Cavco HOMES®

INSTALLATION MANUAL ADDENDUM

This Addendum Supersedes Instructions Given In The Cavco Manufactured Home Installation Manual

A Copy of this Manual Must Remain with the home for reference by occupant

CAVCO INDUSTRIES INC.

Addendum to the Cavco Manufactured Home Installation Manual

APPROVED BY
NTA INC.
Jun 04,2010
FEDERAL MANUFACTURED HOME
CONSTRUCTION AND SAFETY STANDARDS

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APPROVED BY
NTA INC. REVISED 1/15/2019
FEDERAL MANUFACTURED HOME CONSTRUCTION AND SAFETY STANDARDS

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1 How to use this Addendum

This addendum addresses areas that are not covered in the main manual, including specific designs and special materials.

The main installation manual covers most of the common requirements you will encounter when installing a Cavco home. However, there are times when additional information is required when specific designs and special materials are used. This manual is designed to meet these requirements. Whenever a discrepancy exists between this addendum and the main manual, the information in this manual takes precedence.

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2 Exteriors

Factory Installed Stucco Exterior

Units that have stucco applied at the plant should be closed off with a 1x wood member that has stucco applied over it. As an alternate, the stucco can be left off of the end of the unit or the mating line and the approved manufacturer's installation manual shall be sent to provide the proper installation requirements.

Factory Installed Vinyl Siding

Please follow the vinyl siding manufacturer's installation manual for proper close up of units that have factory installed vinyl siding.

Factory Installed Log & Cedar Siding

Please follow the log siding or cedar siding manufacturer's installation manual for proper close up of units that have factory installed log or cedar siding.

Note: After the set is complete, the set up crew shall check that all centerline close offs have been effectively sealed against air infiltration and possible leaks.

On-Site Completion of Fire Resistive Construction System

All Cavco homes to be installed in an area designated as a California Fire Hazard Severity Zone have been built with an exterior fire resistant construction system per Chapter 7A of the California Building Code (CBC) as adopted by CCR Title 25, Chapter 3, Subchapter 2.

Any maintenance, repair or alteration must be in accordance with Title 25, §4216 of the California CCR's, this includes gutters, porches, dormers, decks, stairs, etc.

ROOF
The roof must be completed with the materials provided by Cavco.

EXTERIOR SHEATHING
All of the exterior sheathing/siding for close-up must be completed using the material provided by Cavco. On-site stucco finish shall be applied per the requirements of the Cavco AC letter and Chapter 7A.

WINDOWS / SLIDING GLASS DOORS / DOORS
All windows, sliding glass doors, solid exterior doors and doors with windows installed on the home comply with Chapter 7A of the CBC.

SKIRTING
All underfloor areas, including porches, must be completely enclosed from exterior walls to grade with approved non-combustible or ignition resistant material, i.e. CMU perimeter wall. (not provided by Cavco)

It is acceptable to leave the porch skirting 4" above grade to allow for drainage of the porch area if the 4" gap is covered with non-combustible ¼" wire mesh or equivalent method to prevent the intrusion of blowing embers into the underfloor area. It is the customer's responsibility to provide adequate drainage for the area under the porch.

The porch area does not have to be enclosed if the porch joists are made of heavy timbers (4x6 or greater), non-combustible materials or exterior fire retardant treated wood.

NOTE: All of the materials provided for close-up by Cavco Industries comply with Chapter 7A of the CBC; any unauthorized substitution of materials may place the home out of compliance with Chapter 7A of the CBC and void the warranty.

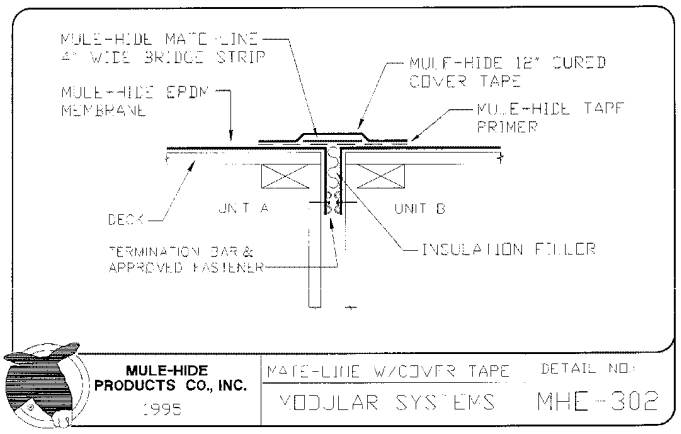
Mule-Hide EPDM Roofing

By Kingstree Building Products

On-Site installation instructions for completing the mate line of homes with Mule-Hide EPDM roofing membrane installed at the factory.

Joining of multiple modular units using laminated cover tape.

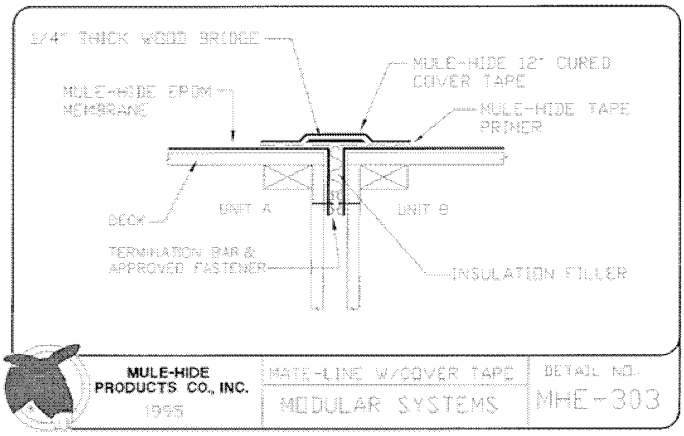
Mule-Hide EPDM Cured Laminated Cover Tape "Mate Line" is manufactured with cured EPDM membrane. Cured EPDM Cover Tape may be used to flash seams, gravel stops, vents, and to repair sheet membrane.



1. Install backer rod or insulation between the units.

2. Clean the "Mate Line" roof area with EPDM cleaner and a Scotch-Brite® scrub pad followed by a clean terry cloth rag saturated with cleaner. Once solvent has evaporated, use Scotch-Brite® pad and apply Mule-Hide tape primer. ***White unleaded gas is not an acceptable cleaning agent.***

3. Install Mule-Hide continuous 4" wide Mate-Line bridging material or similar style product.



4. Using a pen or marker, mark an alignment line for the Laminated Cover Tape. This alignment should center the tape over the mate line area. One needs to only apply this line 5 to 10 feet from the edge of the structure. The complexity of the roll and a good eye will keep it centered as needed.

5. Starting at the building edge, roll out approximately 5 feet of Cured Cover Tape. Align the 5 foot section with the edge of the structure and along the alignment line. Lifting the 5 foot section, peel back the release tape. Set the Cured Cover Tape back in place along the alignment line. Roll the 5 foot section with a 2" steel or nylon roller. Roll the large roll back onto the 5 foot section. Bring the release paper over the top of the roll and extending over the 5 foot section. Insert a 3" X 24" piece of plastic pipe through the cardboard core of the roll. With your weight on the release paper, start rolling (with a steady flow) the Cured Cover Tape along the alignment line, centering the Cured

Cover Tape over the Mate-Line. The release paper should come free as the Cured Cover Tape is rolled down the Mate-Line. If the release paper becomes too long to manage, simply cut it off.

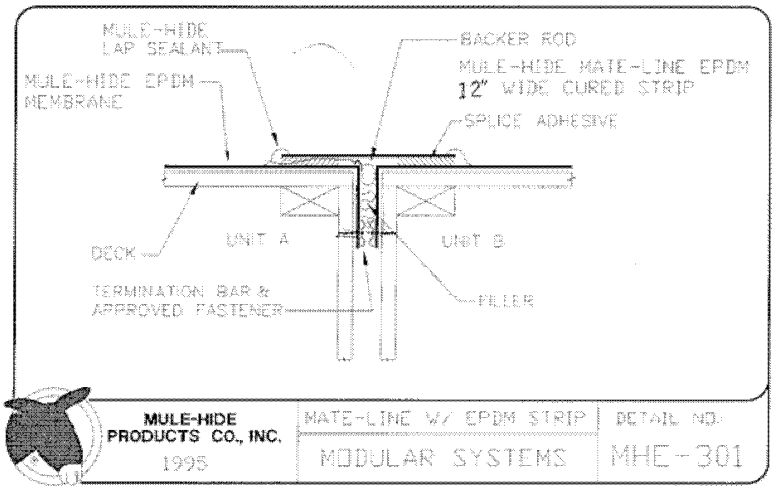
6. Using a 2" wide steel roller, pressure roll the cover tape across the width and then roll it again the second time in a lengthwise direction.

7. Use Mule-Hide Lap Sealant (caulk) at the end laps and t-laps. Do not trowel Mule-Hide caulk.

Joining of Modular Units Using Cured EPDM Membrane Strips.

1. Install backer rod or insulation between units.

2. To bridge the Mate-Line gap, install Mule-Hide continuous 4" wide Mate-Line bridging material, or, install wood or particle board bridging material. ***Bridging material should not hamper the flow of water or allow pooling.***



3. Clean the roof area to be covered with cured EPDM strip and the bottom side of the cured strip using approved cleaners. Roof area and bottom side of the cured EPDM strip can be cleaned with Tape Primer and a Scotch-Brite® pad.

4. Wait until cleaner or primer has flashed off and is dry, then center the cured EPDM strip, aligning the membrane equally on both modular units. Mark the location with a pen or marker. Fold back the membrane.

5. Apply the splice adhesive to the cleaned surfaces of both the cured EPDM strip and the surface to be covered. Mule-Hide recommends the use of a solvent resistant, 3" to 4" wide, short bristle paint brush or a 3" wide ½" medium nap paint roller.

6. Apply the adhesive in a uniformly thick, even coat. When using a paint brush, do not use a circular motion. Use long, straight strokes applying sufficient adhesive that will achieve a smooth surface without leaving brush marks. When using a roller, do not over roll the adhesive as this will cause an uneven application.

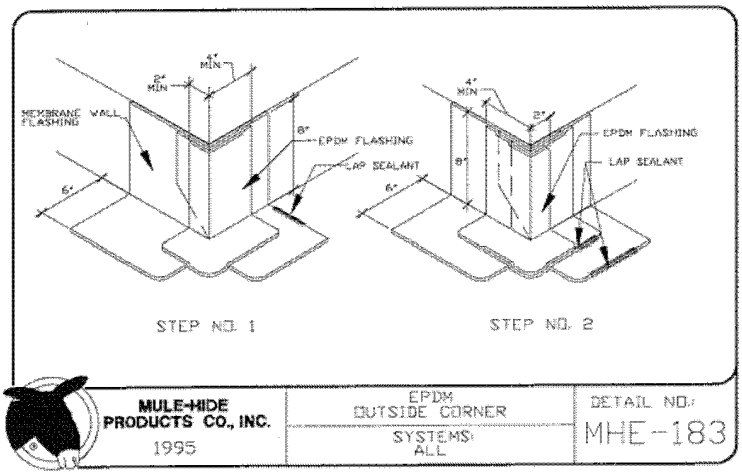
7. Do not allow adhesive to puddle, as these areas will not dry properly and may cause excessive swelling of the membrane which will result in fish mouths in the finished seam.

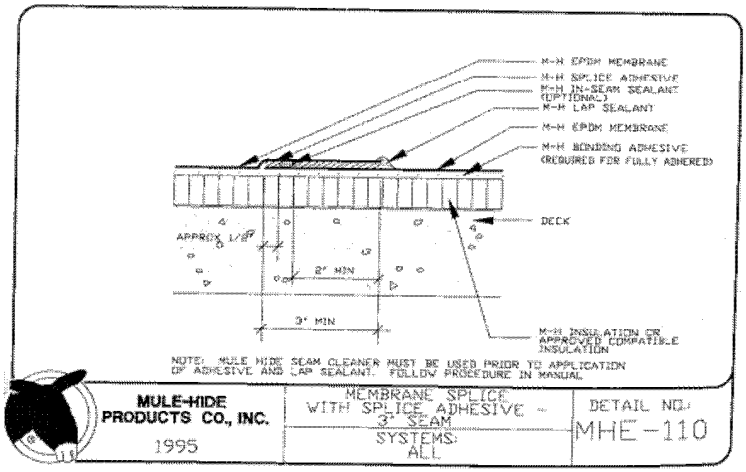
8. Adhesive must be applied to both surfaces of the seam at the same time to allow for uniform drying of the adhesive. The adhesive must fully cover the surface of the splice areas. The seam splice on each side of the Mate-Line shall be a minimum of 3" wide.

9. Allow the adhesive to dry tacky to the touch of a dry finger without stringing or sticking to the finger and does not move when pushed forward or the finger is twisted. ***Drying time (also referred to as Flash Off time) will vary from day to day depending on the ambient weather conditions. In colder weather, condensation may form on the surface which is caused by the solvent flashing off. If this occurs, the application of the Splice Adhesive should be discontinued. The surface must be allowed to dry and a thin coat of adhesive must be applied over existing adhesive.***

10. Carefully align the sheet to the mark or pen line.

11. Using a 2" wide steel or nylon roller, apply positive pressure by rolling the roller (with overlapping strokes) perpendicular to the length of the cured EPDM strip. After the entire seam has been rolled,





roll each edge of the EPDM strip running the roller parallel with the strip.

12. All "T-joint" laps in the field membrane shall be reinforced with a 6" piece of uncured EPDM membrane (uncured flashing tape may also be used) centered over the intersection of the edges of the seams. All "T-joint" patches shall be caulked with Lap Sealant.

13. ***The cured EPDM stripping should be allowed to set for several hours prior to the application of Lap Sealant. At the latest, Lap Sealant should be applied to all seam edges at the end of the work day and before any moisture has a chance to form on the membrane. Lap Sealant should be applied at a maximum rate of 20 linear feet per tube. Do not trowel Lap Sealant.***

APPROVED BY
NTA INC.
Revised
Dec 03,2010
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Firestone Rubber Guard Roofing

On-Site installation instructions for completing the mate line of homes with Firestone Rubber Guard Roofing System with an EPDM membrane installed at the factory. Field Tie-ins of modular units.

A. *Transportation*

Prior to shipment of each modular unit to the job site, the EPDM must be securely attached with a furring strip or other such mechanical attachments which in the opinion of the modular manufacturer will prevent air infiltration under the fully adhered assembly.

B. *Job Site preparation*

Modular unit shall be properly secured into their permanent positions before the roof work begins. The temporary securements of EPDM on the edges to be mated shall be removed before the modular units are attached to each other.

C. *Install a Wood Bridge Over All Field Joints*

1. Install a 45 degree tapered 1" X 4" (minimum) wood bridge over all field joints and fasten 12" O. C. to each unit with Firestone fasteners.

2. Install Firestone's 15" MRS Cover Strip over each wood nailer, ***or,***

3. Fold the loose edges of the EPDM over each other and secure using Firestone's Quickseam.

D. *Cautions*

1. Refer to details for splicing procedures.

2. Cover strips must lap over a minimum of 6" at the ends.

3. If the Flap method is used, remove edge of EPDM with securement holes from the previous termination.

4. End laps and 4-way intersections must be stripped in with at least 6" FormFlash a minimum of 3" onto the roof membrane.

E. *Drainage*

1. When the unit must drain across the wood bridge nailer, install details in the appropriate areas. Cut an opening approximately 18" wide in the wood bridge and bevel the ends. Install at 6" wide 26ga galvanized sheet metal over the exposed Mate Line, remove all sharp edges and round all corners before attaching the rust resistant nails approximately 4" O. C. Stop the 15" Cover Strip or Flap detail before the bevel and flash area including the sheet metal with at least 12" Un-cured FormFlash. Be sure that the FormFlash laps over the EPDM by at least 3" at the seams.

F. *Patching*

When necessary to patch a wrinkle or puncture, use the following procedure

1. A wrinkle/ fish mouth that occurs within 18" of a splice requires that the installer cut out the entire wrinkle and patch the area with Firestone EPDM. Assure that a minimum 3" overlap occurs beyond the boundary of the cut.

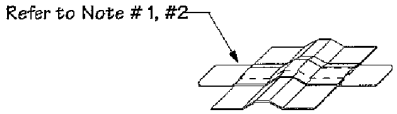
2. If the wrinkle/fish mouth occurs on a portion of the roof that is covered with FormFlash, then FormFlash must be used for the patching procedure. However, the FormFlash should not extend onto the surface of the roof surface more than 6". If patching the same wrinkle/fish mouth extends onto the roof surface, then EPDM should be used for that portion of the wrinkle/fish mouth.

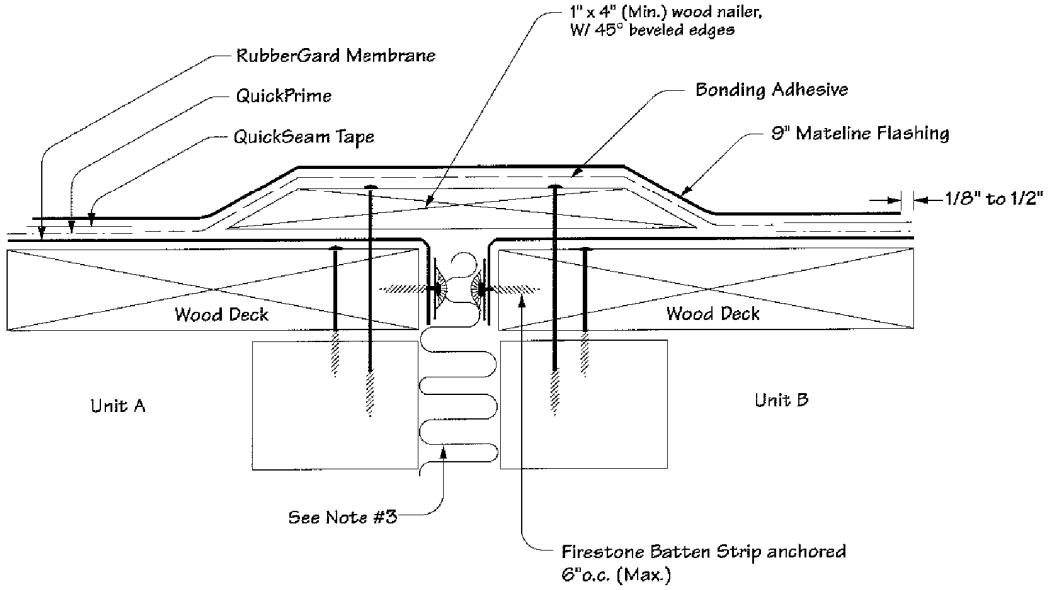
3. When patching a puncture in the membrane, cured EPDM should be used. All patching must extend a minimum 3" beyond the boundary of the affected area in all directions.

4. All patches and seams must be sealed with Firestone Lap Sealant in order to insure a water tight seal

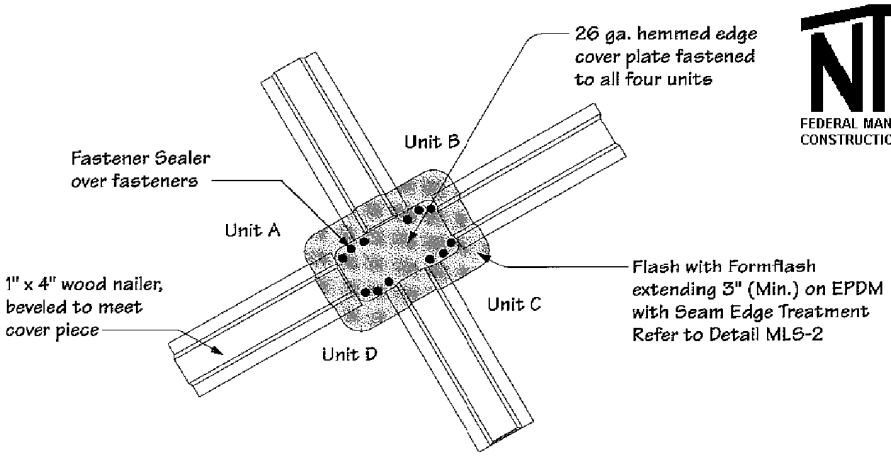
Notes:

1. QuickSeam Flashing or FormFlash set in Splice Adhesive over field seam extending 3" on to field membrane with continuous Seam Edge Treatment on all four sides.
2. Cover strip must lap a minimum of 6" at end joints.
3. Compressible insulation with insulation retainer. (supplied by others)
4. When structural movement is anticipated use Detail MateLine #1 or #2.





4-Way Intersection Of Field Units



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NTA INC.
Revised Dec 03,2010
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Firestone 19 Specialty Products 98	Modular Roofing Systems Mate-Line Expansion Joint Cover Strip Field Unit Tie-In	Detail No. MML-3	EPDM Systems Modular

APPROVED BY
NTA INC. Revised Dec 03,2010
FEDERAL MANUFACTURED HOME CONSTRUCTION AND SAFETY STANDARDS

Standing Seam Metal / Rugged Roof

Amerimax Building Products
Installation Procedure Specification

Alternate Ridge Cap Close-up Procedure

Procedure: IS-212 **for Rugged Roof** **Issue Date: 7/21/99**

This alternate installation procedure has been developed to aid our customers in the installation and close-up of Amerimax's Rugged Roof steel roofing panels. However, since each producer of Manufactured Housing has different needs and requirements, the installers must consult their DAPIA manuals for specific installation conditions.

1.0 Tools and Materials needed

Screw gun with #10 hex drive
Utility knife
Ridge caps
Screws (1 1/2" pointed w/ washer)
Eave cap section
Silicone Caulk

2.0 Procedure

1. Remove the temporary shipping cap. This is the white, right angle piece capping the ridge beam. DO NOT remove the rubber closure strips in place under the shipping cap.
2. Mate the two halves in the normal manner.
3. Once the two halves have been mated, install the ridge cap sections. Where possible, lap sections away from prevailing winds. Sections should be lapped approximately six (6) inches with a liberal bead of silicone placed perpendicularly across the area of the cap to be lapped. The 1 1/2" hex screws are used to secure the ridge cap to the roof panels. DO NOT reuse the screws which secured the temporary ridge cap, as the rubber washers may have fallen off. New screws have been included in the 'close-up' package. Screws are driven throughout the ridge cap into the rib or high part of the profile touching the ridge cap. Do not place screws between the panel ribs. Screws are driven into each rib approximately 1 1/2" to 2" back from the edge of the ridge cap (See figure 1). Make sure the rubber closure strip is in place when setting the ridge cap (See figure 2).

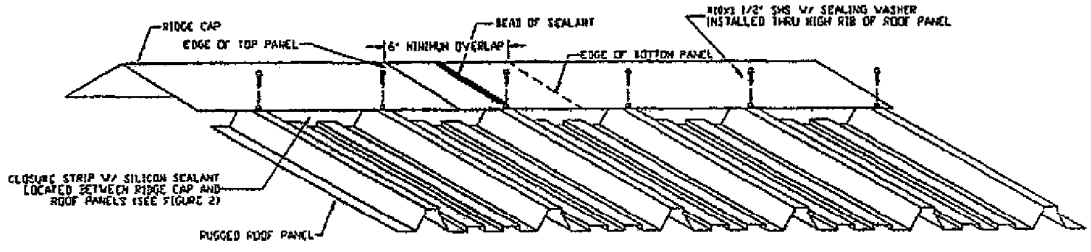
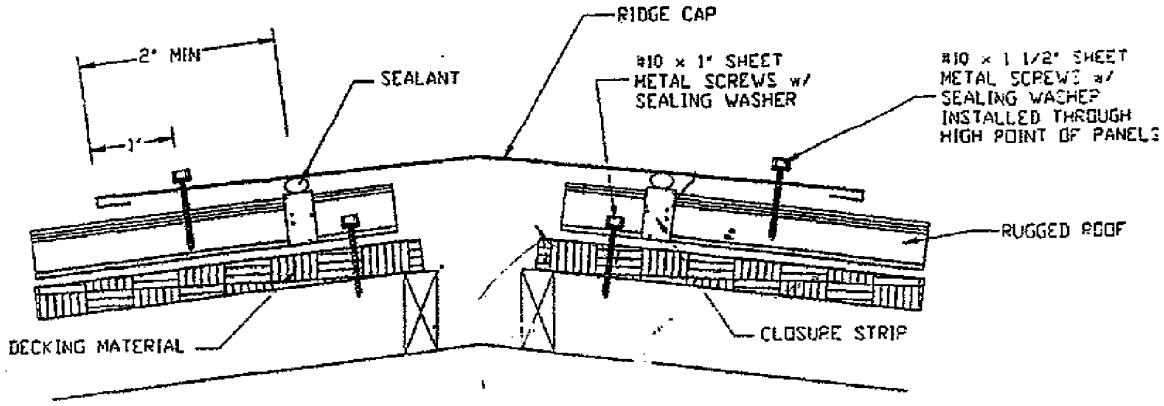


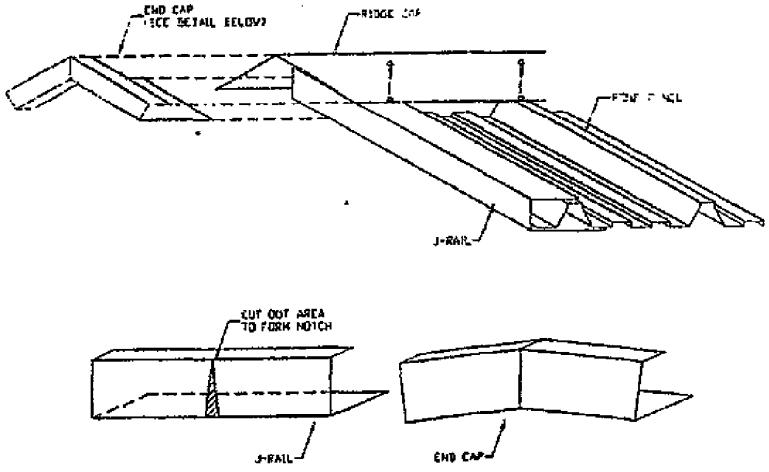
FIGURE 1: RIDGE CAP PLACEMENT



STEPS:
1.) INSTALL CLOSURE STRIPS USING SEALANT ON THE BOTTOM OF CLOSURE STRIP.
2.) APPLY SEALANT ALONG TOP OF CLOSURE STRIPS.
3.) INSTALL RIDGE CAP

FIGURE 2: RIDGE CAP DETAIL

4. A section of eave trim may be included. This piece is used to cap the pinnacle of the eave and close the ridge cap opening (See figure 3).



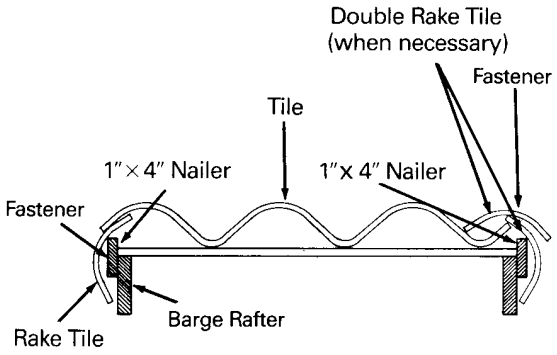
STEPS TO FORM END CAP:
1.) USE INVERTED J-RAIL AND CUT NOTCH AS SHOWN.
2.) BEND AND FASTEN SECTIONS TOGETHER TO FORM END CAP.
3.) INSTALL END CAP OVER RIDGE CAP AND J-RAIL SECTIONS.

FIGURE 3: END CAP/J-RAIL PLACEMENT

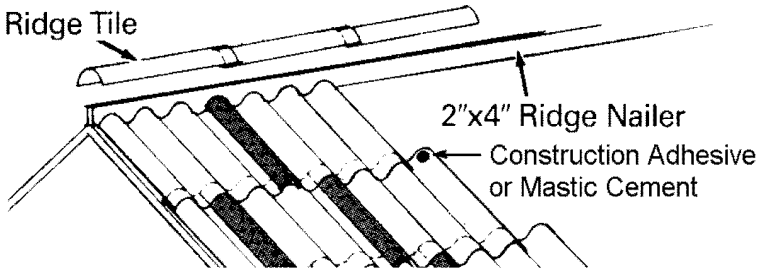
Tile Roof Close-Off

1. After securing the roof together, replace the sheathing used for the access to the beam fasteners and install 2X4 ridge nailer w/8d. 16" O.C.
2. Install rake tile to 1" X4" nailer use 2 corrosion resistant 8d nails (top an bottom), with a rake overhang of not less than 1/2" and an eave overhang of not less than 2"
3. Install a large dab of construction grade adhesive or mastic cement on the barrels

Rake Installation



Staggered Joint installation method



4. Install field tile up to 2X4 ridge. Cut tile if needed. Make sure tile joints are staggered by trimming off each course of tile as needed.
5. Before installing the ridge tile, the void between the 2"X4" ridge nailer and the top course of field tile must be filled with mortar. As an alternative, roofing tape can be used (Flashband or equivalent) (see Fig. 6.12)
6. Fasten the ridge tile to the 2"X4" nailer using a corrosion-resistant 8d. Nail two inches from the back end of the tile. Apply a large dab of construction adhesive or mastic cement over the fastener. The first and last ridge tile should be face-nailed.
7. 7. High wind areas may warrant double nailing of the ridge tile, as well as adhesive or mastic.

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NTA INC.
Revised
Dec 03,2010
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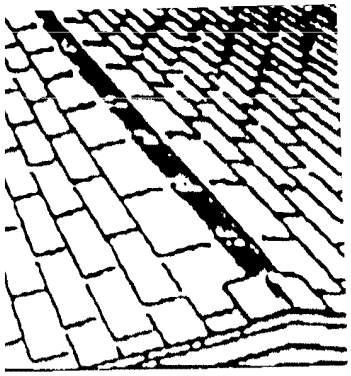
Cor-A-Vent Ridge Peak Vents

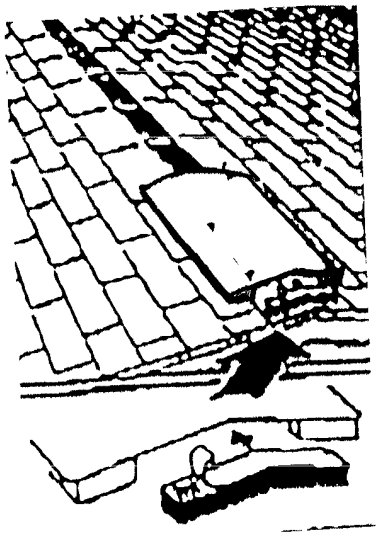
For models with optional Cor-A-Vent roof vent system on multiwide units, the Cor-A-Vent system is to be installed as follows:

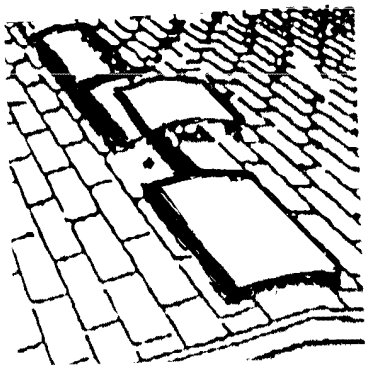
1. At the ends of the roof install the first 4 shingle ridge caps directly to the roof deck. See Fig 6.15.

2. Install Cor-A-Vent end caps and Cor-A-Vent units at ridge cap. Secure down with 2-1/4" roofing nail into each truss of each half. See Fig. 6.15.

3. Install shingle ridge cap directly to Cor-A-Vent with 2-1/4" roofing nail. See Fig. 6.15.







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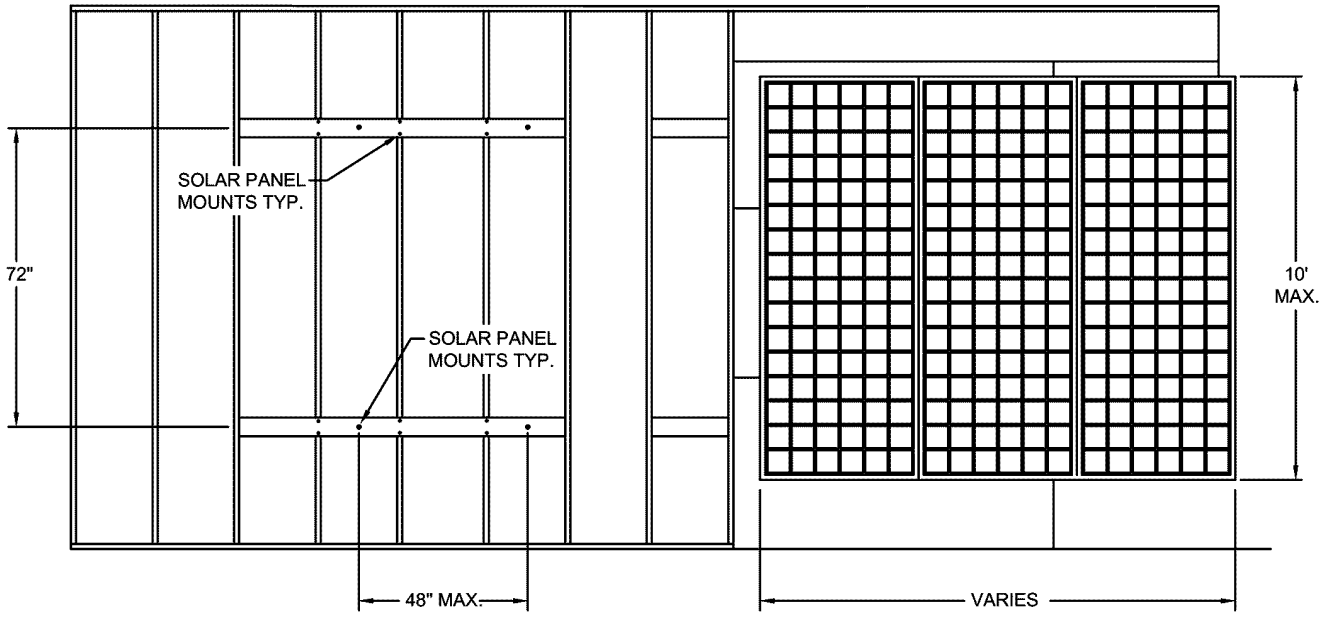
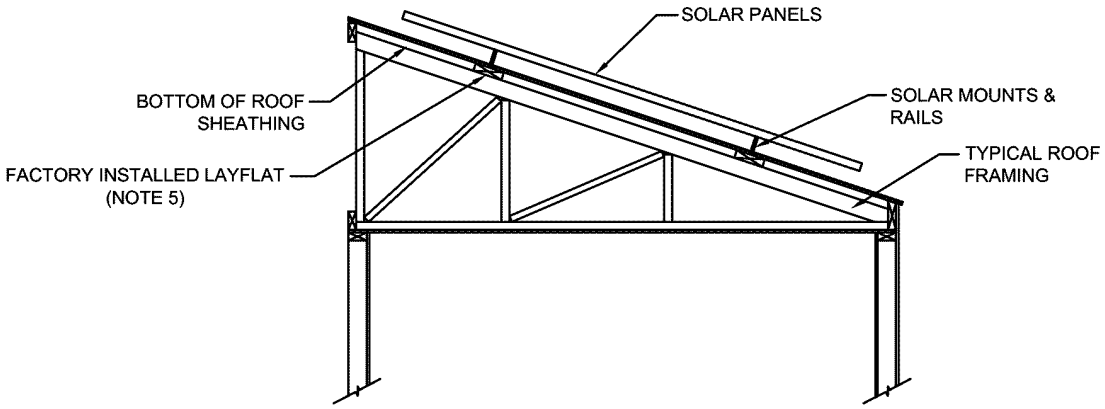


A | TYPICAL SOLAR READY ROOF LAY-FLAT LAYOUT



B | SOLAR TRUSS SECTION

Notes:

1. If solar panels are installed the home must be located in a Wind Zone 1, 30 psf roof live load zone only.
2. Solar panel design and connection details must conform to the following specifications.
   A. Rails must be 72" on center max.
   B. Mounting screws must be installed at 48" on center max.
   C. Solar panel must not exceed 10'
3. Solar panel mounting layflats (2x6) have been installed centered in roof (typical). Refer to the model specific print provided by the manufacturing center for specific location.
4. Solar panels must be installed following the manufacturers installation instructions.
5. Cavco Homes, Inc. is not responsible for installation or performance in relation to site installed solar panels.

APPROVED BY
NTA INC. 11/29/2018
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Cavco Homes, Inc.

SITE INSTALLED SOLAR PANELS

11/20/18

REV.

NO. SU-A.3.11

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NTA INC. Revised Jul 23,2013
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Pier Loads for 60 and 80psf Units with Perimeter Piers

Use the following tables for units over 40psf that do not have continuous perimeter support. See standard Cavco Set Up Manual for all other information as well as pier and footing details.

TABLE 5A. POINT LOAD AT SIDEWALL *FOR 60 AND 80psf RLL*

Point Loads At Sidewall Openings, lbs										
Load		60 psf RLL								
Width, in		120" *	120"	144"		164"		187.5"		208.5"
Eave, in		16	16	0	16	0	16	0	16	0
Span in feet	4	1000	1000	1000	1010	1000	1270	1350	1610	1440
	6	1280	1220	1200	1560	1510	1880	1930	2300	2100
	8	1750	1700	1650	2110	2030	2490	2520	2990	2750
	10	2230	2170	2100	2660	2540	3110	3110	3670	3400
	12	2700	2650	2550	3210	3050	3720	3690	4360	4050
	14	3180	3120	3000	3760	3560	4330	4280	5040	4700
	16	3650	3600	3450	4310	4080	4940	4860	5730	5350
Load		80 psf RLL								
Width, in		120" *	120"	144"		164"		187.5"		208.5"
Eave, in		16	16	0	16	0	16	0	16	0
Span in feet	4	1140	1080	1070	1400	1370	1700	1760	2100	1910
	6	1740	1580	1640	2100	2020	2480	2510	2970	2730
	8	2340	2290	2210	2800	2660	3260	3250	3840	3560
	10	2940	2890	2780	3490	3310	4030	3990	4710	4380
	12	3550	3490	3350	4190	3960	4810	4730	5580	5210
	14	4150	4090	3920	4890	4610	5580	5480	6450	6030
	16	4750	4690	4490	5580	5260	6360	6220	7320	6860

1. Asterisk (*) indicates 75.5" main rail spacing. All other values are for 99.5" and 95.5 spacing.
2. 120" max. sidewall height, 7 psf wall dead load, 15psf roof dead load
3. Only concrete block piers may be used, piers may not be recessed.
4. Table may be used for multiwides. Pier dead load is not included.
5. For center columns, add load from each span (e.g. the center column load of an 80psf, 28 wide, 16" eaves with 8ft and 10ft opening will be 3260 lbs + 4030 lbs = 7290 lbs)

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TABLE 8 - 9A. LOAD ON FRAME & PERIMETER SUPPORTS *FOR 60 AND 80psf RLL*

Pier Loads – Frame and Perimeter Piers, lbs										
Roof Live Load, psf		60 psf RLL								
Section Width, in		120" *	120"	144"		164"		187.5"		208.5"
Eave Width, in		16	16	0	16	0	16	0	16	0
Frame Pier Spacing	4 ft	2750	2920	2920	2920	2820	2820	2520	2520	2890
	6 ft	4120	4370	4370	4370	4220	4220	3780	3780	4330
	8 ft	5500	5830	5830	5830	5630	5630	5040	5040	5770
Perimeter Pier Spacing	4 ft	1000	1000	1000	1000	1000	1340	1720	2120	1790
	6 ft	1000	1000	1000	1230	1410	2010	2580	3180	2690
	8 ft	1000	1000	1000	1640	1870	2670	3440	4240	3580

Roof Live Load, psf		80 psf RLL								
Section Width, in		120" *	120"	144"		164"		187.5"		208.5"
Eave Width, in		16	16	0	16	0	16	0	16	0
Frame Pier Spacing	4 ft	2750	2920	2920	2920	2820	2820	2520	2520	2890
	6 ft	4120	4370	4370	4370	4220	4220	3780	3780	4330
	8 ft	5500	5830	5830	5830	5630	5630	5040	5040	5770
Perimeter Pier Spacing	4 ft	1000	1000	1000	1410	1490	1990	2350	2850	2490
	6 ft	1490	1240	1350	2110	2230	2990	3520	4280	3730
	8 ft	1980	1650	1800	2810	2970	3980	4690	5700	4970

1. Asterisk (*) indicates 75.5" main rail spacing, all other values are for 95.5" and 99.5" spacing
2. Table uses 120" max sidewall height, 7psf wall dead load, 15psf roof dead load and 12plf frame dead load
3. Table uses the floor system to transfer load back to the frame. It assumes 14ga outriggers and 13ga x-members at 8 ft o.c.
4. Pier dead load is not included
5. Site installed outriggers may not replace perimeter piers.
6. Only concrete block piers may be used, piers may not be recessed.

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Pier Loads for 144 (12 Wide) with 75.5" I-Beam Spacing

Homes with a section width of 144" max, 16" eaves and 75.5" centers should use values from the following pier load tables located in the Cavco Installation Manual

TABLE 5 – use values for 164" section width, 16" eave

TABLE 6 – use values for 144" section width, 16" eave

TABLE 7 – use values for 144" section width

TABLE 8 – use values for 144" section width, 16" eave

TABLE 9 – use values for 164" section width, 16" eave

TABLE 10 – use values for 144" section width

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Pier Loads for 20 psf – 40 psf – 96" Sidewall Max

Use the following tables for units 20-40psf with reduced sidewall height, wall load and roof dead load. See standard Cavco Set Up Manual for all other information as well as pier and footing details.

TABLE 5B. PIER LOAD AT SIDEWALL OPENINGS FOR *20-40 psf RLL*
(96" SIDEWALL MAX. SEE NOTES FOR SIZE/LOAD LIMITATIONS)

Point Loads At Sidewall Openings, lbs							
Load		20 psf RLL					
Width, in		120" *	120"	144"		164"	
Eave, in		16	16	0	16	0	16
Span in feet	4	NR	NR	NR	1000	1000	1000
	6	1000	1000	1000	1000	1000	1000
	8	1000	1000	1000	1000	1000	1000
	10	1000	1000	1000	1000	1000	1020
	12	1000	1000	1000	1010	1000	1270
Load		30 psf RLL					
Width, in		120" *	120"	144"		164"	
Eave, in		16	16	0	16	0	16
Span in feet	4	1000	1000	1000	1000	1000	1000
	6	1000	1000	1000	1000	1000	1000
	8	1000	1000	1000	1000	1000	1160
	10	1000	1000	1000	1210	1180	1490
	12	1220	1170	1150	1500	1460	1810
Load		40 psf RLL					
Width, in		120" *	120"	144"		164"	
Eave, in		16	16	0	16	0	16
Span in feet	4	1000	1000	1000	1000	1000	1000
	6	1000	1000	1000	1000	1000	1130
	8	1010	1000	1000	1260	1230	1540
	10	1330	1270	1250	1620	1570	1950
	12	1650	1590	1550	1990	1910	2360

1. Asterisk (*) indicates 75.5" main rail spacing. All other values are for 99.5" and 95.5 spacing.
2. 96" max. sidewall height, 5 psf wall dead load, 10 psf roof dead load
3. Table may be used for multiwides. Pier dead load is not included.
4. For center columns, add load from each span (e.g. the center column load of a 30psf, 28 wide, 16" eaves with 8ft and 10ft opening will be 1160 lbs + 1490 lbs = 2650 lbs)
5. NR = Not Required

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TABLE 8 – 9B. LOAD ON FRAME & PERIMETER SUPPORTS FOR HOMES *FOR 20 - 40psf RLL (96" SIDEWALLS MAX. SEE NOTES FOR SIZE/LOAD LIMITATIONS)*

Pier Loads – Frame and Perimeter Piers, lbs								
Roof Live Load, psf		20 psf RLL						
Section Width, in		120" *	120"	144"		164"		
Eave Width, in		16	16	0	16	0	16	
Frame Pier Spacing	4 ft	1970	1970	2130	2290	2400	2560	
	6 ft	2960	2960	3200	3440	3600	3840	
	8 ft	3940	3940	4260	4580	4790	5110	
Perimeter Pier Spacing	4 ft	NR	NR	NR	NR	NR	NR	
	6 ft	NR	NR	NR	NR	NR	NR	
	8 ft	NR	NR	NR	NR	NR	NR	
Roof Live Load, psf		30 psf RLL						
Section Width, in		120" *	120"	144"		164"		
Eave Width, in		16	16	0	16	0	12	
Frame Pier Spacing	4 ft	2230	2230	2370	2590	2670	2820	
	6 ft	3340	3340	3560	3880	4010	4220	
	8 ft	4450	4450	4740	5170	5340	5630	
Perimeter Pier Spacing	4 ft	NR	NR	NR	NR	NR	NR	
	6 ft	NR	NR	NR	NR	NR	NR	
	8 ft	NR	NR	NR	NR	NR	NR	
Roof Live Load, psf		40 psf RLL						
Section Width, in		120" *	120"	144"		164"		
Eave Width, in		16	16	0	16	0	16	
Frame Pier Spacing	4 ft	2480	2480	2610	2880	2820	2820	
	6 ft	3720	3720	3920	4320	4220	4220	
	8 ft	4950	4950	5220	5750	5630	5630	
Perimeter Pier Spacing	4 ft	NR	NR	NR	NR	1000	1000	
	6 ft	NR	NR	NR	NR	1000	1000	
	8 ft	NR	NR	NR	NR	1000	1000	

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1. Asterisk (*) indicates 75.5" main rail spacing, all other values are for 95.5" and 99.5" spacing
2. Table uses 96" max sidewall height, 5 psf wall dead load, 10 psf roof dead load and 12 plf frame dead load
3. Table uses the floor system to transfer load back to the frame. It assumes 14ga outriggers and 13ga x-members at 8 ft o.c.
4. Pier dead load is not included.
5. NR – Not Required

5 Footing Designs

RESERVED: See main installation manual for standard footing designs

6 Special Structural Designs

Dropped Floor Fastening

For homes with a dropped floor design, use the leveling, alignment, and fastener size & spacing instructions in the main Installation Manual and secure & seal as indicated in figures 5.3a & 5.3b;

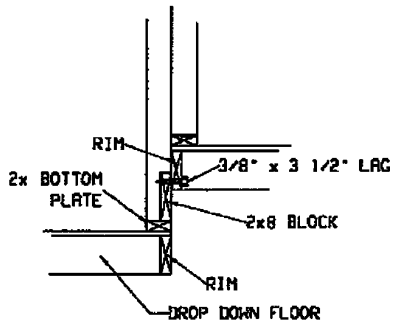

Figure 5.3a

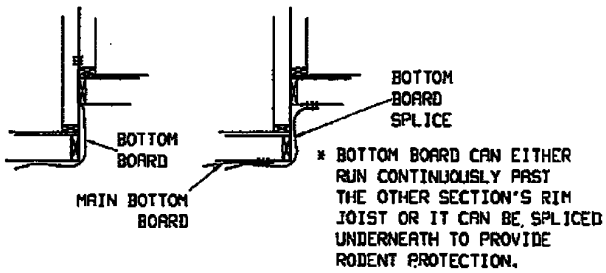

Figure 5.3b

Exterior Washer Box Option

For units with dryer/washer connections installed on the outside of an exterior wall, there are to be the following provisions:

1. Terminate the vent of the dryer to the exterior. Do not terminate the vent under the home.
2. The recepts for the dryer and washer must be installed as follows:
   - Washer – Recept will be of grounding type and installed per Section 210.8 of the NEC (2005 ed.) and will be placed on a GFIC circuit.
   - Dryer – Recept will be 4 wire grounding type.

For homes with and integral metered service, at a minimum, a concrete-encased electrode with a conductor suitable for wet locations (i.e. #4 AWG bare copper conductor) will be installed per section 250.52(A)(3) of the NEC (2005 ed.). Consult the local authorities for exact requirements. For future moves, protect all exposed interior finishes (i.e sheetrock, panel, unfinished wood, etc.) from the weather by closing off with polyethylene plastic, or plywood.

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SU-A.6.1

Evaporative Coolers

If the home has been constructed with a drop or an inlet to the duct system for an evaporative cooler that is located in the open span at the marriage line, the design is for a cooler with an operational weight (filled with water) of no more than 205 pounds.

Homes may have a heavier evaporative cooler installed under the following conditions:

- The cooler does not weight over 410 pounds operational weight.
- The cooler location is where a marriage line wall is located under the beam on multiwide units.
- If the cooler is located in an open span of a multiwide marriage line, the span does not exceed the spans in the flowing chart.

Roof Live Load	12 wide	14 wide	16 wide
20	17'5"	15'8"	13'4"
30	13'4"	12'2"	11'2"
40	17'0"	15'11"	15'3"
60	14'5"	13'7"	12'10"
80	13'4"	12'5"	11'9"
100	12'2"	11'5"	10'8"

- Place the evaporative coolers only in the designated location provided. Moving the cooler to another location will require reinforcement of the roof trusses.

WARNING: CAVCO INDUSTRIES INC. PROHIBITS ANY CONNECTION OF AN EVAPORATIVE WATER COOLER TO THE FACTORY INSTALLED FLOOR HEAT DUCT SYSTEM. ANY SUCH PROHIBITED CONNECTION WILL NOT ONLY VOID THE WARRANTY BUT MAY CAUSE DAMAGE TO THE DUCTING SYSTEM, FURNACE, CARPETING, FLOOR JOISTS AND FLOOR DECKING. SERIOUS PROPERTY DAMAGE AND OR PERSONAL INJURY MAY OCCUR AS A RESULT OF A CONNECTION OF AN EVAPORATIVE WATER COOLER TO THE FACTORY INSTALLED FLOOR HEAT DUCT SYSTEM.

Tiedowns for Units with Site Installed Accessory Structures

Maximum Transverse Strap Spacing, ft									
Floor Width	Maximum sidewall height	Height From Ground to Floor	Roof Slope Under 4.3/12				Roof Slope Under 4.3/12			
			120" Section 20 Wide		144" Section 24 Wide		164" Section 28 Wide		187.5" Section 32 Wide	
			Singlewide	Doublewide	Singlewide	Doublewide	Singlewide	Doublewide	Singlewide	Doublewide
120" – 187.5" Section 20 – 32 Wide	90"	24"	6.3	6.3	11.0	11.1	9.0	13.2	6.9	14.6
		36"	4.4	4.4	8.5	8.6	10.8	11.0	9.1	12.9
	96"	24"	6.0	6.0	10.4	10.5	8.6	12.5	6.6	13.8
		36"	4.2	4.2	8.0	8.1	10.2	10.4	8.7	12.2
	108"	24"	5.4	5.5	9.4	9.5	7.8	11.3	5.9	12.5
		36"	--	--	7.2	7.4	9.2	9.4	7.9	11.0
	120"	24"	4.9	5.0	8.5	8.7	7.0	10.4	5.4	11.4
		36"	--	--	6.6	6.8	8.4	8.6	7.1	10.1

1. These values only apply to 95.5" main rail spacing
2. Values do not include eaves.
3. Ground anchors are assumed to be 2" from the exterior face of the sidewall.
4. All values are based on a ground anchor/strap capacity of 3150 lbs.
5. Only applicable beneath the sidewall with accessory structure attached.

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Maximum Transverse Strap Spacing, ft			
Floor Width	Maximum sidewall height	Height From Ground to Floor	Slope < 4.3/12
			208.5" Section
208.5" Section Width	90"	24"	5.5
		36"	7.5
	96"	24"	5.3
		36"	7.2
	108"	24"	4.8
		36"	6.6
	120"	24"	4.4
		36"	6.0

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Seat Bay Supports

This addendum is for seat bays that do not extend fully to the underside of eaves or overhangs that are installed on the home. Seat bays that have the roof load supported by eaves or overhangs are not affected by this addendum. These bays have been capped with the roof supported by the bay. These bays are to be perimeter supported by support walls. See the drawing below for the correct construction and installation of the support.

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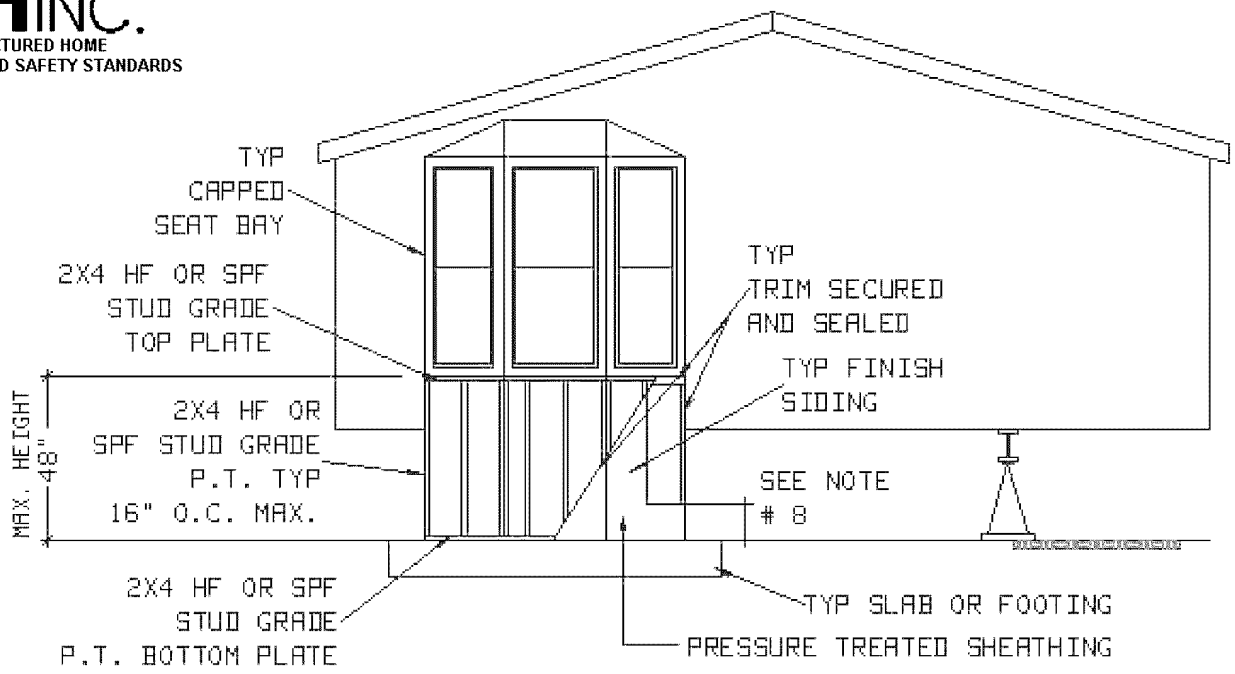

1. REDWOOD MAY BE SUBSTITUTED FOR P.T. MATERIAL.
2. FASTENERS TO BE CORROSION RESISTANT.
3. SECURE STUDS W/ 2-10d BOX EA. PLATE TO EA. STUD.
4. SECURE P.T. SHEATHING W/ 6d BOX 6" O.C. EDGE 12" O.C.FIELD.
5. SECURE SIDING PER MFGRS. INSTRUCTIONS.
6. SECURE TOP PLATE TO BAY WITH 10d BOX - 16" O.C.
7. SECURE BOTTOM PLATE TO FOOTING W/ REDHEAD 16" O.C.
8. FINISH SIDING TO BE NO CLOSER THAN 6" FROM GROUND LEVEL.

7 Permanent Foundation

Contact plant engineering department for Cavco generic permanent foundation or obtain a specific foundation design from an outside (third party) engineer or architect.

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INTRODUCTION

These drawings show foundation details which are applicable to homes produced by CAVCO Industries. The foundation plan shown is general and is to be adjusted to meet the specific home being installed. The floor plan is provided with each home. The manual, floor plan and these details must be used together to establish dimensions and loads for the foundation. Where the word "MAX." is used with a dimension, any distance up to but not exceeding the dimension may be used. Several alternate construction methods are shown. Any combination of alternates may be used from within those for the design loads applicable to the construction site. Foundation system details used shall be compatible with local soil conditions.

These design drawings are supplemental to the Installation Manual. Details and dimensions of other types of foundations in the manual are not applicable to this design unless otherwise specified.

GENERAL NOTES:

1. Contractor shall verify site conditions and all dimensions prior to starting work. Notify owner of any discrepancies.
2. All work shall conform to the requirements of this design and of the building code adopted by be agency having jurisdiction.
3. This foundation design is only applicable to areas that conform to the design loads provided on this page.
4. The ground surface adjacent to the home shall be sloped away from the structure with a fall of a least 6" for the first 10'. Provisions shall be made for drainage to prevent accumulation of surface water.
5. Provide an 18" x 24" access crawl hole to under-floor area. Provide under-floor area ventilation of a net area of not less than 1 square foot for each 150 square feet of under-floor area. Ventilation openings shall be covered for their height and width with a perforated (1/4" max. opening) corrosion and weather-resistant covering.
6. For multi-section homes, mating line piers shall be located directly below ridge beam support columns. Suport post column locations are shown on the approved floor plan the home.
7. Refer to the Cavco Homes Installation Manual for ridge beam pier and main beam pier locations and loads. When spacing shown in the manual is less than shown here, the manual shall be followed.
8. This foundation is not designed for expansive soil conditions or flood loads.
9. Mudsill anchors shall be installed within 12" of each end of sill and at a spacing shown on the foundation plan. Mudsill anchors may be 5/8" dia. bolts with 1/4"x3"x3" plate washer or Simpson Strong Tie MAS/BASB. Anchor bolts shall be set 7" into concrete.
10. Stem wall may be concrete or concrete block. See details pages.
11. Concrete shall be 2500 psi minimum at 28 days.
12. Concrete blocks shall conform to ASTM C-90. Blocks shall be 8" x L x height desired for site conditions.
13. Special inspection may be required by the local authority having jurisdiction.
14. For all details and information not shown, see CAVCO Installation Manual.
15. Mortar mix shall be Type M or S, and conform to ASTM C270.
16. Masonry grout shall be 1 part Portland Cement, 3 parts sand, and 2 parts 3/8" gravel by volume, mixed to pouring consistency in accordance with ASTM C 476.
17. Reinforcing bars for concrete or concrete block foundation shall be deformed bars meeting ASTM A-615, grade 40. Lap all bars 24" minimum.
18. All lumber in contact with concrete shall be pressure preservative treated of a specie approved for use directly in contact with concrete. Individual concrete or masonry piers shall project at least 8" above exposed ground unless the columns or posts the support are treated wood.
19. Compaction control not required when nominal backfill is used.

DESIGN BASIS:

- 2009 IBC & ASCE7-05
- 90 MPH Wind Speeds
  Exposure C
- 30 PSF Roof Live Load
- Dead Load Assumptions:
  Roof = 10 PSF;
  Floor = 10 PSF;
  Wall = 7 PSF;
  Steel Frame = 12 PLF
- Seismic Criteria
  $S_s = 1.5$
  $S_1 = 0.70$
  Soil Site Class = D
  Seismic Design Category = D
  2009 IRC Seismic Design Category = D2

Foundation design complies with Permanent Foundations Guide for Manufactured Housing.

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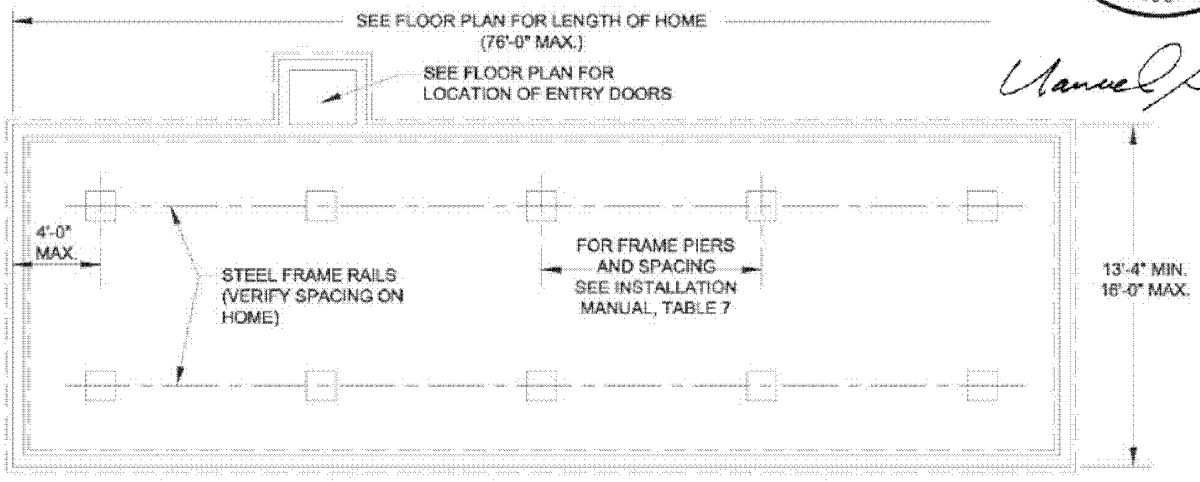
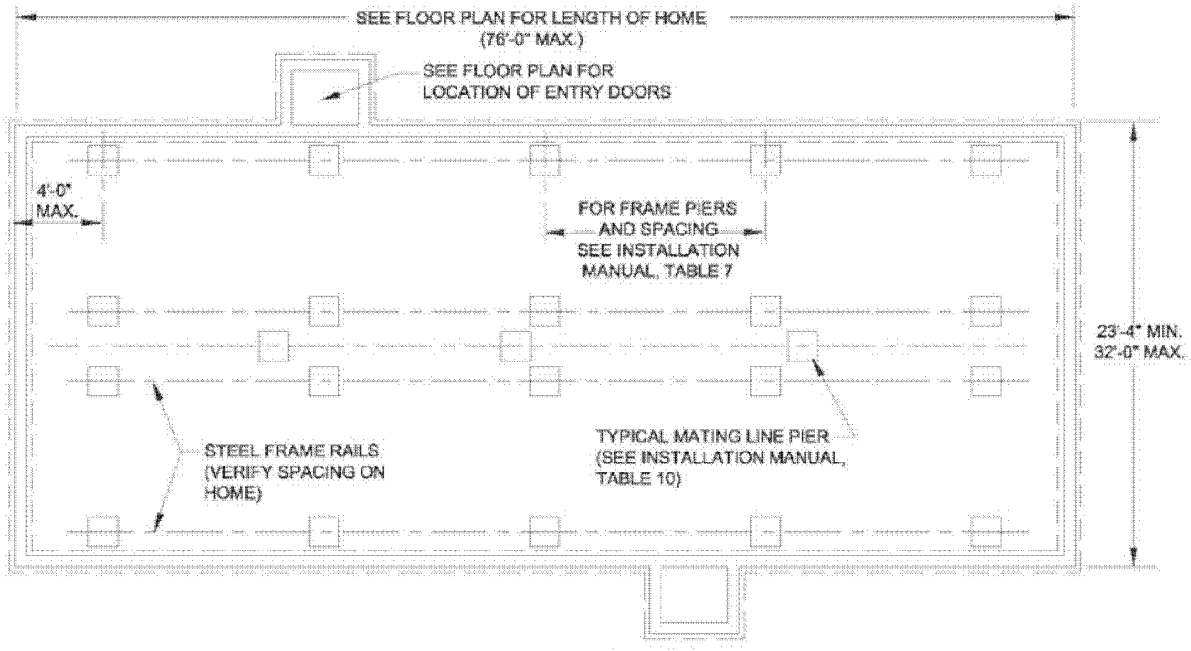
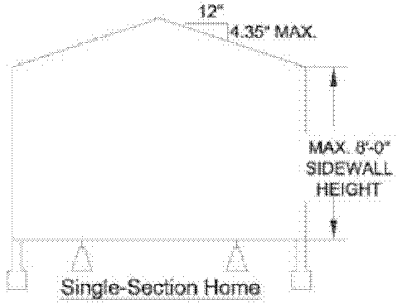
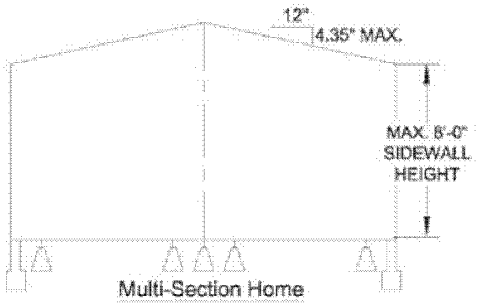


SINGLE-SECTION HOME



MULTI-SECTION HOME





Notes:
1. See other approved drawings in this section for foundation details.
2. Required crawlspace access and vents not shown for clarity.

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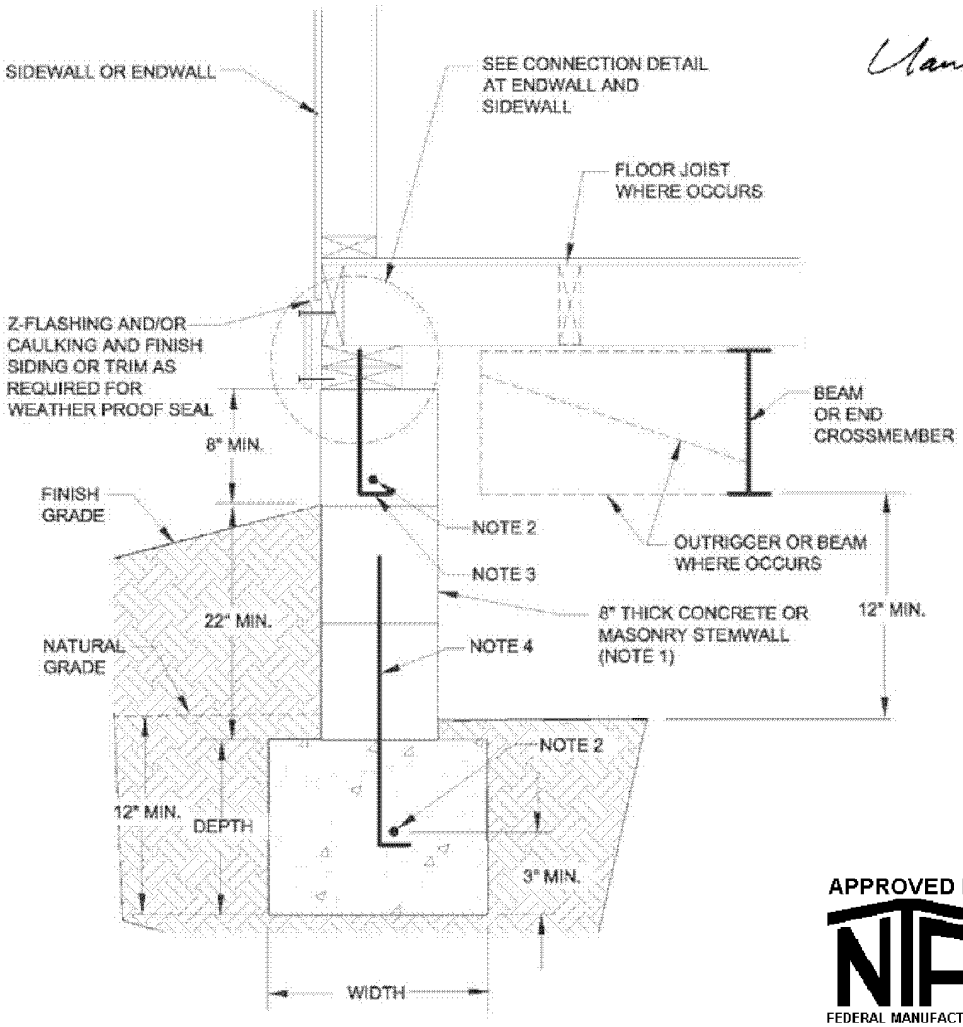

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Notes:

1. Masonry stemwall may be hollow without vertical reinforcement in SDC = C. Must be solid grout, concrete or solid block in SDC = D2.
2. Longitudinal #4 bars will be place within 12" of top of wall and between 3" -4" of bottom of footing. 24" min. lap at splices.
3. 5/8" anchor bolt with 7" of embedment, spaced per anchor bolt spacing chart.
4. Vertical reinforcement of #4 bars with standard hook at 48" o.c. max. must extend to min. 3" above bottom of footing and 14" into stemwall.
5. 12" min. clearance from ground to underside of I-Beams

TYPICAL STEM WALL

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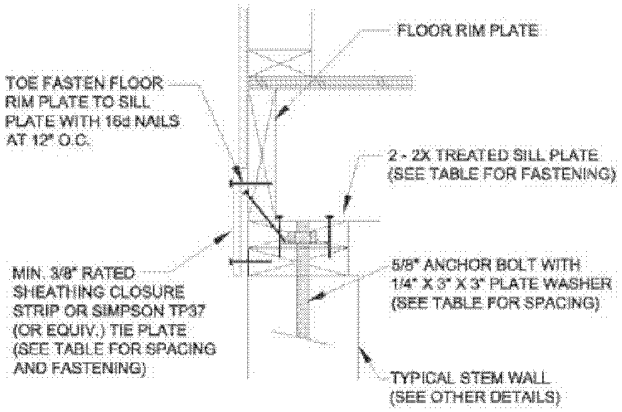
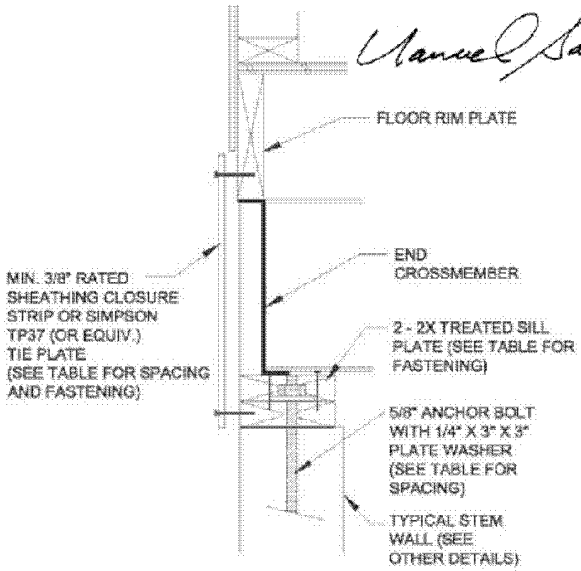
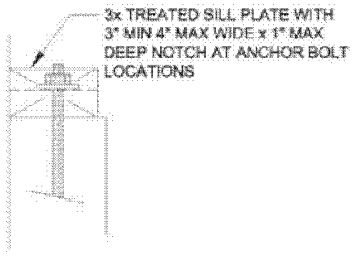


TYPICAL CONNECTION DETAIL
SIDEWALL OR ENDWALL



ALTERNATE ENDWALL CONNECTION
WITHOUT RECESSED CROSSMEMBER



ALTERNATE SILL PLATE

Multi-Section (4)	32'x76'		32'x56'		24'x76'		24'x56'		Single-Section (4)	16'x76'		16'x56'		14'x76'		14'x56'	
	Endwall	Sidewall	Endwall	Sidewall	Endwall	Sidewall	Endwall	Sidewall		Endwall	Sidewall	Endwall	Sidewall	Endwall	Sidewall	Endwall	Sidewall
Footing Width	14"	12"	12"	12"	18"	12"	12"	12"	Footing Width	24"	12"	14"	12"	24"	12"	16"	12"
Footing Depth	8"	8"	8"	8"	8"	8"	8"	8"	Footing Depth	8"	8"	8"	8"	12"	8"	8"	8"
Anchor Bolt Spacing	65"	72"	72"	72"	52"	72"	70"	72"	Anchor Bolt Spacing	36"	72"	48"	72"	32"	72"	42"	72"
TP 37 Spacing (1)	30"	72"	42"	72"	24"	72"	32"	72"	TP 37 Spacing (1)	16"	72"	22"	72"	15"	72"	20"	72"
Closure Strip Nail Spacing (2)	3.5"	10"	5"	10"	3"	12"	4"	12"	Closure Strip Nail Spacing (2)	2"	18"	2.5"	18"	1.5"	20"	2.5"	20"
Dbl. Sill Plate Nail Spacing (3)	8"	22"	10"	20"	6"	24"	8"	24"	Dbl. Sill Plate Nail Spacing (3)	4"	42"	6"	42"	4"	48"	6"	48"

Notes:
1. 5 - .131" X 1.5" nails into rim joist and sill plate.
2. .131" X 1.5" nails into rim and sill plate, spacing can be doubled if 2 rows are used.
3. .131" X 3" nails.
4. Hold downs are not required to resist overturning.

8 Special Foundation Designs

The following foundation systems have been approved by both the manufacturer and the DAPIA in accordance with 3285.2(c) and 3285.301(d) and may be used in accordance with their installation instructions with no additional restrictions other than those contained in those instructions. All other aspects of the *Cavco Home Installation Manual* that do not contradict the expressed aspects of the alternate foundation system must also be followed.

System Name	System Developer
Xi2 Total Support – WZ 1	TieDown Eng. Atlanta, GA.
Xi2 Total Support – WZ 2 & 3	TieDown Eng. Atlanta, GA.

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CONSTRUCTION AND SAFETY STANDARDS

01/11/19

Tiedowns for Alternate Section Widths or Main Rail Spacing

Tiedowns for 14 Wide / 28 Wide with 75.5" Centers

Maximum Transverse Strap Spacing, ft						
Floor Width	Maximum sidewall height	Height From Ground to Floor	Near Beam Method		Far Beam Method	
			Roof Slope Under 4.3 / 12		Roof Slope Under 4.3 / 12	
			Singlewide	Doublewide	Singlewide	Doublewide
14 Wide (164") 28 Wide (328")	90"	24"	15.3	15.9	16.6	17.9
		36"	13.4	13.9	16.8	17.5
		48"	11.6	12.1	16.3	17.0
		67"	9.4	9.8	15.3	15.9
	96"	24"	14.4	15.0	14.4	16.9
		36"	12.7	13.1	15.9	16.5
		48"	11.0	11.4	15.4	16.0
		67"	8.9	9.2	14.5	15.0

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1. These values only apply to 75.5" main rail spacing
2. Values include 6" eaves.
3. Ground anchors are assumed to be 2" from the exterior face of the sidewall.
4. All values are based on a ground anchor/strap capacity of 3150 lbs.
5. See the near beam and far beam strapping diagrams in the Cavco Installation Manual

Number of Longitudinal Straps On Each Side of Unit, 45° and 26.5°				
Floor Width	Maximum sidewall height	Max. Strap Angle	Roof Slope Under 4.36 /12	
			Singlewide	Doublewide
164" – 328"	96"	45°	2	3
		26.5°	1	3

1. Values include 6" eaves.
2. All values are based on a ground anchor/strap capacity of 3150 lbs.
3. See the installation diagrams in the Cavco Installation Manual

NORTH CAROLINA PROFESSIONAL SEAL 42202 ENGINEER MANUEL SANTANA
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Tiedowns for 12 Wide / 24 Wide with 75.5" Centers

WZ1 SIDEWALL FRAME ANCHOR SPACING, 12/24 WIDE FOR 4.3/12 & 6/12 ROOF PITCH – 75.5" I-BEAMS

Maximum Transverse Strap Spacing, ft									
Floor Width	Maximum sidewall height	Height From Ground to Floor	Near Beam Method				Far Beam Method			
			Roof Slope Under 4.3/12		Roof Slope Under 6/12		Roof Slope Under 4.3/12		Roof Slope Under 6/12	
			Singlewide	Doublewide	Singlewide	Doublewide	Singlewide	Doublewide	Singlewide	Doublewide
12 Wide (144") 24 Wide (288")	90"	24"	14.0	14.5	9.0	8.0	17.0	17.5	9.0	10.0
		36"	11.5	12.0	8.5	6.5	16.5	17.0	11.0	9.5
		48"	9.5	10.0	7.0	5.5	16.0	16.5	11.5	9.0
		67"	7.5	7.5	5.5	4.0	14.5	15.0	10.5	8.5
	96"	24"	13.0	13.5	8.0	7.5	16.0	16.5	8.0	9.5
		36"	11.0	11.0	8.0	6.5	15.5	16.0	10.5	9.0
		48"	9.0	9.5	6.5	5.5	15.0	15.5	11.0	9.0
		67"	7.0	7.0	5.0	4.0	14.0	14.5	10.0	8.0
	108"	24"	12.0	12.0	7.0	7.0	13.0	15.0	7.0	9.0
		36"	10.0	10.0	7.5	6.0	14.0	14.5	8.5	8.5
		48"	8.0	8.5	6.0	5.0	13.5	14.0	9.5	8.5
		67"	6.5	6.5	4.5	4.0	12.5	13.0	9.5	7.5
	120"	24"	10.5	11.0	6.0	7.0	10.5	13.5	6.0	8.5
		36"	9.0	9.0	7.0	5.5	12.5	13.0	7.5	8.0
		48"	7.5	7.5	5.5	4.5	12.0	12.5	8.0	8.0
		67"	5.5	6.0	4.5	--	11.5	11.5	8.5	7.0

1. Values only apply to 75.5" I-beam spacing
2. Values include 16" eaves
3. Ground anchors are assumed to be 2" from the exterior face of the sidewall
4. All values are based on a ground anchor/strap capacity of 3150 lbs
5. See the near beam and far beam strapping diagrams in the Cavco Installation Manual

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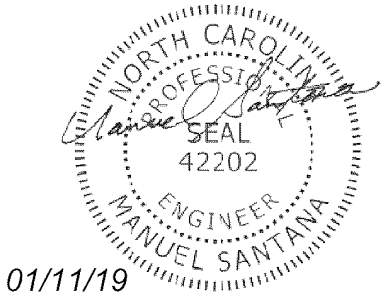

01/11/19

WZ1 SIDEWALL FRAME ANCHOR SPACING, 12/24 WIDE FOR 36" AND 57" PARAPETS – 75.5" I-BEAMS

Maximum Transverse Strap Spacing, ft									
Floor Width	Maximum sidewall height	Height From Ground to Floor	Near Beam Method				Far Beam Method			
			36" Max Parapet		57" Max Parapet		36" Max Parapet		57" Max Parapet	
			Singlewide	Doublewide	Singlewide	Doublewide	Singlewide	Doublewide	Singlewide	Doublewide
12 Wide (144") 24 Wide (288")	90"	24"	10.5	11.0	7.0	9.5	10.5	13.5	7.0	11.5
		36"	9.0	9.0	7.5	7.5	12.5	13.0	9.0	11.0
		48"	7.5	7.5	6.0	6.5	12.0	12.5	10.0	10.5
		67"	5.5	6.0	5.0	5.0	11.5	11.5	9.5	10.0
	96"	24"	9.5	10.5	6.5	9.0	9.5	12.5	6.5	11.0
		36"	8.5	8.5	7.0	7.5	11.5	12.5	8.5	10.5
		48"	7.0	7.0	6.0	6.0	11.5	12.0	9.5	10.0
		67"	5.5	5.5	4.5	4.5	11.0	11.0	9.0	9.5
	108"	24"	8.0	9.5	5.5	8.5	8.0	11.5	5.5	10.0
		36"	7.5	8.0	6.5	7.0	9.5	11.5	7.0	10.0
		48"	6.5	6.5	5.5	5.5	10.5	11.0	8.0	9.5
		67"	5.0	5.0	4.5	4.5	10.0	10.0	8.5	9.0
	120"	24"	6.5	9.0	5.0	7.5	6.5	11.0	5.0	9.5
		36"	7.0	7.5	6.0	6.5	8.0	10.5	6.0	9.0
		48"	6.0	6.0	5.0	5.5	9.0	10.0	7.0	9.0
		67"	4.5	4.5	4.0	4.0	9.0	9.5	7.5	8.0

1. Values only apply to 75.5" I-beam spacing
2. Values include 0" eaves
3. Ground anchors are assumed to be 2" from the exterior face of the sidewall
4. All values are based on a ground anchor/strap capacity of 3150 lbs
5. Spacing given for parapets may be used for offset units and units with dormers
6. See the near beam and far beam strapping diagrams in the Cavco Installation Manual

SEE TABLE 27 IN THE CAVCO INSTALLATION MANUAL FOR LONGITUDINAL STRAPS

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NORTH CAROLINA PROFESSIONAL SEAL 42202 ENGINEER MANUEL SANTANA
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Tiedowns for 15 Wide / 30 Wide with 95.5" Centers

WZ1 SIDEWALL FRAME ANCHOR SPACING, 15/30 WIDE FOR 4.3/12 & 6/12 ROOF PITCH – 95.5" I-BEAMS

Maximum Transverse Strap Spacing, ft										
Floor Width	Maximum sidewall height	Height From Ground to Floor	Near Beam Method				Far Beam Method			
			Roof Slope Under 4.3/12		Roof Slope Under 6/12		Roof Slope Under 4.3/12		Roof Slope Under 6/12	
			Singlewide	Doublewide	Singlewide	Doublewide	Singlewide	Doublewide	Singlewide	Doublewide
15 Wide (176") 30 Wide (352")	90"	24"	10.0	10.5	6.5	5.5	--	--	--	--
		36"	9.0	9.0	6.0	4.5	7.5	--	4.0	--
		48"	10.5	11.0	7.5	5.5	8.0	--	4.5	5.0
		67"	8.5	9.0	6.0	4.5	8.0	11.0	4.5	5.0
	96"	24"	9.5	10.0	6.0	5.5	--	--	--	--
		36"	8.5	8.5	6.0	4.5	7.0	--	4.0	--
		48"	10.0	10.5	7.0	5.5	7.0	--	4.0	4.5
		67"	8.0	8.5	5.5	4.5	7.0	10.5	4.0	4.5
	108"	24"	8.5	9.0	5.0	5.0	--	--	--	--
		36"	7.5	7.5	5.5	4.5	6.0	--	--	--
		48"	9.0	9.5	6.5	5.0	6.0	--	--	4.5
		67"	7.0	7.5	5.0	4.0	6.0	9.5	4.0	4.0
	120"	24"	8.0	8.0	4.5	4.5	--	--	--	--
		36"	7.0	7.0	5.0	4.0	5.0	--	--	--
		48"	8.0	8.5	6.0	5.0	5.5	--	--	4.0
		67"	6.5	7.0	5.0	4.0	5.5	8.5	--	4.0

1. Values only apply to 95.5" I-beam spacing
2. Values include 16" eaves
3. Ground anchors are assumed to be 2" from the exterior face of the sidewall
4. All values are based on a ground anchor/strap capacity of 3150 lbs. Reduced load used for strap angle <45°
5. See the near beam and far beam strapping diagrams in the Cavco Installation Manual

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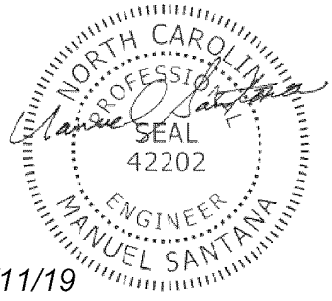

01/11/19

WZ1 SIDEWALL FRAME ANCHOR SPACING, 15/30 WIDE FOR 36" AND 57" PARAPETS – 95.5" I-BEAMS

Maximum Transverse Strap Spacing, ft									
Floor Width	Maximum sidewall height	Height From Ground to Floor	Near Beam Method				Far Beam Method			
			36" Max Parapet		57" Max Parapet		36" Max Parapet		57" Max Parapet	
			Singlewide	Doublewide	Singlewide	Doublewide	Singlewide	Doublewide	Singlewide	Doublewide
15 Wide (176") 30 Wide (352")	90"	24"	8.0	8.5	6.0	7.0	--	--	--	--
		36"	7.0	7.0	6.0	6.0	5.5	--	4.0	--
		48"	8.5	8.5	7.0	7.5	5.5	--	4.5	--
		67"	6.5	7.0	5.5	6.0	5.5	9.0	4.5	7.0
	96"	24"	7.5	8.0	5.5	7.0	--	--	--	--
		36"	6.5	7.0	5.5	6.0	5.0	--	4.0	--
		48"	8.0	8.5	7.0	7.0	5.0	--	4.0	--
		67"	6.5	6.5	5.5	5.5	5.0	8.5	4.0	6.5
	108"	24"	7.0	7.5	5.0	6.5	--	--	--	--
		36"	6.0	6.0	5.5	5.5	4.5	--	--	--
		48"	7.5	7.5	6.5	6.5	4.5	--	--	--
		67"	6.0	6.0	5.0	5.0	4.5	7.5	--	6.0
	120"	24"	5.5	6.5	4.0	6.0	--	--	--	--
		36"	5.5	6.0	5.0	5.0	4.0	--	--	--
		48"	7.0	7.0	6.0	6.0	4.0	--	--	--
		67"	5.5	5.5	4.5	5.0	4.0	6.5	--	5.5

1. Values only apply to 95.5" I-beam spacing
2. Values include 0" eaves
3. Ground anchors are assumed to be 2" from the exterior face of the sidewall
4. All values are based on a ground anchor/strap capacity of 3150 lbs. Reduced load used for strap angle <45°
5. Spacing given for parapets may be used for offset units and units with dormers
6. See the near beam and far beam strapping diagrams in the Cavco Installation Manual

SEE TABLE 27 IN THE CAVCO INSTALLATION MANUAL FOR LONGITUDINAL STRAPS.

USE VALUES FOR 16/32 WIDES

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CONSTRUCTION AND SAFETY STANDARDS

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Tiedowns for 9 Wide / 18 Wide with 75.5" Centers

WZ1 SIDEWALL FRAME ANCHOR SPACING, 9/18 WIDE FOR 4.3/12 & 6/12 ROOF PITCH – 75.5" I-BEAMS

Maximum Transverse Strap Spacing, ft									
Floor Width	Maximum sidewall height	Height From Ground to Floor	Near Beam Method				Far Beam Method			
			Roof Slope Under 4.3/12		Roof Slope Under 6/12		Roof Slope Under 4.3/12		Roof Slope Under 6/12	
			Singlewide	Doublewide	Singlewide	Doublewide	Singlewide	Doublewide	Singlewide	Doublewide
9 Wide (108") 18 Wide (216")	90"	24"	8.5	9.0	6.5	5.5	7.5	--	5.0	6.0
		36"	6.0	6.5	5.0	4.0	7.5	10.5	5.0	6.0
		48"	4.5	5.0	--	--	7.0	10.0	7.0	5.5
		67"	--	--	--	--	9.5	9.0	7.0	7.0
	96"	24"	8.0	8.5	6.5	5.5	7.0	--	4.5	5.5
		36"	6.0	6.0	4.5	4.0	7.0	10.0	5.0	5.5
		48"	4.5	4.5	--	--	6.5	9.5	7.0	5.5
		67"	--	--	--	--	9.0	8.5	6.5	7.0
	108"	24"	7.5	7.5	6.0	5.0	6.0	--	4.0	5.0
		36"	5.0	5.5	4.0	--	6.0	8.5	4.5	5.0
		48"	4.0	4.0	--	--	8.0	8.0	6.0	5.0
		67"	--	--	--	--	7.5	7.5	5.5	6.5
	120"	24"	6.5	7.0	5.5	4.5	5.0	--	--	4.5
		36"	5.0	5.0	4.0	--	5.0	7.5	5.5	4.5
		48"	--	--	--	--	7.0	7.5	5.5	4.5
		67"	--	--	--	--	6.5	6.5	5.0	6.0

1. Values only apply to 75.5" I-beam spacing
2. Values include 16" eaves
3. Ground anchors are assumed to be 2" from the exterior face of the sidewall
4. All values are based on a ground anchor/strap capacity of 3150 lbs. Reduced load used for strap angle <45°
5. See the near beam and far beam strapping diagrams in the Cavco Installation Manual

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WZ1 SIDEWALL FRAME ANCHOR SPACING, 9/18 WIDE FOR 36" AND 57" PARAPETS – 75.5" I-BEAMS

Maximum Transverse Strap Spacing, ft									
Floor Width	Maximum sidewall height	Height From Ground to Floor	Near Beam Method				Far Beam Method			
			36" Max Parapet		57" Max Parapet		36" Max Parapet		57" Max Parapet	
			Singlewide	Doublewide	Singlewide	Doublewide	Singlewide	Doublewide	Singlewide	Doublewide
9 Wide (108") 18 Wide (216")	90"	24"	7.0	7.0	6.0	6.0	5.0	--	4.0	--
		36"	5.0	5.0	4.0	4.0	5.5	8.0	4.0	6.5
		48"	--	4.0	--	--	7.5	7.5	6.0	6.0
		67"	--	--	--	--	7.0	7.0	5.5	5.5
	96"	24"	6.5	6.5	5.5	5.5	5.0	--	4.0	6.0
		36"	4.5	4.5	4.0	4.0	5.0	7.5	4.0	6.0
		48"	--	--	--	--	7.0	7.0	5.5	6.0
		67"	--	--	--	--	6.5	6.5	5.0	5.5
	108"	24"	6.0	6.0	5.0	5.0	4.0	--	--	5.5
		36"	4.5	4.5	--	4.0	4.5	6.5	5.0	5.5
		48"	--	--	--	--	6.0	6.5	5.0	5.0
		67"	--	--	--	--	5.5	6.0	4.5	5.0
	120"	24"	5.5	5.5	5.0	5.0	--	--	--	5.0
		36"	4.0	4.0	--	--	5.5	6.0	4.5	5.0
		48"	--	--	--	--	5.5	6.0	4.5	5.0
		67"	--	--	--	--	5.0	5.5	4.0	6.5

1. Values only apply to 75.5" I-beam spacing
2. Values include 0" eaves
3. Ground anchors are assumed to be 2" from the exterior face of the sidewall
4. All values are based on a ground anchor/strap capacity of 3150 lbs. Reduced load used for strap angle <45°
5. Spacing given for parapets may be used for offset units and units with dormers
6. See the near beam and far beam strapping diagrams in the Cavco Installation Manual

SEE TABLE 27 IN THE CAVCO INSTALLATION MANUAL FOR LONGITUDINAL STRAPS.

USE VALUES FOR 10/20 WIDES

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CONSTRUCTION AND SAFETY STANDARDS

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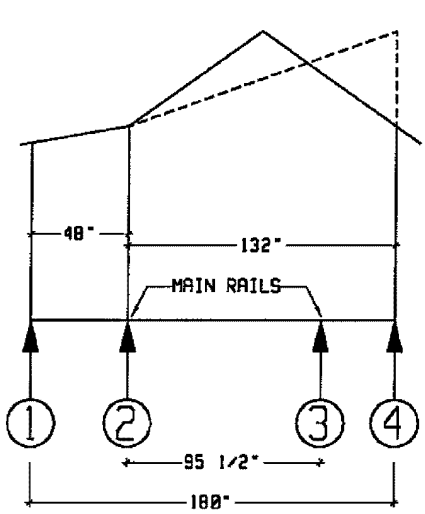
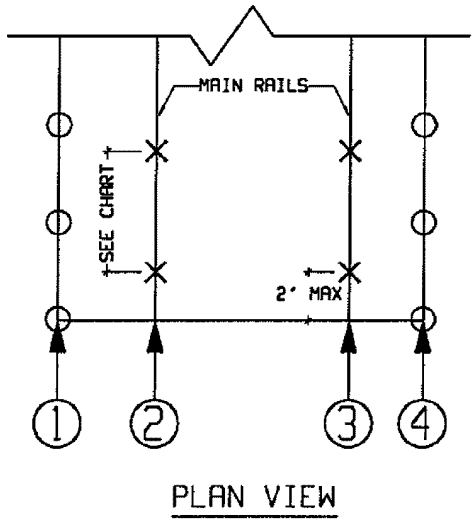
01/11/19

Full Length Sidewall/Longitudinal Porches

Pier Loads for Unit with Sidewall Porch and Bearing Sidewall





PLAN VIEW

See Appendix C for footings, Appendix D for tiedowns and Appendix E for perimeter support information not found on this page.

Table #1				
Pier Loads for Unit with 4' Porch, lbs				
Roof Load,		Location		
		2	3	4
4' Spacing	40	2856	1100	1764
	60	3456	1100	2284
	80	4056	1100	2804
6' Spacing	40	4284	1650	2646
	60	5184	1650	3426
	80	6084	1650	4206
8' Spacing	40	5712	2200	3528
	60	6912	2200	4568
	80	8112	2200	5608

1. For multi-wides add loads from Location #4 with mate line loads from other section to obtain total pier load at the marriage line.

Table #2 (1,2)		
Pier Loads Under 4' Porch Support Columns, lbs		
Column Spacing	Roof Loads, psf	Location #1
8' o.c.	40	1800
	60	2200
	80	2600
9' o.c.	40	2025
	60	2475
10' o.c.	40	2250

1. When double rim joists are use piers are only required under the porch column supports
2. If single rim joists are used, place a pier between the column supports with a min. capacity of 500 lbs

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FEDERAL MANUFACTURED HOME CONSTRUCTION AND SAFETY STANDARDS

Attention Installer/Retailer:

In accordance with the Federal Manufactured Home Construction and Safety Standards (FMHCSS) in effect June 9th 2014, shower and tub/shower valves must be either pressure balanced, thermostatic or combination mixing valves.

Hot water supply valves for showers, tub/showers and tubs must be equipped with temperature limiting devices that can be adjusted to deliver hot water at a maximum temperature of 120°F.

Upon completion of all utility connections, follow the valve manufacturer's instructions to adjust the hot water discharge temperatures of all shower, tub/shower and tub units in the home; the hot water discharge must be checked to ensure temperatures are a maximum of 120°F prior to owner occupancy.

Hot water temperature adjustments are not covered as part of the warranty.

APPROVED BY
NTA INC. May 18,2015
FEDERAL MANUFACTURED HOME
CONSTRUCTION AND SAFETY STANDARDS

			Cavco Industries, Inc. Fleetwood Homes, Inc. Palm Harbor Homes, Inc.	SU-AS-1.0	
			INSTALLATION SUPPLEMENT ANTI-SCALD DEVICES	5/11/15 REV.	NO. Anti-Scald

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