

| INSTALLER MODEL | RETAIL MODEL  | DESCRIPTION                          |
|-----------------|---------------|--------------------------------------|
| 4300            | HDC, 66       | 27 GA. EXT. SKIN: SHORT RAISED PANEL |
| 4400            | 2400          | 24 GA. EXT. SKIN: SHORT RAISED PANEL |
| 4401            | 2401          | 24 GA. EXT. SKIN: FLUSH PANEL        |
| 4301            | 68            | 27 GA. EXT. SKIN: FLUSH PANEL        |
| 4310            | HDGL, 67, 125 | GA. EXT. SKIN: WIDE RAISED PANEL     |

27 GA. MIN. EXTERIOR STEEL SKIN  
 (MIN. YIELD STRENGTH: 27 KSI,  $\Delta$ )  
 DRAWING QUALITY) WITH G-40 MIN. GALV.,  
 BAKED-ON POLYESTER PAINTED TOP  
 COAT APPLIED TO BOTH SIDES  
 OF STEEL SKIN.

*Mark West*  
 6/18/2001

DESIGN LOADS: +46.6 P.S.F. & -52.0 P.S.F.

SILICONE FILLED CHANNEL SEPARATES  
 FRONT AND BACK SKIN OF DDOR

1.95" THICK, 1# DENSITY-EXPANDED  
 POLYSTYRENE FOAM INSULATION  
 (SUPPLIED BY FALCON MANUFACTURING)  
 LAMINATED TO BOTH EXTERIOR  
 AND INTERIOR SKINS.

12 GA. GALV. STEEL TOP ROLLER BRACKET.  
 EACH BRACKET ATTACHED W/ (6) #14x5/8"  $\Delta$   
 SHEET METAL SCREWS. ADJUSTABLE SLIDE ATTACHED  
 TO TOP BRACKET WITH (2) 1/4"x1/2" BOLTS AND  
 NUTS PER BRACKET.

1-1/4" WIDE x 16 GA. GALV. STRAP.  
 (7) PER DOOR SECTION ON 16" WIDE DOORS.  
 (SEE INSIDE ELEVATION). EACH STRAP ATTACHED  
 WITH (3) 1/4"x3/4" SELF TAPPING SCREWS (TWO  
 SCREWS TO DOOR, ONE SCREW TO C-CHANNEL).

14 GA. GALV. ROLLER HINGE.  
 EACH HINGE FASTENED TO END  
 STILES W/ (4) #14x5/8" SHEET METAL  
 AND (2) 1/4"x3/4" SELF TAPPING SCREWS.  
 (SEE VIEW "B")

ONE 6" TALL, 16 GA. C-CHANNEL PER DOOR SECTION.  
 (2) 1/4"x3/4" SELF TAPPING SCREWS PER END STILE AND  
 ONE 1/4"x3/4" SELF TAPPING SCREW PER BACKER PLATE  
 LOCATION. (SEE VIEW "D")  $\Delta$

27 GA. INTERIOR STEEL SKIN (DRAWING QUALITY)  
 WITH G-40 MIN. GALV., BAKED-ON PRIMER AND  
 A BAKED-ON POLYESTER PAINTED TOP  
 COAT APPLIED TO BOTH SIDES OF STEEL SKIN.

13 GA. GALV. STEEL BOTTOM BRACKET.  
 ATTACHED WITH (4) #14x5/8" SHEET METAL SCREWS.  
 ALUMINUM EXTRUSION & VINYL WEATHERSTRIP.

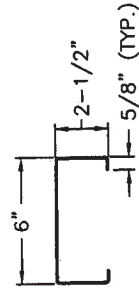
SCALE NOTED  
 DATE 7/6/95  
 DRAWN BY: KFH  
 CHECKED BY:



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

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| REV | DATE   | DESCRIPTION  |
|-----|--------|--|
| 2   | 7/96   | GENERAL REVISIONS  |
| 3   | 8/96   | CLARIFY MODEL NUMBERS  |
| 4   | 9/96   | ADD MODELS 2400 & 2401   |
| 5   | 12/98  | YIELD WAS 33 KSI; ADD 2310 DEL. 2200/01, 4200                                |
| 6   | 4/99   | SCREW QTY. CHANGE ON PAGE 2  |
| 7   | 4/2001 | ADD HOLMES M/N & HDGL; DEL. 2300/01/10;<br>G-40 MIN. WAS G-60; NEW M/N CHART |
| 8   | 6/2001 | CHANGES TO PAGES 1 & 4   |



VIEW "D"  
 6" TALL C-CHANNEL  
 16 GA. GALV. STEEL

DESIGN ENGINEER  
 MARK W. WESTERFIELD, P.E.  
 MECHANICAL ENGINEERING  
 FLORIDA REGISTRATION NO. 48495

APPROVED AS COMPLYING WITH THE  
 SOUTH FLORIDA BUILDING CODE  
 DATE JUL 26 2001

BY: *[Signature]*  
 PROJECT CONTROL DESIGNER  
 BUILDING CODE COMPLIANCE OFFICE  
 APPROVAL NO. 01-0430.06

|             |  |                 |                |
|-------------|--|-----------------|----------------|
| PLUT        | 1=24   | MAX DOOR SIZE   | 16'2"W x 8'0"H |
| DESCRIPTION | M/N 2400, HDGL 66, 67, 68, 2401, 4300, 4301, 4310, 4400, 4401, HDG | REVISION NUMBER | 101488         |
| REV         | 8  |                 |                |

PAGE 2 OF 4

CATEGORY: W8 MODELS: 2400, 2401, 4400, 4401, 4300, 4301, 4310, HDG, HDGL

Fig. 22B

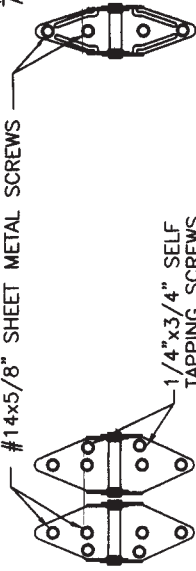
CLOPAY MODELS 2400, 2401, 4300, 4301, 4310, 4400, 4401, HDG, HDGL  
 HOLMES MODELS 66, 67, 68

| REV | DATE   | DESCRIPTION                            |
|-----|--------|--|
| 7   | 4/2001 | ADD HOLMES M/N & HDGL; DEL. 2300/01/10 |
| 8   | 6/2001 | CHANGES TO PAGES 1 & 4                 |

NOTE: EITHER BRACKET MOUNT OR CONTINUOUS ANGLE TRACK MAY BE INSTALLED (AS SHOWN).



\* - 14 GA. INTER. HINGES USED ON 24 GA. EXTERIOR SKIN DOOR MODELS.



14 GA. END HINGES  
 SCALE 2" = 1"  
 VIEW "B"

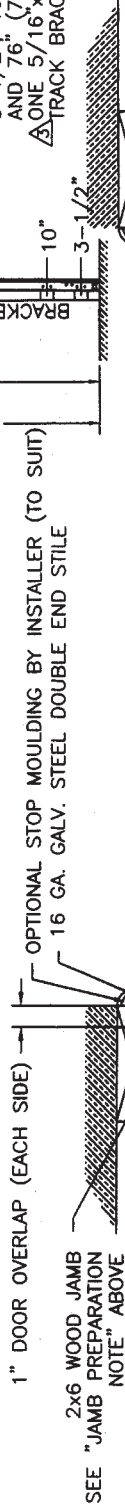
18 GA. INTERMEDIATE HINGE  
 SCALE 2" = 1"  
 VIEW "C"

JAMB PREPARATION NOTE  
 TRACK SHALL BE FASTENED TO 2x6 YELLOW PINE WOOD JAMBS WITH 5/16"x1-5/8" LAG SCREWS (9 LAG SCREWS PER SIDE UP TO 7'0" HIGH AND 10 LAG SCREWS PER SIDE UP TO 8'0" HIGH). PREPARATION OF JAMBS BY OTHERS. TRACK BRACKETS OR ANGLES MAY BE MOUNTED DIRECTLY TO CONCRETE USING APPROVED MASONRY FASTENERS.  $\Delta$

| DOOR HEIGHT | "L" |
|-------------|-----|
| 6'-6"       | 70" |
| 7'-0"       | 76" |
| 7'-6"       | 82" |
| 8'-0"       | 88" |

2" GALV. STEEL TRACK,  
 TRACK THICKNESS: .083"  
 TRACK CONFIGURATION  
 SCALE 1/2" = 1"

TYP. 2-1/2"x12 GA. GALV. STEEL TRACK BRACKETS OR CLIPS. DISTANCE FROM BOTTOM OF VERTICAL TRACK TO EACH BRACKET/CLIP IS:  
 3-1/2", 10", 24", 38", 50", 63", AND 76" (7'6" & 8'0" H DOORS ONLY).  
 $\Delta$  ONE 5/16"x1-5/8" LAG SCREW PER TRACK BRACKET.



1" DOOR OVERLAP (EACH SIDE)  
 2x6 WOOD JAMB  
 NOTE: "JAMB PREPARATION" ABOVE

12 GA. GALV. STEEL CONTINUOUS ANGLE FASTENED TO WOOD JAMB WITH 5/16"x1-5/8" LAG SCREWS NOT TO EXCEED 14" O.C. CONTINUOUS ANGLE MAY BE NOTCHED OUT FOR JAMB TO STRUCTURE ATTACHMENT POINTS. MIN. OF (1) LAG SCREWS ARE REQUIRED.

2" GALV. STEEL TRACK FASTENED TO 12 GA. GALV. STEEL TRACK CLIPS. TRACK ATTACHED TO EACH CLIP WITH ONE 1/4"x5/8" BOLT & NUT. EACH TRACK CLIP ATTACHED TO CONTINUOUS ANGLE WITH (2) 1/4" DIA. RIVETS PER CLIP.

18 GA. GALV. STEEL INTER. HINGE FASTENED W/(4) #14x5/8" SHEET METAL SCREWS.

DESIGN ENGINEER  
 MARK W. WESTERFIELD, P.E.  
 MECHANICAL ENGINEERING  
 FLORIDA REGISTRATION No. 48495

DATE JUL 26 2001  
 SOUTH FLORIDA BUILDING CODE  
 APPROVED AS COMPLYING WITH THE  
 1/4" DIA. RIVETS. ATTACHED TO EACH BRACKET WITH TWO  
 GA. GALV. STEEL TRACK BRACKETS. TRACK  
 2" GALV. STEEL TRACK FASTENED TO 12  
 OF (9) LAG SCREWS REQUIRED.  
 NOT TO EXCEED 14" O.C. MIN.  
 WITH 5/16"x1-5/8" LAG SCREWS  
 BRACKETS FASTENED TO WOOD JAMB  
 2-1/2"x12 GA. GALV. STEEL TRACK

JAMB CONFIGURATION  
 SCALE 2" = 1"  
 PAGE 3 OF 4

DESIGNED BY: MWW  
 CHECKED BY: MWW  
 DATE: 6/7/95  
 SCALE: NOTED  
 NOTED: 6/7/95  
 DRAWN BY: MWW

| FLUT            | 1-24  | MAX DOOR SIZE   | 16'2" W x 8'0" H |
|-----------------|---|-----------------|------------------|
| DESCRIPTION M/N | 2400, HDGL, 66, 67, 68, 2401, 4300, 4301, 4310, 4400, 4401, HDG | REVISION NUMBER | 101488           |
| REVISION NUMBER | B   | ACCEPTANCE NO.  | 01-0430.CC       |

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 312 WALNUT STREET, SUITE 1600  
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 (513) 381-4800  
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CLOPAY MODELS 2400, 2401, 4300, 4301, 4400, 4401, 4400, 4401, HDG, HDGL  
 HOLMES MODELS 66, 67, 68

2x6 JAMB TO SUPPORTING STRUCTURE ATTACHMENT

NOTES:

1) ALL THE LOAD FROM THE DOOR IS TRANSFERRED TO THE TRACK AND THEN FROM THE TRACK TO THE 2x6 VERTICAL JAMBS (GRADE 2 OR BETTER YELLOW PINE). NO LOAD FROM THE DOOR IS TRANSFERRED TO THE HORIZONTAL (TOP) JAMB.

2) EACH VERTICAL JAMB SEES A MAXIMUM DESIGN LOAD OF +2,982.4 LB & -3,328 LB.  $\Delta$

3) ALL JAMB FASTENERS MAY BE (BUT NOT REQUIRED) COUNTERSUNK TO PROVIDE A FLUSH MOUNTING SURFACE.

WOOD FRAME BUILDINGS

STUD WALLS OF DOOR OPENING SHALL BE FRAMED SOLID BY NOT LESS THAN (3) 2x6 PRESSURE TREATED GRADE #2 OR BETTER WOOD STUD OF A STRESS GRADE NOT LESS THAN 1200 PSI NOMINAL EXTREME FIBER STRESS IN BENDING ( $F_b$ ). STUD WALLS TO BE CONTINUOUS FROM FOOTING TO TIE BEAMS AND IN ACCORDANCE WITH SFBC SECTION 2905.1.

BLOCK WALL OR CONCRETE

2x6 WOOD JAMB SHALL BE ANCHORED TO GROUT REINFORCED BLOCK WALL OR CONCRETE COLUMN. BLOCK WALL CELLS SHALL BE FILLED WITH CONCRETE AND REINFORCED WITH #5 BAR EXTENDING INTO THE FOOTING AND INTO TIE BEAMS. ALL BARS SHALL BE CONTINUOUS FROM THE TIE BEAMS TO FOOTING PER BLOCK WALL OR CONCRETE COLUMN. BLOCK WALLS AND CONCRETE COLUMNS TO BE DESIGNED BY BUILDING PROFESSIONAL OF RECORD AND IN ACCORDANCE WITH SFBC SECTION 2704.2.

2x6 JAMB TO SUPPORTING STRUCTURE ATTACHMENT

(NOT TO BE USED FOR ATTACHMENT OF TRACK BRACKETS TO 2x6 VERTICAL JAMBS OR SUPPORTING STRUCTURE)

| BUILDING TYPE                | FASTENER TYPE   | MIN. No. OF FASTENERS PER VERTICAL JAMB |     | MAXIMUM ON CENTER DISTANCE BETWEEN FASTENERS | STEEL WASHERS REQUIRED? |
|------------------------------|---|---|-----|--|-------------------------|
|                              |   | 7'H                                     | 8'H |  |                         |
| WOOD FRAME (SOUTHERN PINE)   | 5/16" x 3" LAG SCREW (ASTM A307, GRADE A), 1-5/8" MIN. EMBED      | 10                                      | 11  | 10"  | YES                     |
| C-90 BLOCK (2,000 PSI GROUT) | 1/4" x 4" ITW TAPCON CONCRETE ANCHOR, MIN. 1-3/4" EMBED #         | 10                                      | 11  | 10"  | YES                     |
| C-90 BLOCK (2,000 PSI GROUT) | 3/8" x 4" RAWL LOK/BOLT ANCHOR BOLT (5000 SERIES), 1-5/8" EMBED # | 9                                       | 10  | 11"  | NO                      |
| CONCRETE COLUMN (2,000 PSI)  | 3/8" x 4" RAWL LOK/BOLT ANCHOR BOLT (5000 SERIES), 1-5/8" EMBED # | 9                                       | 10  | 11"  | NO                      |

# - TAPCONS/ANCHOR BOLTS CAN BE INSTALLED DIRECTLY THROUGH TRACK BRACKETS/ANGLE IN LIEU OF 5/16"x1-5/8" LAG SCREWS (SEE PAGE 3).

RAWL LOK/BOLT SHALL BE TORQUED AS SPECIFIED BY THE RAWL PLUG COMPANY.

DESIGN ENGINEER

MARK W. WESTERFIELD, P.E.

MECHANICAL ENGINEERING

FLORIDA REGISTRATION NO. 48495

PAGE 4 OF 4



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

SCALE: NOTED  
 DATE: 7/6/95  
 DRAWN BY: MWW  
 CHECKED BY:

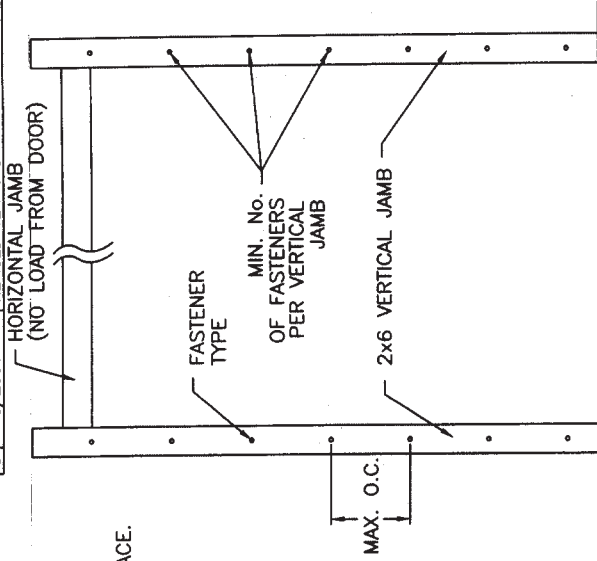
|              |   |                 |                  |
|--------------|---|-----------------|------------------|
| PLU#:        | 1-24  | MAX. JAMB SIZE: | 16'2" W x 8'0" H |
| DESCRIPTION: | M/N 2400, HDGL, 66, 67, 68, 2401, 4300, 4301, 4310, 4400, 4401, HDG | DRAWING NUMBER: | 101488           |
| REV:         | 8   |                 |                  |

DESIGN LOADS: +46.6 P.S.F. & -52.0 P.S.F.

Fig. 22D

CATEGORY: W8 MODELS: 2400, 2401, 4400, 4401, 4300, 4301, 4310, HDG, HDGL

| REV | DATE   | DESCRIPTION                               |
|-----|--------|---|
| 4   | 9/96   | ADD MODELS 2400 & 2401                    |
| 5   | 12/98  | ADD M/N 2310; DELETE M/N 2200, 2201, 4200 |
| 6   | 4/99   | NO CHANGES ON PAGE 4                      |
| 7   | 4/2001 | ADD HOLMES M/N & HDGL; DEL. 2300/01/10    |
| 8   | 6/2001 | REVISED VERTICAL JAMB DESIGN LOAD NOTE 2. |



APPROVED AS COMPLYING WITH THE SOUTH FLORIDA BUILDING CODE  
 DATE: JUL 26 2001

BY: [Signature]  
 PRODUCT CONTROL DIVISION  
 BUILDING CODE COMPLIANCE OFFICE  
 ACCEPTANCE NO. 02-04200-00