

# HOLLY PARK



9/1999

## SET UP INSTRUCTION MANUAL

**For Single Wide Homes**

**KEEP THIS MANUAL  
WITH YOUR HOME**

# SET UP INSTRUCTIONS FOR SINGLE WIDE HOMES

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The technical content of this manual has been reviewed by T.R.A. Inc. and found to be in accordance with the Federal Manufactured Home Construction and Safety Standards and Regulations.

## **RECOMMENDED MINIMUM SET UP TOOLS FOR SINGLE WIDE HOMES**

Two - 10 Ton Hydraulic Jacks  
16 oz. Claw Hammer  
24" Nail Bar or Carpenter Bar  
8" Pliers  
26" Hand Saw  
10" Crescent Wrench  
Standard Metal Cutters  
Foundation Supports  
100' Heavy Duty Extension Cord with Ground  
6' Carpenter Level  
8" Standard Blade Screw Driver  
8" Phillips Screw Driver  
16" Steel measuring Tape  
Wood Wedges

Any attached building or appurtenance, that penetrates any part of the home and is not designed and provided by Holly Park is fully the responsibility of the Homeowner. Any resultant and/or related damage caused to the home by such attached building(s) or appurtenance(s) will not be serviced by Holly Park.

## **IT IS EXTREMELY IMPORTANT TO PROPERLY SET, BLOCK AND LEVEL YOUR HOME**

It is best to have your home prepared for occupancy by a knowledgeable and experienced home set up firm. Such people should have the expertise to properly set up and block your home so that it is level and remains so. If your home is not properly set up and blocked on appropriate foundations, it may undergo unnatural structural strains, which could result in:

1. buckling and/or loosening of walls, partitions, siding, ceiling, doors, floors, weather stripping and miscellaneous fixed original fixtures of the home.
  2. leaking windows, doors, roof, ceiling, walls, floor, seams and junctures in general.
  3. improper closing, binding and sagging of windows, cabinets and inside and outside doors.
  4. malfunctioning of plumbing, water outlets, lighting fixtures, electrical, heating and air conditioning systems.
- Unless you are very qualified and capable, it may well be worth the extra expense of not doing it yourself.

## **FOUNDATION REQUIREMENTS**

It is important that your home have adequate support to give it proper and lasting stability. Therefore, the foundation footings, piers, supports or runners shall be installed in accordance with the size and weight of the home. Consideration shall be given to the type of soil and frost line conditions where the home is to be located when designing and installing the foundation footings or supports.

We recommend that you contact a local engineer and inquire as to the type of footings required in your area. You may wish to hire a contractor to install the required footings.

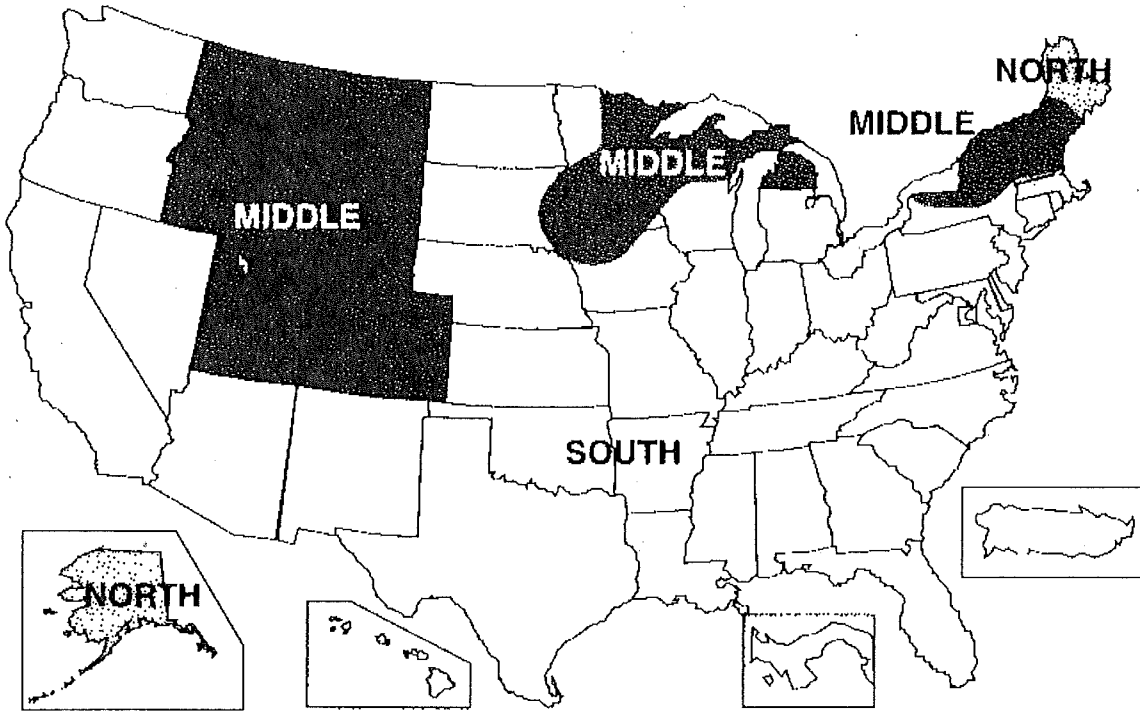
The following Roof Load Zone map will help you to determine what weather zone your home will be located in. After this has been determined, refer to the following section for specified foundation footings and pier blocking.

## **SITE PREPARATION**

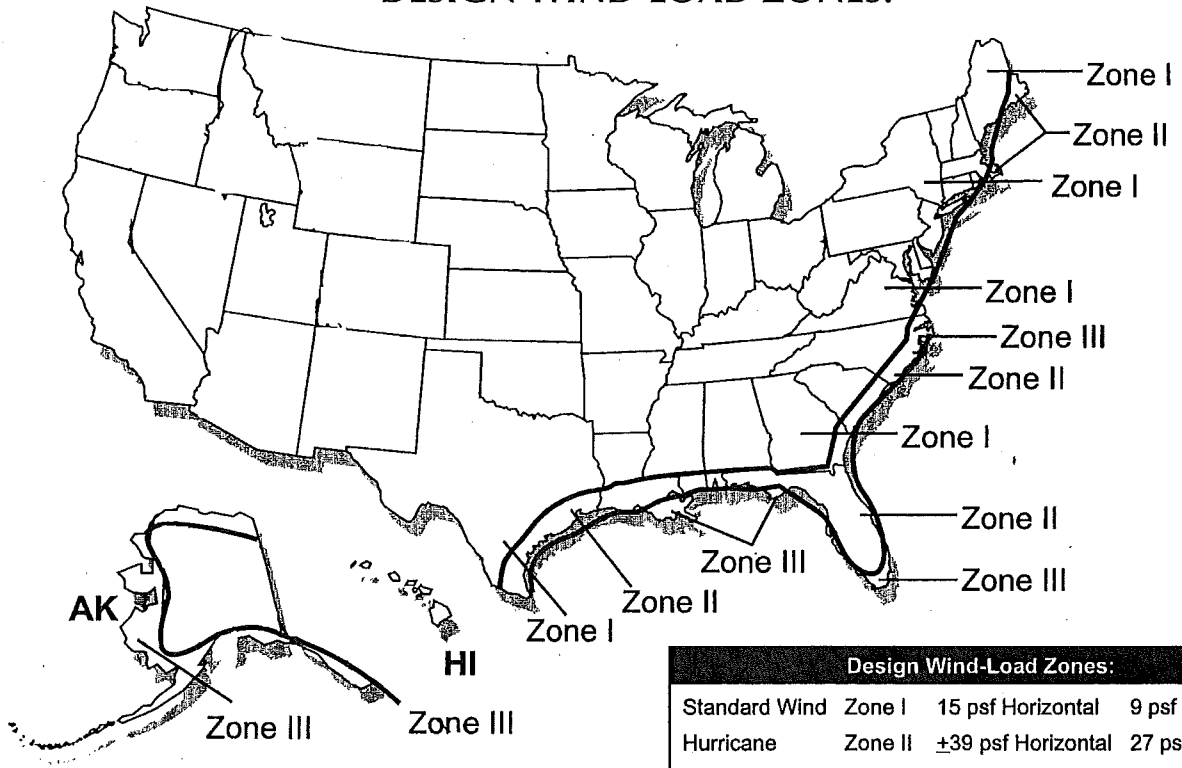
Proper site preparation is essential to the set up and performance of the manufactured home. The site shall be free of all grasses and organic matter and shall be graded to the minimum slope required for storm drainage away from the home. A vapor barrier shall be installed on the ground directly beneath the home where soils are not conducive to good drainage.

Note: The area under the home must be graded to prevent water accumulation.

# DESIGN ROOF-LOAD ZONE MAP



# DESIGN WIND-LOAD ZONES:



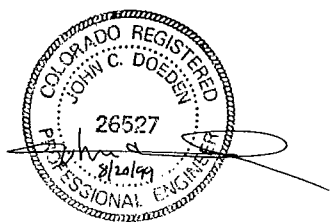
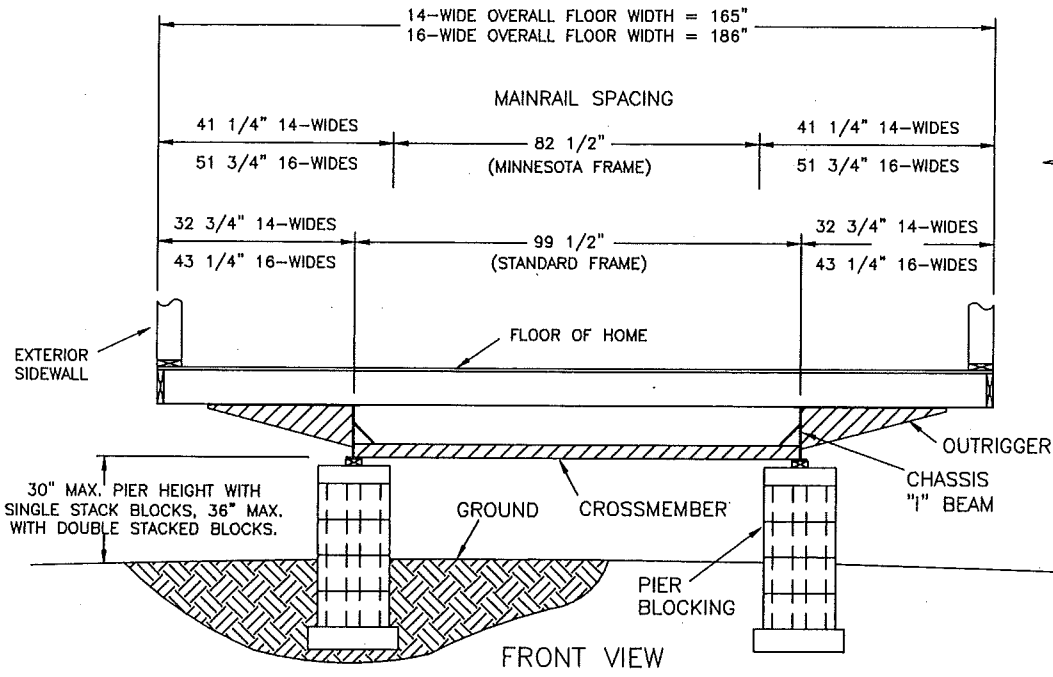
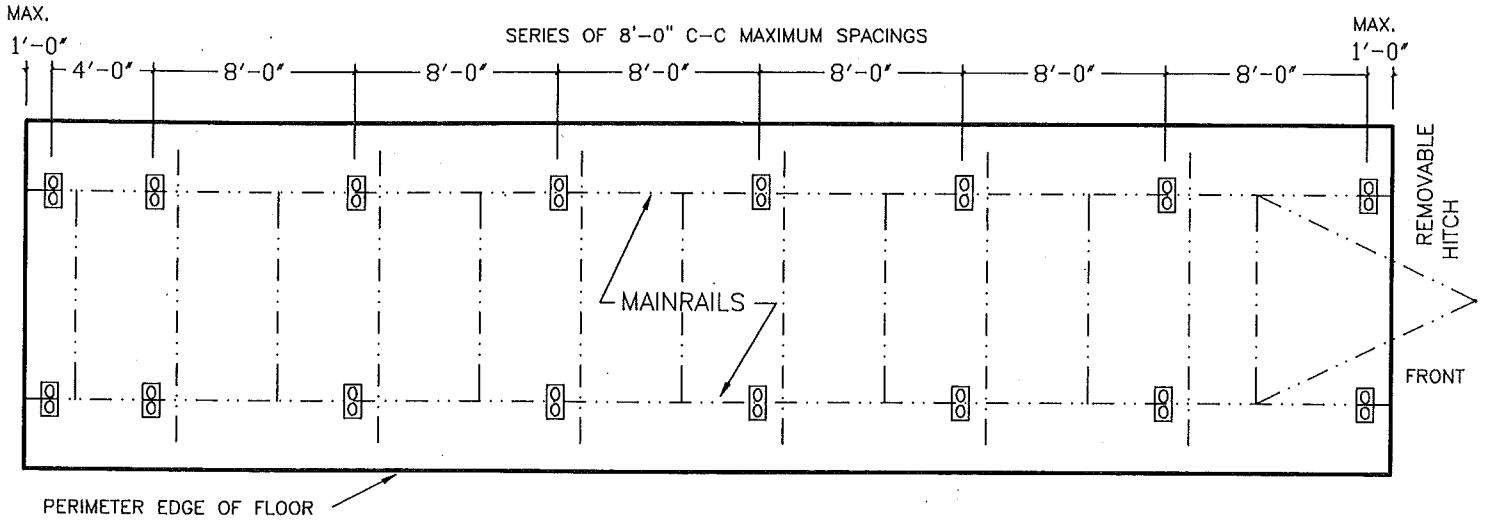
Design Wind-Load Zones:			
Standard Wind	Zone I	15 psf Horizontal	9 psf uplift*
Hurricane	Zone II	±39 psf Horizontal	27 psf uplift
Hurricane	Zone III	±47 psf Horizontal	32 psf uplift
			*net uplift

Note: psf: pounds per square foot

NOTE: ALL MAINLAND STATES NOT SHOWN ARE WIND ZONE 1

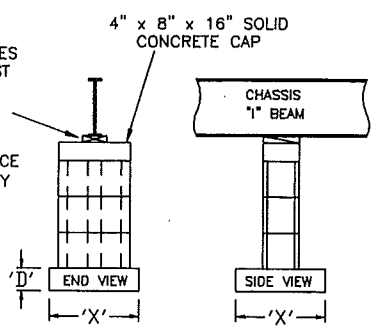
TYPICAL REQUIRED FOUNDATION FOOTINGS AND PIER BLOCKING  
(FOR HOMES LOCATED IN THE MIDDLE OR SOUTH ROOF LOAD ZONES)

PIER LOCATIONS FRONT TO REAR



APPLICABLE FOR:  
MAINRAIL PIER SET  
20# & 30#  
ROOF LOADS

LEVELING WEDGES IF NEEDED MUST BE CUT FROM TREATED WOOD MATERIAL AND MUST HAVE BEARING SURFACE 3 1/2" WIDE BY 8" LONG MIN.



A DOUBLE STACK PIER IS REQUIRED IF THE DISTANCE FROM THE MAINRAIL TO GROUND EXCEEDS 30". REFER TO ANSI A225.1 MFG. HOME INSTALLATION MANUAL FOR CONSTRUCTION REQUIREMENTS.

SOIL BEARING CAPACITY/SQ FT	FOOTING SIZE, 'X' x 'X' x 'D'	
	20# ROOF LOAD	30# ROOF LOAD
1,000	28 x 28 x 5"	30 x 30 x 5"
1,500	23 x 23 x 5"	24 x 24 x 5"
2,000	20 x 20 x 4"	21 x 21 x 5"
3,000	16 x 16 x 4"	17 x 17 x 4"
4,000	16 x 16 x 4"	16 x 16 x 4"

ANY OPENING IN SIDEWALL WIDER THAN 4' MUST BE BLOCKED AND LEVELLED TO MAINTAIN SQUARENESS OF THE OPENING

IM1-5

POURED CONCRETE FOOTING MUST HAVE COMPRESSIVE STRENGTH OF 3,000 P.S.I. AT 28 DAYS. FOOTINGS OTHER THAN POURED CONCRETE MAY BE USED PROVIDED ALL APPLICABLE BUILDING CODES AND LOAD BEARING CAPABILITIES ARE MET. WE RECOMMEND A QUALIFIED CONTRACTOR, ARCHITECT OR CIVIL ENGINEER FAMILIAR WITH APPLICABLE BUILDING CODES REVIEW AND APPROVE THE TYPE, SIZE AND INSTALLATION OF THE FOOTING SYSTEM USED.

## SINGLEWIDE SET UP PROCEDURE

### BLOCKING AND LEVELING

It is important that the home be level and properly supported as prescribed in this manual. After the footings are properly dry for the pier design selected, follow the procedure below:

1. Place a 6' level lengthwise on the floor of the home over the area where the axles are located. Turn the jack at the coupler on the front of the home until the floor is level in the axle area.
2. Turn the level crosswise and see if the home is level from side to side. If not, put a hydraulic jack under the low side I-beam at the axle area and raise the side that is low.
3. Place blocks under the I-beams on each side immediately ahead and behind the spring hangers. Insert wedges as shown on the drawing so the blocks bear the weight.
4. Work towards each end, placing blocks and wedges under the I-beams at no more than 8' intervals. Make continued checks with the level. If jacking is required, jack only under the I-beams and only enough to keep it level. If the home is over-jacked serious damage may result.

NOTE: Due to natural soil properties, some settling may occur. Within 90 days of initial set up, the home should be checked and releveled if necessary.

### TIE DOWN REQUIREMENTS

ONLY after the home is properly blocked and leveled should tie down procedures begin.

Ground ties are installed to resist lateral movement caused by high winds. Anchors, strapping, installation procedures, etc. are available from Minute Man Anchors, Inc. 305 West Walker Street, East Flat Rock, North Carolina, 28726, telephone (704) 692-0256, however, any anchors that meet the anchorage requirements specified herein are acceptable.

Vertical tie connectors are available as an optional item. They are NOT to be used in place of the frame anchoring system. If used, the vertical tie connectors must be attached to their own anchors, capable of withstanding a 4,750 pound pull when installed in the soil at the site. Do not attach them to the frame tie anchors.

Your home is designed to the Wind Zone 1 Standard. Wind Zone 1 is identified on the Wind Zone Map in this manual. Refer also to the Strap/Anchor Spacing details for proper frame tie and anchor spacing. The placement of anchors out from the I-beam shall be such that the strap angle is in the specified range.

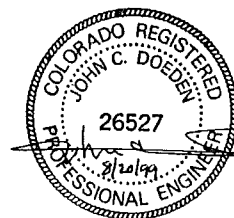
If possible, the anchors should be installed at the same angle as the anchor strap, so the "pull" on the anchor is straight. If the "pull" is not straight, follow approved methods described by the anchor manufacturer (i.e. stabilizer plates).

When tightening the straps with tensioning device provided with the anchors, avoid overtensioning the straps as this could pull the home off the piers. It is recommended that all straps be tightened enough to remove the slack. After all straps are installed and the slack removed, tension the straps.

NOTE: Strap tension should be checked periodically until all pier settlement has stopped. AT TIME OF RELEVELING DO NOT JACK THE HOME AGAINST THE STRAPS.

In accordance with the FMHCSS effective July 13, 1994, the following anchorage requirements shall also be observed.

1. The design of anchors should be certified for their installation by a professional engineer or a nationally recognized testing laboratory as to their resistance based on the installed angle of diagonal tie and/or vertical tie loading and type of soil in which the anchor is to be installed.
2. Ground anchors should be embedded below frost line and be at least 12" above the water table and should be installed to their full depth with stabilizer plates installed to provide added resistance to overturning or sliding forces.
3. Anchoring equipment should be certified by a registered engineer or architect to resist these specified forces in accordance with testing procedures in ASTM specification D3953-91, "Standard specification for strapping, flat steel, and seals."
4. Tie downs must start no more than 2'-0" from each end of unit (i.e. open end anchorage).
5. Protection shall be provided at sharp corners where the anchoring system requires external straps or cables.



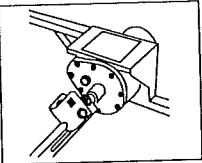
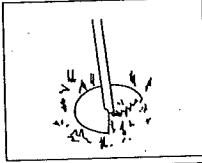
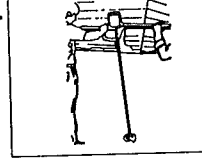


# ANCHOR INSTALLATION

**CAUTION:** The installation of anchors with a drive machine is a two person operation.

## MACHINE INSTALLATION

In this method, the anchor is turned to full depth into the ground by an anchor drive machine.

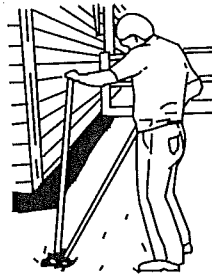
1.  Attach anchor to machine.
2.  Placed anchor in proper position in line with strap and machine.
3.  Anchor should be installed at a slight angle as shown to assure head being positioned behind future skirting.

There are two basic methods of installing anchors, each equally effective in properly securing manufactured homes to the ground.

**Warning:** Before ground anchor installation, determine that the anchor locations around home will not be close to any underground electrical cables, water lines or sewer piping. Failure to determine the location of electrical cables may result in serious personal injury.

## MANUAL INSTALLATION

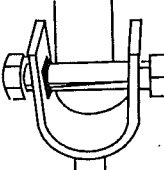
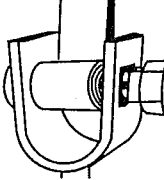
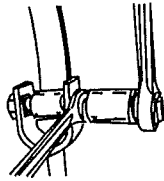
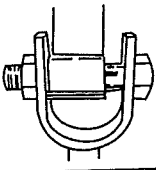
A hole is dug to a depth of approximately two feet in the proper position as explained under machine installation.



After the hole is dug to 24" depth, the anchor is turned into the ground by hand, using a rod or length of pipe for leverage.

After anchor is installed full depth, earth is repacked, six inches at a time.

## PROPER TENSIONING OF STRAP TO ANCHOR HEAD

1.  Insert bolt into head; attach nut loosely. Insert strap in slot of 5/8" bolt, or until strap is flush with far side of bolt.
2.  Bend strap 90° and take at least three complete turns on bolt until strap is taut.
3.  Bolt is turned with 15/16" socket wrench, or adjustable wrench, on hex head. With square hole in anchor head, hold bolt under tension while repositioning wrench: Place open-end wrench on 5/8" square shoulders of bolt. Align square shoulders of bolt with square hole in anchor head.
4.  Holding hex head of bolt in position, tighten nut to draw square shoulders into square hole. Shoulders are now in locking position; continue to tighten nut. Tensioning device is now in locked, secure position.

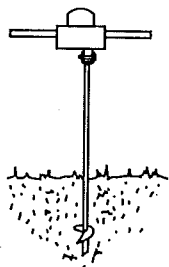
**Note:** The tensioning bolt can be inserted in the head from either side.

**Notice:** In areas of severe cold weather, where possible damage could occur from frost heave, the homeowner should be prepared to adjust tension on the straps to take up slack.

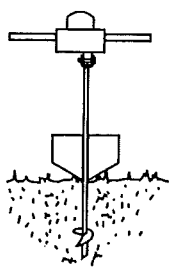
# MINUTE MAN ANCHORS, INC.

## INSTRUCTION FOR USING MINUTE MAN STABILIZING DEVICE

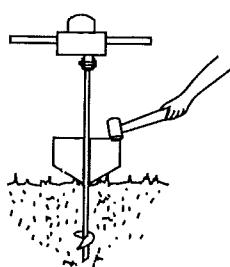
Minute Man stabilizing devices are designed for use with Minute Man anchors and intended to laterally restrict movement of the anchor through the soil.



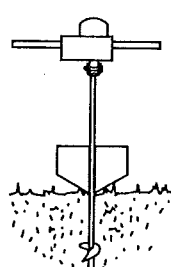
1. Install the anchor into the ground leaving 12" - 18" of the shaft exposed.



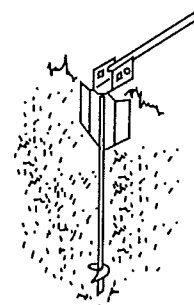
2. Place the stabilizing device next to the shaft in the direction of pull.



3. Drive the stabilizing device into the ground.



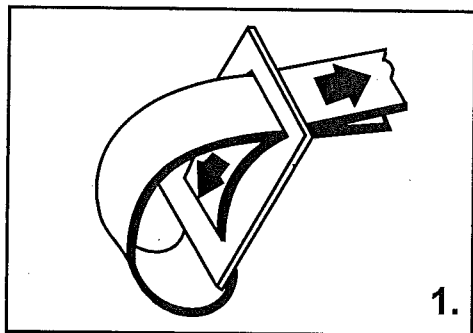
4. The anchor is then turned in the rest of the way into the soil until the head of the anchor is flush with the stabilizing device.



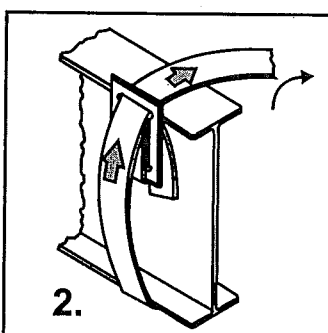
5. As the frame tie is tightened the anchor will be pre-loaded against the stabilizing device preventing lateral movement of anchor through the soil.

## FRAME TIE INSTALLATION INSTRUCTIONS

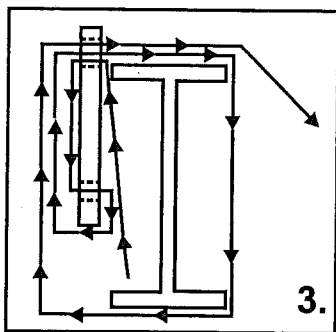
### Frame Tie With Buckle



1.



2.



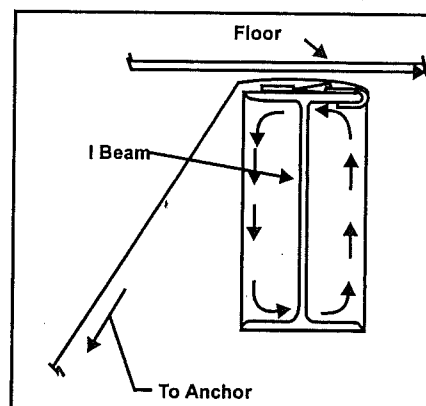
3.

Thread sufficient length of frame tie strap through buckle as shown.

Next, thread long end of strap between frame and floor of home. Bring strap through buckle as shown in diagram and fasten to anchor head.

Diagram showing strap in position around frame and through buckle. It is important to remove all slack from system.

### Frame Tie With Hook



### Enlarged View of Frame Beam

Attach Frame Clamp (Hook) inside top flange of home frame. Place strap between frame and home as shown in sketch. Pull strap tight and attach to anchor tension head.

# E-Z ANCHOR INSTALLATION METHOD

*Note: With machine installation, a Minute-Man adapter designed to fit both the anchor head and drive machine shaft is available. Installers do not need additional or special equipment for E-Z Anchor Installation.*

## 1. MACHINE INSTALLATION

The drive machine is started and the anchor is turned into the ground to a point where the top (stabilizer head plate) is flush with or slightly below ground level. This assures that the E-Z Anchor Stabilizer will be at its required installation position. **See Figure A.**

To achieve full potential, install the E-Z Anchor vertically. A  $10^\circ$  deviation from vertical is acceptable. **See Figure A.**

*Note: A slightly greater angle may be used to start anchor to avoid contact with the home and straightened as anchor is ground set. The splitbolt is inserted, strap is fastened, and tightening adjustment made.*

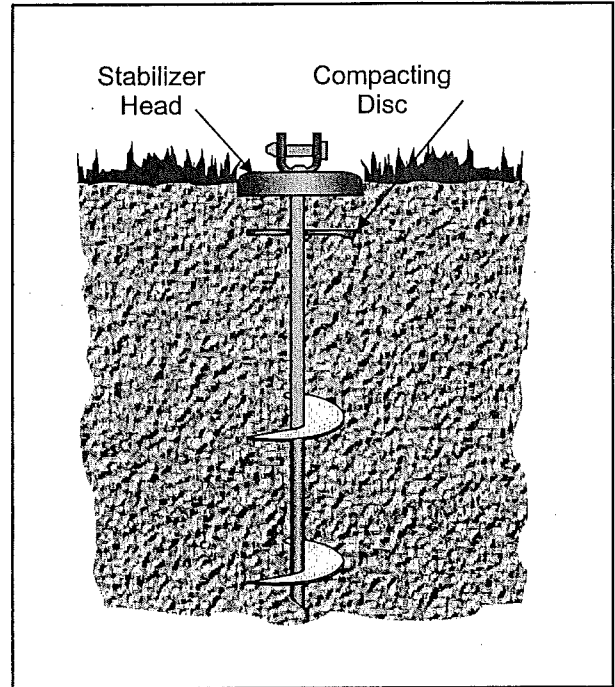


Figure A

## 2. STANDARDS FOR INSTALLATION

- E-Z Anchors and all components are to be installed per manufacturer's instructions.
- E-Z Anchors are approved for designated Soil Class III.
- E-Z Anchor working load capacity is 3,150 pounds for a single tie or the load of (2) ties combined which is 40 to 50 degrees from vertical. **See Figure B.**
- Consult manufactured home set up instructions for number of frame tie downs and tie down spacing.
- Proper site preparation required removal of grass and sod prior to installation.

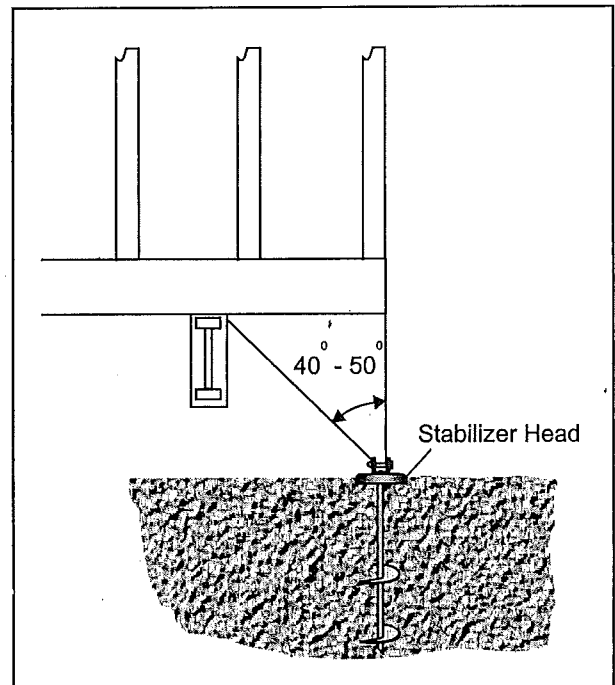
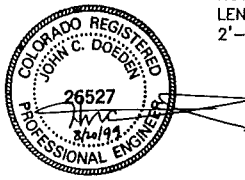
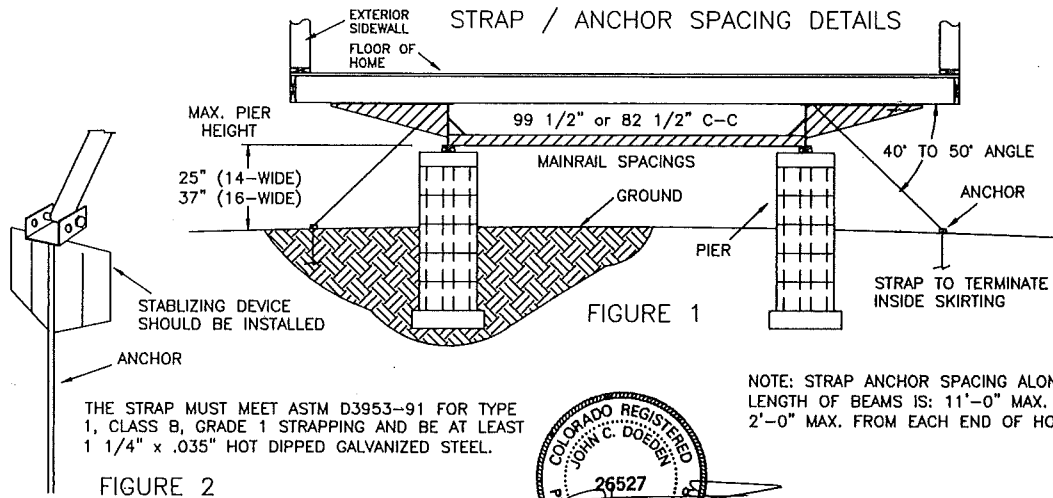
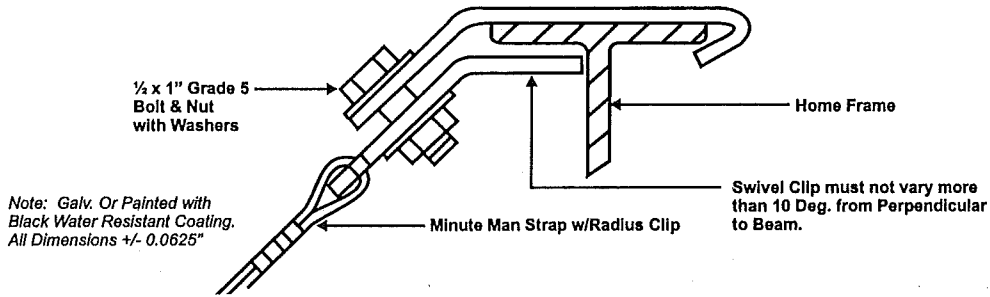


Figure B

*For additional information, copies of engineering test(s) and report, Contact Minute-Man Anchors, Inc. (Revised: November 1998)*



**LOCKING FRAME CLAMP II  
MMA-33 ASSEMBLED UNIT**



**SOIL CLASSIFICATION CHART**

Soil Class	Soil Description	Blow Count (ASTM D1586)	Test Probe Value	Recommended Minute Man Anchor
1	Sound hard rock	NA	NA	Cross Drive or Rock Anchor
2(a)	Very dense &/or cemented sands, coarse gravel and cobbles, caliche, preloaded silts, and clays.	40-up	551 lb. in. Up	4430DH 650DH 4430 EZDH 636 EZDH 24 BA
2(b)	Coral	40-up	551 lb. in. up	4430 DH 650DH 24BH
3	Medium dense coarse sands, sandy gravels, very stiff silts, and clays.	24-39	351 to 550 lb in.	4430 DH 4430 EZDH 636 EZDH 650DH
4(b)	Loose to medium dense sands, firm to stiff clays and silts alluvial fill.	18-23,3	276 to 350 lb. in.	650DH 6650 EZVDH Fla.
4(b)	VERY loose to medium dense sands, firm to stiff clays and silts, alluvial fill.	12-17	175 to 275 lbs. in	1060DH

**Remember: Each state, county or municipality may require a specific anchor from the groups shown for each soil classification. Check local regulations first.**

Note: Many anchors are designed for particular soil condition(s) and are unacceptable for use in other type soils. We have listed the soils for which each anchor is designed and approved. Soil classifications are taken from the "standard for the installation on mobile homes". Each anchor listed meets ANSI A225.1 and ASTM D3953.91 codes.

Following is a list of Minute-Man Anchors with a minimum holding power of 4,725 pounds (2143 kg.).

MARK	MODEL	DESCRIPTION	USE IN SOIL TYPE
MMA-2	650-DH 5/8	6" DISC, 50" ANCHOR	2,3,4
MMA-4	650-DH 3/4	6" DISC, 50" ANCHOR	2,3,4
MMA-38	650-DH 11/16	6" DISC, 50" ANCHOR	2,3,4
MMA-40	636-DH 5/8	6" DISC, 36" ANCHOR	2,3,4
MMA-28	636-DH 3/4	6" DISC, 36" ANCHOR	2,3,4
MMA-30	4430-DH 5/8	DOUBLE 4" DISC, 30" ANCHOR	2
MMA-36	4430-DH 11/16	DOUBLE 4" DISC, 30" ANCHOR	2
MMA-6	4430-DH 3/4	DOUBLE 4" DISC, 30" ANCHOR	2
MMA-35	35-XDH	36" CROSS DRIVE ANCHOR	1
MMA-8	48-XDH	48" CROSS DRIVE ANCHOR	1
MMA-71	1060-DH 3/4	10" DISC, 60" ANCHOR	4b (Fla.)
MMA-50	4442-DH 5/8	DOUBLE 4" DISC, 42" ANCHOR	2,3,4
MMA-52	4636-DH 3/4	4" & 6" DISC, 36" ANCHOR	2,3,4
MMA-54	4450-DH 11/16	DOUBLE 4" DISC, 50" ANCHOR	2,3,4
MMA-55	4450-DH 3/4	DOUBLE 4" DISC, 50" ANCHOR	2,3,4
MMA-92	4430-EZDH 3/4	DOUBLE 4" DISC, 30" EZ ANCHOR	2,3
MMA-94	636-EZDH 3/4	6" DISC, 36" EZ ANCHOR	2,3
MMA-95	660-EZDH 3/4	6" DISC, 60" EZ ANCHOR	2,3
MMA-96	650-EZDH 3/4	6" DISC, 50" EZ ANCHOR	2,3,4
MMA-98	650-EZVDH 3/4	DOUBLE 6" DISC, VERT. STABILIZER	2,3,4A (Fla.)
MMA-18	THDH	DOUBLE HEAD TENSION DEVICE	SLAB
MMA-18	THDHL	DH TENSION DEVICE W/LAG	SLAB
MMA-10	36-DH	CORAL ANCHOR	CORAL
MMA-12	210-DH	CONCRETE ANCHOR	SLAB
MMA-14	210-PDH	WET CONCRETE ANCHOR	SLAB
MMA-42	210-JDH	SWIVEL HEAD WET CONCRETE ANCHOR	SLAB
MMA-BR	24 BA	BARB ROCK ANCHOR	1
MMA-22	100-DH	DOUBLE HEAD TENSION ADAPTER	
MMA-SDA2		STABILIZER	FLA.
MMA-SD2		STABILIZER	FLA.
MMA-29	FCIW/S	FRAME CLAMP II W/STRAP	
MMA-29	FCIW/S	FRAME CLAMP I W/STRAP	
MMA-31	FRAME TIE	LONGITUDINAL FRAME TIE	FLA.
MMA-32	BUC/WS	BUCKLE W/STRAP	
MMA-33	FCII (LOCKING)	LOCKING FRAME CLAMP II	FLA.
MMA-71	CT/WS	CORNER TIE W/STRAP	
MMA-71	CT/WS	CORNER TIE II STRAP	FLA.
MMA	SBN	STRAP BOLT & NUT	
MMA-25	22 BUCKLE	DOUBLE SLOT BUCKLE	
MMA-32	SS BUCKLE	SINGLE SLOT BUCKLE	
	44RB	4X4" ROOF BRACKET	
	66 RB	6X6" ROOF BRACKET	
	POCKET PENETROMETER	POCKET PENETROMETER	
	SOIL TEST PROBE	SOIL TEST PROBE	
	PERIMETER JACK	PERIMETER JACK	
	JACKING PLATE	I BEAM JACKING PLATE	
MMP-6	6" PIER	STANDARD MOBILE HOME PIER	
MMP-8	8" PIER	STANDARD MOBILE HOME PIER	
MMP-10	10" PIER	STANDARD MOBILE HOME PIER	
MMP-12	12" PIER	STANDARD MOBILE HOME PIER	
MMP-14	14" PIER	STANDARD MOBILE HOME PIER	
MMP-16	16" PIER	STANDARD MOBILE HOME PIER	
MMP-18	18" PIER	STANDARD MOBILE HOME PIER	
MMP-20	20" PIER	STANDARD MOBILE HOME PIER	
MMP-22	22" PIER	STANDARD MOBILE HOME PIER	
MMP-24	24" PIER	STANDARD MOBILE HOME PIER	
MMP-26	26" PIER	STANDARD MOBILE HOME PIER	
MMP-28	28" PIER	STANDARD MOBILE HOME PIER	
MMP-30	30" PIER	STANDARD MOBILE HOME PIER	
MDP-16	16" DELUXE PIER	LOCKING HEAD HEAVY DUTY PIER	FLA.
MDP-20	20" DELUXE PIER	LOCKING HEAD HEAVY DUTY PIER	FLA.
MDP-24	24" DELUXE PIER	LOCKING HEAD HEAVY DUTY PIER	FLA.
MDP-28	28" DELUXE PIER	LOCKING HEAD HEAVY DUTY PIER	FLA.
MDP-32	32" DELUXE PIER	LOCKING HEAD HEAVY DUTY PIER	FLA.

# CONNECTING UTILITIES

## FRESH WATER SUPPLY

The water inlet is located underneath the home and is marked with a label fastened to the side of the home. You must install a shut-off valve in the supply line, adjacent to the home. Connect the supply line to the water inlet.

**CAUTION** – The water distribution system in this home was designed for a maximum water pressure of 80 pounds per square inch (psi) at the inlet. Pressures in excess of this can cause burst pipes, leaky faucets, etc. If the water pressure exceeds 80 psi, you must install a pressure reducing valve at the inlet. **IMMEDIATELY** after connecting the water supply and turning the water on you should check the entire home for any possible water leaks which may have occurred. (Over the road vibrations, etc. may have loosened a joint.)

**CAUTION** – Do not start the water heater (either electric or gas) until the water supply has been connected and the water heater has been filled.

If the home is located in an area where pipes may freeze, the exposed water pipe shall be wrapped with a heat tape labelled by U.L. for manufactured home use. The heat tape shall be installed in accordance with its manufacturer's instructions. An electrical receptacle is located on the underside of the home, near the water inlet, where the heat tape may be plugged in.

## DRAINING THE WATER LINES

Follow these steps in order to drain the water lines in your home:

- a. Turn off water heater.
- b. Turn off water supply.
- c. Open all faucets throughout home.
- d. Disconnect water supply inlet.
- e. Open water heater drain valve, after attaching a hose to the valve so the water drains outside the home.
- f. Let water supply system and water heater drain completely.
- g. Flush toilets and drain water tanks completely.
- h. Close all water faucets with the exception of one.
- i. Connect 30 to 50 pounds per square inch air supply to water inlet connection.
- j. With the air supply on the system, open one faucet at a time throughout the home.
- k. After entire system has been drained of all water, disconnect the air supply and close off water inlet valve.
- i. Pour antifreeze solution into all drain traps, including sinks, tubs, and toilets.

## DRAIN LINES

Most of the DWV (Drain, Waste & Venting) system is installed at the manufacturing facility. In some instances, the system must be completed beneath the home after the home is set-up and blocked. All materials needed to complete the system is sent with the home by the manufacturer. A plumbing diagram (as required by Federal Standards and reviewed and approved by an independent engineering firm) depicting the necessary information (fittings, pipe sizes, locations and configuration) necessary to complete this system is included with the close-up kit in your home.

First locate the outlets visible beneath the home. Using the above referenced diagram locate the fittings necessary at each outlet and secure these fittings to the outlets. Note: All connections of fittings shall be done following the instructions printed on the containers of solvent and adhesive.

Standard lengths of pipe are provided. These must be cut to necessary lengths as required by distance between outlets being connected. All cut ends shall be cleaned and de-burred before being joined. Couplings are provided for joining pipe lengths if necessary.

After fittings are installed and pipe sections are completed, assemble the pipe to the fittings between outlets, again per the proper solvent and adhesive instructions.

When installing these drain lines, ensure they are installed with a slope towards the main drain of 1/4" per foot, or if a clean out fitting is located at the upper end of each branch, a min. of 1/8" per foot is acceptable.

All drain lines must be supported every 4'-0" on center to ensure the required slope. If you live in an area that is subject to extreme cold, care must be taken to prevent line freeze by wrapping with insulation.

## ELECTRICAL CONNECTION

The home was completely wired at the factory, up to and including the service panel containing the main circuit breaker and individual branch circuit breakers. The electrical system in the home is 115/230 volt, 3-pole, 4-wire, including ground. Conduit from the service panel to the outside of the home, in which to run the electrical supply wires, has also been installed at the factory. It is very important to properly ground the service panel. Each branch circuit and each non-current carrying conductor (exterior metal, gas lines, heat duct, etc.) is grounded to an electrically isolated grounding bar in the service panel. The neutral (white) wire in the electrical system should never be grounded in the service panel or to the ground (green) wire.

The main electrical supply lines, outside conduit, disconnects, etc. have not been supplied with the home since requirements vary from location to location, and the connection must conform to all local requirements.

The following table shows the proper size wire to be used in connecting the main service panel in your home to the electrical source (proper wire size depends on the type of wire and the electrical demand of the home):

### SIZE OF FIXED FEEDER SUPPLY WIRES, AWG OR MCM

Size of Main Circuit Breaker, in Home, in Amperes	75° C Rated	
	Copper, Type RH, RHH, RHW without Outer Covering THW or XHHW	Size of Grounding Wire
100	4	8
150	1	6
200	2/0	6

NOTE: Certain items in your home may be protected by a plastic cover, e.g. skylights, fan, light globes. Covers should be removed for proper use.

The electrical supply wires should be run in conduit from the home to the electrical source. The following table shows the proper size junction box and conduit to use, which depends on the type of wire used and the electrical demand of the home:

**MINIMUM JUNCTION BOX AND CONDUIT SIZE,**

Size of Main Circuit Breaker, in Home, in Amperes	IN INCHES 75° C Rated Copper, Type RH, RHH RHW without Outer Covering	Junction Box
	THW or XHHW	
100	1-1/4	8 x 8 x 4
150	1-1/2	10 x 10 x 4
200	2	12 x 12 x 4

**CAUTION!** Several things are very important concerning the electrical connection to your home.

- Only a qualified electrician should perform the electrical hook-up, or make any extensions or changes in the electrical system. Unqualified people could cause serious or fatal accidents.
- Be sure that the electrical power supply at your homesite is adequate to supply the electrical demands of your home. Inadequate power supply or wiring supplying electricity to your home can be hazardous.
- It is very important that proper polarity be maintained when the electricity is connected to your home. The white (neutral) wire should NEVER be connected to, or come in contact with, either one of the black or red (positive or "hot") wires. In addition, the white (neutral) wire should NEVER be connected to, or come in contact with the green (ground) wire.
- The home must be properly grounded, by running a proper sized wire from the grounding bar in the main service panel through the conduit to the outside of the home, and attaching it to a proper copper rod driven full length into the ground.
- Installation of any type of telephone wiring, TV antenna, or other service which includes penetrating the exterior siding and/or exterior side or end wall or interior partitions of the home should only be done by a qualified person, observing the following procedures.
  1. Disconnect the main circuit breaker, in the service panel.
  2. Do not pierce the side or end walls more than 12" from the bottom edge of the home, and do not pierce interior partitions more than 5" from the top of the floor.
  3. After completing the installation, complete a dielectric strength test of the entire electrical system in the home.
  4. Return the main circuit breaker to "On".
  5. Test all light fixtures, electrical receptacles and appliances for proper operation.

**GAS CONNECTION**

If your home was built at the factory with a gas burning furnace, range or water heater, the inlet for the gas pipe is located underneath the home and is marked with a label fastened to the side of the home. The gas piping system of the home was tested for leaks at the factory; however, because of over the road vibration, etc., the entire system should again be pressure tested for leaks by a qualified person. The gas piping system for this home has been designed for the following pressures:

Natural gas — pressure of at least 7 inches of water column, but not more than 10-1/2 inches of water column.

LP gas — pressure of at least 11 inches of water column, but not more than 14 inches of water column.

After the system has been determined to be leak free, the gas pipe should be connected to the gas supply, in accordance with local requirements.

**CAUTION!** Several things are important concerning the gas connection to your home.

- If the home has a gas burning hot water heater installed at the factory, with the flue pipe and roof cap NOT installed but

furnished with the home, do not operate the water heater until the protective covering has been removed from the roof and the flue pipe and cap have been properly installed in accordance with the water heater manufacturer's instructions. The water heater flue pipe and cap (when not installed, but furnished with the home) was not installed at the factory to prevent possible damage during shipment.

- Only a qualified person should check the system for leaks and connect it to the supply. Unqualified people could cause serious or fatal accidents.
- Install a gas shut off valve outside the home when connecting the system to the supply.
- In most cases, the orifices or settings included in the gas burning appliances (including furnaces and water heaters) at the factory are for NATURAL gas only. If you intend to use LP gas, a qualified person must convert the appliance in accordance with its manufacturer's instructions. Be sure to check all connections for leaks after the appliances have been converted.
- After the supply is connected, the installer should light the pilot light (if any) on each appliance and determine that the appliance is working properly.

**INSTALLING FLUE ON OPTIONAL WOOD BURNING FIREPLACE**

**CAUTION!** If the home includes an optional wood burning fireplace installed at the factory, DO NOT START A FIRE IN IT until the protective covering has been removed from the top of the chimney and the remaining sections of the flue pipe and the flue top assembly have been properly installed in accordance with the fireplace manufacturer's instructions. The flue pipe and top assembly, which are furnished with the home, were not installed at the factory because of the possibility of damage while in transit.

**CAUTION!** Be sure to use the optional wood burning fireplace only in accordance with the manufacturer's instructions.

**INSTALLING CENTRAL AIR CONDITIONING**

This home is suitable for installation of a central air conditioner, provided the electrical supply panel and electrical service is large enough to carry the load. A qualified heating/cooling company will be able to determine if the electrical supply is adequate, and by referring to the information on the comfort cooling certificate located in the home, a qualified heating/cooling company can determine the proper sized air conditioner that will be needed.

If a self-contained central air conditioning unit is to be used (separate from the furnace) an automatic damper (to prevent cooled air from blowing up into the furnace) may have to be installed in the furnace base. Depending on the furnace installed in your home, this damper may already have been installed at the factory, or in some cases, the furnace may be a type which is labeled as suitable for use with air conditioning without such a damper. In addition, the ducts carrying cooled air from the air conditioning unit into the home and return air from the home to the air conditioning unit must contain dampers, or be installed in such a way so that when the furnace runs, heated air does not blow through these ducts into the air conditioning unit.

A combination heating/cooling thermostat will also have to be installed, to prevent simultaneous operation of the furnace and the air conditioner.

The duct carrying cooled air from the air conditioner to the home should be connected to the bottom of the main duct located in the floor of the home. The connection should be located so that an equal number of floor registers are on each side of the connection. The floor joists running crosswise within the floor of the home should not be notched or cut into in any way when installing the air conditioner supply duct.

A duct carrying return air from the home back to the air conditioning unit will probably be necessary. If so, the return air

register should be located so that air passage is not restricted, and it should be located between the floor joists within the floor. The floor joists must not be notched or cut into in any way when installing the return air duct.

### INSTALLING A SEPARATE, EXTERNAL HEATING AND/OR COOLING DEVICE

It is possible that the home was manufactured at the factory, with the furnace omitted, if so ordered that way by the dealer. If so, a duct adaptor has been installed at the factory in the duct within the floor, for connecting to the external heating and/or cooling device. In addition, a return air grill, to return air from the home to the external device, has also been installed at the factory. The following items must be complied with in the installation of an external heating and/or cooling device:

- The installation should only be done by a qualified heating/cooling company. The device must be properly sized for the home, and it must be installed in accordance with its manufacturer's instructions. The installer should leave the manufacturer's installation and operating instructions with you.
- A qualified electrician should connect the device in conformity with local requirements, after being sure that the electrical supply is adequate for the load.
- The device should be installed in such a fashion that it is readily accessible for inspection, service, repair and/or replacement.
- The ducts carrying air from the device to the home, and returning air to the device, must be designed and manufactured so as to comply with Section 280.715 of the Federal Manufactured Home Construction and Safety Standard.
- The installer should complete the appropriate portion of the heating certificate.

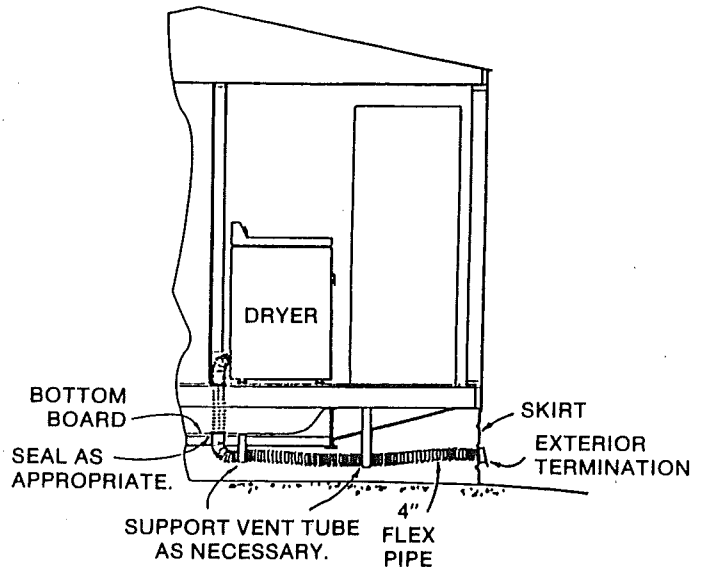
### INSTALLING CLOTHES DRYER VENT

If the home was ordered with optional wiring for an electric clothes dryer, a hole was cut through the floor (and temporarily resealed) at the dryer area, through which the vent tube is to be run. The vent tube was not supplied with the home, unless an electric clothes dryer was installed at the factory, the necessary vent tube and outlet fitting were shipped loose inside the home from the factory, and must be installed when the home is set up. (The vent tube and external fitting were not installed at the factory because of possible damage while the home was being delivered and set up.)

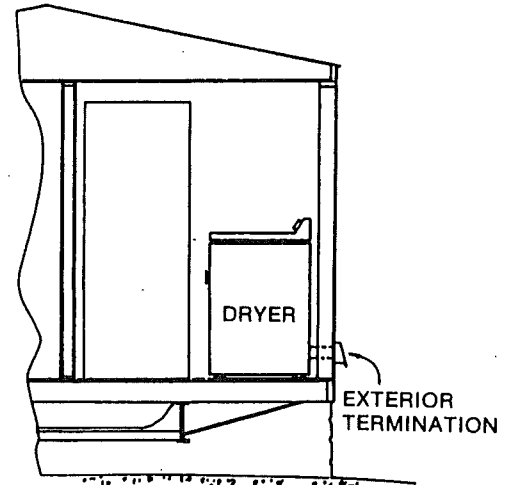
To install the duct, first remove the temporary patches covering the hole in the floor. Push the vent tube into the hole, and attach the end inside the home to the outlet on the rear of the dryer. From underneath the home, pull the vent tube through the floor so it is snug, and extend it to the side of the home. DO NOT allow the vent tube to terminate underneath the home. Fasten the termination fitting to the end of the vent tube, and fasten the fitting at the edge of the home. Support the vent tube as necessary, and seal around the opening in the bottom board (underneath the home) as appropriate.

**WARNING!** Do not use a clothes dryer in this home unless it has been properly vented to the outside. If you use a clothes dryer which is not properly vented, you will introduce a substantial amount of water into the air inside the home, which could cause condensation, which could damage your home.

**WARNING!** If your home was not wired for an electric clothes dryer at the factory, do not install one until a qualified electrician determines that the electrical service is adequate for the increased demand. Any additional wiring should only be done by a qualified electrician. The dryer must be vented in accordance with the foregoing instructions, but you will have to cut the hole for the vent tube in the floor, because this wasn't done at the factory.

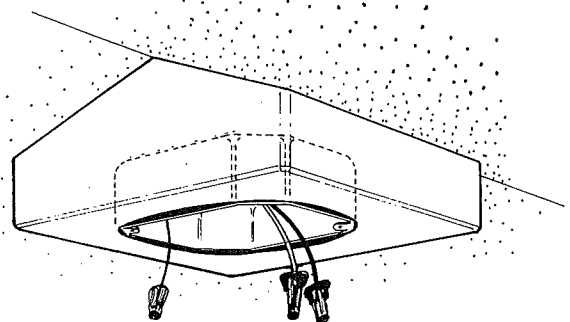


**DRYER INSTALLATION AGAINST INTERIOR WALL**



**DRYER INSTALLATION AGAINST EXTERIOR WALL**

Fan mounting box shown on Cathedral ceiling  
May be mounted on Flat ceiling or Ridge Beam



Three wires have been provided for field installation of Ceiling Fan. Typically a Black (Hot), a White (Neutral) and a bare copper ground wire. Installation should be made by qualified Electrician.

Follow Instructions That Came With The Fan To Be Installed

### **PATCHING THE BOTTOM COVERING**

It is important that any holes, tears, etc. in the bottom covering underneath your home be promptly repaired. Following are three alternative methods for doing this:

- Cut the patch to size out of any suitable material. Use a double-faced tape (such as 3M No. 950) and affix the sticky side to the patch. Remove the paper from the other side of the tape, and apply the patch to the area under repair.
- Use pressure sensitive tape, such as Tuck No. 91B, to mend occasional small holes, tears or cuts.
- Cut the patch to size out of any suitable material, and tape it in place. Use an air-operated outward flare tacker (Senco Products, Inc. – Model LN 3045) and fasten the perimeter of the patch at 3" intervals.

### **INSTALLING SKIRTING AROUND YOUR HOME**

Skirting installed around the perimeter of your home will enhance its appearance, and help keep heating costs down in the wintertime. Several types of skirting are available, and may be found in the yellow pages under "Mobile Homes." If you have skirting installed around your home, be sure that the clothes dryer vent (if any) terminates OUTSIDE the skirting. Vents should be installed in the skirting and at least two such vents should be kept open throughout the winter.