8/4/03

SINGLE WIDE INSTALLATION INSTRUCTIONS

Superior Homes, LLC
715 21st Street SW
Watertown, South Dakota 57201
Phone: (605) 886-3270

SITE PREPARATION

The site selected to place the home should be properly graded to prevent the accumulation of water under the home. Enclosed crawl spaces shall be cross ventilated with a free air space of at least 1/150 of the floor area. Internal moisture control is the responsibility of the home owner by controlling the humidity levels in the home. (See Condensation Control information provided in the warranty information).

WARRANTY INFORMATION

Refer to manufacturers warranty information included in the warranty package for periodic maintenance and general upkeep information on items such as exterior siding, shingles, appliances, windows, doors, floor coverings, etc.....

BLOCKING AND LEVELING INSTRUCTIONS

WARNING: LIMITED WARRANTY on your mobile home is partially NULL & VOID, if not properly blocked. Steel frame is not to be removed.
The footing on which blocks are placed must be on FIRM ground to assure minimum settling poured concrete, at least 4" thick, is recommended.

Concrete blocks, placed with walls vertical, must not be more than 8 feet apart, must not be more than two feet from both front and rear ends of the home. Each block support must be capable of holding at least 4,000 lbs. without failure.

Proper blocking and leveling on firm footing will prevent settling and much unnecessary trouble, such as: boding sagging, doors dragging, windows binding, interior and/or exterior paneling buckling, floor seams, out of square conditions, etc.

The drawing below shows recommended blocking of a typical SINGLE WIDE mobile home. Wood shims are recommended to be used above blocks for precision leveling.

Make sure to place leveling jacks directly under center of I beams, floor joists and/or perimeter rails—do not place leveling jacks under axles, outriggers or other brake formed members.

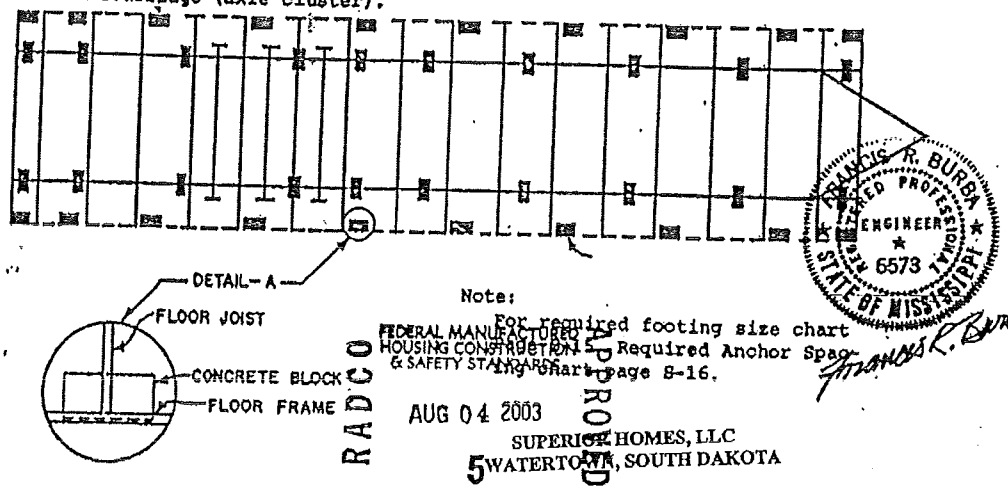
> Always place a piece of 2"x6" lumber or equivalent between leveling jack and frame member to avoid damage to frame.

Blocks must be placed under rails of floor frame as shown, ½" from outer edge of exterior walls, under front and rear exit doors, sliding glass doors each side of sidewall openings 2' or larger, if any, at points indicated by white marks painted on surface of sub floor, along longitudinal perimeter floor rails, and 12' O.C. along remaining perimeter of home. Refer Detail A.

If HURRICANE TIE-DOWN STRAPS (over body type) are used, a set of blocks **MUST** be placed just inside each TIE-DOWN STRAP, directly under Rails of floor frame to prevent body sags at those points. Refer Detail A.

When Walk-A-Bay is located in sidewall, at least 2 piers must be located under edge rail-walk-a-bay joint.

NOTE: If 4 or 5 axles are used, add one (1) set of concrete blocks under longitudinal perimeter floor rails on each side of mobile home approximately centered with undercarriage (axle cluster).



Note:
For required footing size chart
Required Anchor Spacing Chart, page S-16.

FRANCIS R. BURBA
REGISTERED PROFESSIONAL ENGINEER
6573
STATE OF MISSISSIPPI

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SUPERIOR HOMES, LLC
WATERTOWN, SOUTH DAKOTA

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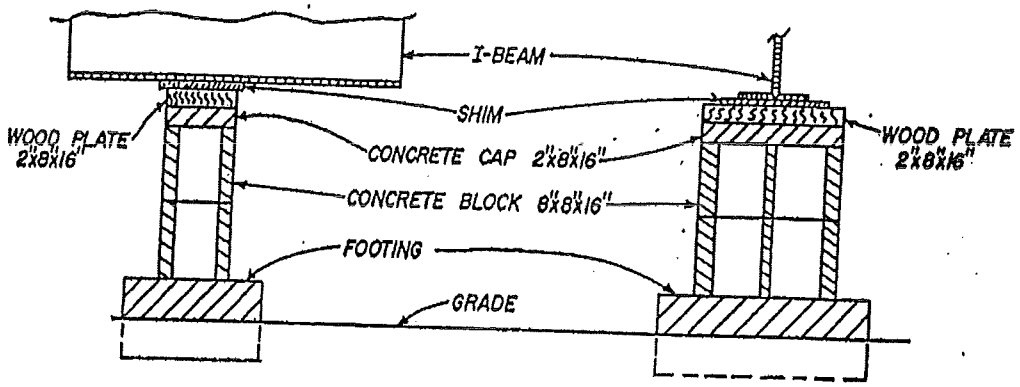
PROPOSED

TYPICAL BLOCKING SUPPORT

Illustrated below is a typical footing and concrete blocking arrangement. In areas where ground freezes as well as areas where ground freezes as well as areas where ground support is soft, footings should be extended as necessary in case of soft soil, to a depth of satisfactory bearing subsoil level. All organic material is to be removed from beneath footings.



For soil bearing conditions and required footing size see page S-15.

CHECK WITH LOCAL AUTHORITIES FOR SPECIFIC FOOTING, FROST LINE, SOIL CAPACITY AND OTHER LOCAL REQUIREMENTS

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KEVIN M. FINN 052-043751 REGISTERED ENGINEER

OPTIONAL BLOCKING INSTRUCTIONS FOR 2"X 10" FLOORS ONLY

WARNING!! LIMITED WARRANTY on your manufactured home is partially NULL & VOID in not properly blocked. STEEL FRAME IN NOT TO BE MOVED.

The footing on which blocks are placed must be on firm ground to assure minimum settling; poured concrete at least 4" thick is recommended.

Concrete blocks, placed with walls vertical, must not be more than 8 feet apart, center to center, and must be within 4 feet of both front and rear ends of the home.

Proper blocking and leveling of firm footings will prevent settling and much unnecessary trouble, such as, body sagging, doors dragging, windows binding, interior and/or exterior paneling buckling, and other out of square conditions.

The drawing shows the required blocking for a typical SINGLE WIDE home. Wood shims are recommended to be used above blocks for precision leveling.

Make sure to place leveling jacks directly under center of I beams, floor joists and/or perimeter rails—DO NOT place leveling jacks under axles or other brake formed members. Always place a piece of 2" x 6" lumber or equivalent between leveling jack and frame member to avoid damage to frame.

Blocks must be placed under perimeter rails of the floor framing, 1/2" from outer edge of exterior walls, at the front and rear exit doors, sliding glass or French doors, and at points indicated by while marks painted on the surface of the sub floor covering material.

Blocks must be placed along mating line at support columns (multiple studs) and 11"-0"o.c. with 30 PSF roof load or 6'-3" o.c. with opt 45 PSF roof load. (Note: 45 PSF roof load built with 2"x 10" floor joist see S26C for blocking instructions.)

When a WALK-A-BAY is located in the sidewall, piers must be located under the edge rail and walk-in-bay joints.

If HURRICANE TIE-DOWN STRAPS (over body type) are used, a set of piers must be placed just inside of each TIE DOWN STRAP, directly under perimeter rail of floor to prevent body sags at those points.

PIER & PAD SCHEDULE FOR 2" X 10" FLOORS ONLY

14' WIDE
Pier & Pad Schedule: 30 psf

Soil Cap. psf	8 ft. o.c. Pier Cap. lbs.	Ftg. Size sq. ft.
1000	5868	10.67
2000	5868	3.79
3000	5868	2.30
4000	5868	1.65

16' WIDE
Pier & Pad Schedule: 30 psf

Soil Cap. psf	8 ft. o.c. Pier Cap. lbs.	Ftg. Size sq. ft.
1000	6383	11.60
2000	6383	4.12
3000	6383	2.50
4000	6383	1.80

18' WIDE
Pier & Pad Schedule: 30 psf

Soil Cap. psf	8 ft. o.c. Pier Cap. lbs.	Ftg. Size sq. ft.
1000	6989	12.71
2000	6989	4.51
3000	6989	2.74
4000	6989	1.97

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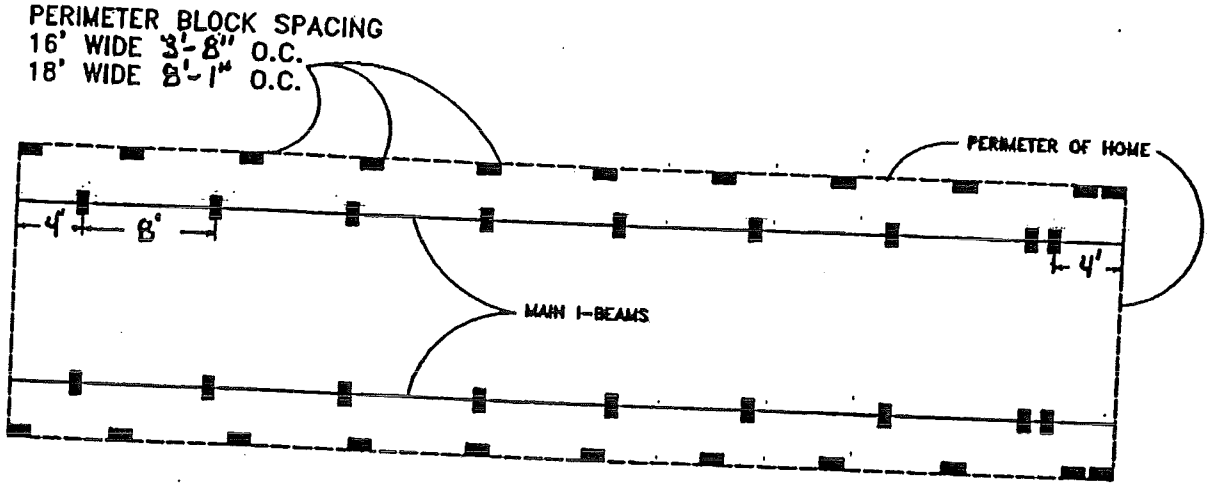
1/16/03

Refer to page S-16 for anchor requirements.

BLOCKING FOR SINGLE WIDES W/45 PSF ROOF LOAD



PIER & PAD LOADS FOR 45 PSF ROOF LOADS SPACED 8'-0" O.C.

16' WIDE = 6770 LBS
18' WIDE = 7502 LBS

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STATE OF
INDIANA
PROFESSIONAL ENGINEER
1/16/01

FOOTING SIZES BASED ON SOIL CAPACITIES

(3000 PSI Concrete)

PIER CAP. (LBS)	THICKNESS	SOILS 2000 PSF	2500 PSF	3000 PSF	3500 PSF
3500	4"	16" x 16"			
4000	4"	18" x 18"	16" x 16"		
5000	4"	20" x 20"	18" x 18"	16" x 16"	
6000	4"	32" x 32"	19" x 19"	18" x 18"	16" x 16"
7000	6"	23" x 23"	21" x 21"	19" x 19"	18" x 18"
8000	6"	25" x 25"	22" x 22"	20" x 20"	19" x 19"
9000	6"	26" x 26"	24" x 24"	21" x 21"	20" x 20"
10,000	6"	28" x 28"	25" x 25"	23" x 23"	21" x 21"
15,000	6"	34" x 34"	30" x 30"	28" x 28"	26" x 26"
20,000	8"	39" x 39"	35" x 35"	32" x 32"	30" x 30"
25,000	8"	44" x 44"	39" x 39"	36" x 36"	33" x 33"
30,000	10"	48" x 48"	43" x 43"	39" x 39"	36" x 36"
31,000	10"	49" x 49"	44" x 44"	40" x 40"	37" x 37"

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SECTION S PAGE 30

EXTERIOR HEAT TAPE RECEPTACLE OUTLET

A 15 AMP receptacle outlet is provided on the exterior of the home, under the water heater compartment, which may be used for heat tape to protect plumbing to avoid freezing.

If heat tape is used, it shall be listed for mobile homes, and must be used in accordance with the heat tape manufacturer's instructions.

INLET WATER PRESSURE

This mobile home is designed for a water inlet pressure of 80 PSI maximum.

When the water pressure exceeds 80 PSI, a pressure-reducing valve shall be installed at the water inlet.

MASTER COLD WATER SHUTOFF

A Master Cold Water Shutoff Full Flow Valve is to be installed in the water supply line adjacent to the home.

The Valve is to provide through flow capability equal to or greater than the minimum required water distribution piping size supplied by the valve.

GAS SUPPLY SYSTEM DESIGN PRESSURE

The design pressure limitation for safe and effective operation of the gas piping system in this mobile home is designed for a pressure not exceeding 14-inch water column and not less than 11-inch water column for L.P. gas and not exceeding 10.5-inch water column and not less than 7-inch water column for natural gas.

DRAINING MAIN WATER LINES

To drain water lines, remove cap from drain location or open faucets and apply air pressure until all water is removed from system.

JUNCTION BOX SIZE

For straight pulls, the length of the box shall not be less than eight times the trade diameter of the largest raceway.

For angle pulls, the distance between each raceway entry inside the box and the opposite wall of the box shall not be less than six times the trade diameter of the largest raceway.

NOTE: For angle, pulls if one of the raceway entries is opposite a cover, the distance between the entry and the cover may be less than indicated above, but shall not be less than given in the following table:

Size of Feeder Conductors To be Installed, Awg or MCM	Distance, Raceway Entry to Cover, IN.
4-3	2
2	2-1/2
1	3
1/0-2/0	3-1/2
3/0-4/0	4
250	4-1/2
300-350	5

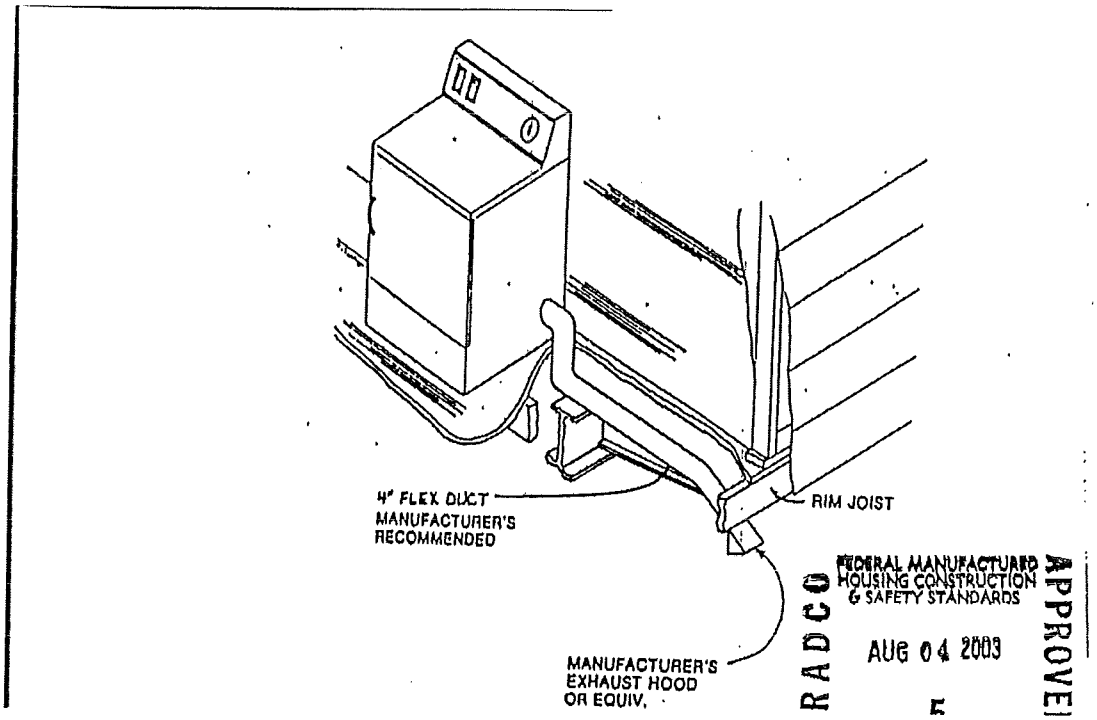
RESIDENTIAL MOBILE HOME FIXED FEEDER SUPPLY
(BASED ON 1993 NEC)
REQUIRED FEEDER RACEWAY SIZE AND MARKING
FOR CONDUCTOR SIZE

When this Mobile Home is equipped with 100 AMP Maximum Load and Main Breaker or fuse, the Feeder Raceway is sized for Copper, 75C rated conductors, Types, RH, RHH, RHW without outer covering, THW or XHHW, size No. 4 AWG. Circuit conductors and size No. 8 AWG. grounding conductors.

When this Mobile Home is equipped with 200 AMP Maximum Load and Main breaker or fuse, the Feeder Raceway is sized for Copper, 75C rated conductors, Types RH, RHH, RHW without outer covering, THW or XHHW, size No. 2/0 AWG. circuit conductors and size No. 6 AWG. grounding conductor.

TYPICAL DRYER VENTILATION

IF DRYER VENT CAP IS INSTALLED THROUGH THE EXTERIOR SIDING OF HOME, IT SHALL BE CAULKED TO PREVENT MOISTURE AND AIR INFILTRATION.



Dryer Installation:
If your home is equipped with a clothes dryer, it must be exhausted to the outside by a moisture-lint exhaust system.
CAUTION: THIS EXHAUST SYSTEM MUST NOT TERMINATE IN THE FLOOR CAVITY OR UNDER THE HOME.
All required components and fittings are provided in the home. An opening in the floor is provided. Typical dryer exhaust connections are shown in Illustration.
If your home is not equipped with a dryer, but an electrical or gas outlet is provided for one, then the opening in the floor or wall is provided. Installation of the exhaust system must be in accordance with the dryer manufacturer's installation instructions.

FINAL (DEALER) ON SITE INSTALLATION INSTRUCTIONS
EXTERIOR DRYER VENT

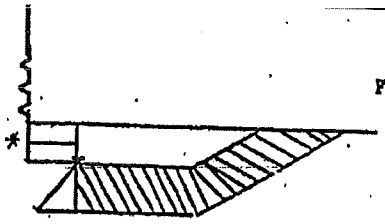


Fig. 1. Remove 2 screws on back side of 2 x 3 x 6 Doubler Vent Block.

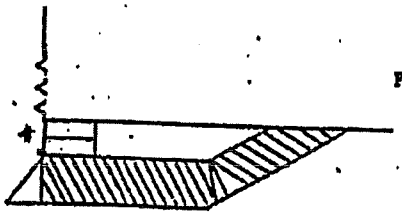


Fig. 2. Extend Dryer Vent beyond 2 x 3 x 6 Doubler Vent Block and resecure to exterior side of mobile home.

STEEL FRAME TOUCH-UP PAINT

The steel frame on this mobile home is painted with an asphaltic base type material in compliance with Federal Mobile Home Construction and Safety standards, Paragraph 280.305.
It is recommended that Mortell #615 Asphalt Frame Paint be used for touch-up purposes.

BOTTOM BOARD MATERIAL PATCHING INSTRUCTIONS

Small cuts or tears may be repaired by using CP-1 pressure sensitive tape or equivalent. For larger holes use additional pieces of Mobile Flex which extend at least 2" beyond the damage areas. Secure the large patch with either a mechanical fastener, CP-1 pressure sensitive tape, High Tack Adhesive 76 manufactured by 3M contact cement of equivalent. When mechanical fasteners are used, the entire perimeter of the patch is to be secured/sealed with either the CP-1 pressure sensitive tape or High Tack Adhesive 76 contact cement, or equivalent.

REQUIRED TIE DOWN SYSTEM FOR FRAME TIES ONLY

Required diagonal frame tie is to be spaced per page S-16 for units located in wind zone1.

See attached "Minute Man Anchors" brochure for suggested tie down system.

Minimum Requirement for Ground Anchors

1. Anchors shall have an ultimate strength of 4725#.
2. Anchors should be certified by a professional engineer, architect, or nationally recognized testing laboratory as to their resistance, based on the maximum angle of diagonal tie and/or vertical tie loading.
3. Angle of anchor installation as recommended by anchor manufacturer.
4. Instructions shall specify types of soil in which anchors are to be installed.
5. Ground anchor should be embedded below the frost line and at least 12" above the water table.
6. Ground anchors should be installed to their full depth.
7. Stabilizer plates should be installed to provide added resistance to overturning or sliding forces.
8. Anchoring equipment should be certified by a registered professional engineer or architect to resist these specified forces in accordance with testing procedures in ASTM Standard Specifications D3953-91, Standard Specifications for Strapping, Flat Steel and Seals.

PIER AND PAD SCHEDULE SINGLEWIDE & DOUBLEWIDE
30 PSF

18 Feet Wide

Soil Cap	Pier Location	8 foot O.C. Key'd Pier cap (lbs)	8 foot O.C. Key'd footing sq.ft	8 foot O.C. Key'd footing sq. in	12 foot O.C. Key'd pier cap (lbs)	12 foot O.C. key'd footing sq.ft	12 foot O.C. key'd footing sq.in
1000	Chassis Perimeter	2779	3.2	460	5181	6.0	858
1500	Chassis Perimeter	2779	2.0	293	5181	3.8	547
2000	Chassis Perimeter	2779	1.5	215	5181	2.8	401
2500	Chassis Perimeter	2779	1.2	170	5181	2.2	316
3000	Chassis Perimeter	2779	1.0	140	5181	1.8	251

16 Feet Wide

Soil Cap	Pier Location	8 foot O.C. Key'd Pier cap (lbs)	8 foot O.C. Key'd footing sq.ft.	8 foot O.C. Key'd footing sq.in.	12 foot O.C. Key'd pier cap (lbs)	12 foot O.C. Key'd footing sq.ft	12 foot O.C. Key'd footing sq.in
1000	Chassis Perimeter	2629	3.0	435	4596	5.3	761
1500	Chassis Perimeter	2629	1.9	278	4596	3.4	483
2000	Chassis Perimeter	2629	1.4	203	4596	1.9	281
2500	Chassis Perimeter	2629	1.1	161	4596	1.9	281
3000	Chassis Perimeter	2629	.9	133	4596	1.6	232

Superior Homes LLC
715 21st St Sw
Watertown, SD 57201

28 Feet Wide (14' Single wide)

Soil Cap	Pier Location	8 foot O.C. Key'd Pier cap (lbs.)	8 foot O.C. Key'd footing sq.ft.	8 foot O.C. Key'd footing sq.in	12 foot O.C. Key'd Pier cap (lbs)	12 foot O.C. Key'd footing sq.ft	12 foot O.C. Key'd footing sq.in
1000	Chassis Perimeter	2029	2.3	336			
1500	Chassis Perimeter	2029	1.5	214	4856	5.6	904
2000	Chassis Perimeter	2029	1.1	157	4856	3.6	513
2500	Chassis Perimeter	2029	.9	124	4856	2.6	376
3000	Chassis Perimeter	2029	.7	102	4856	2.1	297
					4856	1.7	245

24 Feet Wide

Soil Cap	Pier Location	8 foot O.C. Key'd Pier cap (lbs)	8 foot O.C. Key'd footing sq.ft.	8 foot O.C. Key'd footing sq.in	12 foot O.C. Key'd Pier cap (lbs)	12 foot O.C. Key'd footing sq.ft	12 foot O.C. Key'd footing sq.in
1000	Chassis Perimeter	1829	2.1	303			
1500	Chassis Perimeter	1829	1.3	193	4076	4.7	675
2000	Chassis Perimeter	1829	1.0	142	4076	3.0	430
2500	Chassis Perimeter	1829	.8	113	4076	2.2	316
3000	Chassis Perimeter	1829	.6	92	4076	1.7	249
					4076	1.4	205

PIER AND PAD SCHEDULE SINGLE WIDE AND DOUBLE WIDE 30 Psf

18 Feet Wide

Soil Cap.	Pier Location	8 Foot O.C. Req'd Pier Cap. (lbs)	8 Foot O.C. Req'd Footing sq.ft.	8 Foot O.C. Req'd Footing sq.in.	12 Foot O.C. Req'd Pier Cap. (lbs)	12 Foot O.C. Req'd Footing sq.ft.	12 Foot O.C. Req'd Footing sq.in.
1000	Chassis Perimeter	2779	3.2	460	5181	6.0	858
1500	Chassis Perimeter	2779	2.0	293	5181	3.8	547
2000	Chassis Perimeter	2779	1.5	215	5181	2.8	401
2500	Chassis Perimeter	2779	1.2	170	5181	2.2	316
3000	Chassis Perimeter	2779	1.0	140	5181	1.8	251

16 Feet Wide

Soil Cap.	Pier Location	8 Foot O.C. Req'd Pier Cap. (lbs)	8 Foot O.C. Req'd Footing sq.ft.	8 Foot O.C. Req'd Footing sq.in.	12 Foot O.C. Req'd Pier Cap. (lbs)	12 Foot O.C. Req'd Footing sq.ft.	12 Foot O.C. Req'd Footing sq.in.
1000	Chassis Perimeter	2629	3.0	425	4596	5.3	761
1500	Chassis Perimeter	2629	1.9	278	4596	3.4	485
2000	Chassis Perimeter	2629	1.4	203	4596	2.5	356
2500	Chassis Perimeter	2629	1.1	161	4596	1.9	281
3000	Chassis Perimeter	2629	.9	133	4596	1.6	232

28 Feet Wide (14' Single Wide)

Soil Cap.	Pier Location	8 Foot O.C. Req'd Pier Cap. (lbs)	8 Foot O.C. Req'd Footing sq.ft.	8 Foot O.C. Req'd Footing sq.in.	12 Foot O.C. Req'd Pier Cap. (lbs)	12 Foot O.C. Req'd Footing sq.ft.	12 Foot O.C. Req'd Footing sq.in.
1000	Chassis Perimeter	2029	2.3	336	4856	5.6	804
1500	Chassis Perimeter	2029	1.5	214	4856	3.6	513
2000	Chassis Perimeter	2029	1.1	157	4856	2.6	376
2500	Chassis Perimeter	2029	.9	124	4856	2.1	297
3000	Chassis Perimeter	2029	.7	102	4856	1.7	245

24 Feet Wide

Soil Cap.	Pier Location	8 Foot O.C. Req'd Pier Cap. (lbs)	8 Foot O.C. Req'd Footing sq.ft.	8 Foot O.C. Req'd Footing sq.in.	12 Foot O.C. Req'd Pier Cap. (lbs)	12 Foot O.C. Req'd Footing sq.ft.	12 Foot O.C. Req'd Footing sq.in.
1000	Chassis Perimeter	1829	2.1	303	4076	4.7	675
1500	Chassis Perimeter	1829	1.3	193	4076	3.0	430
3000	Chassis Perimeter	1829	1.0	142	4076	2.2	316
2500	Chassis Perimeter	1829	.8	113	4076	1.7	249
3000	Chassis Perimeter	1829	.6	92	4076	1.4	205

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Evor F. Johns

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WATERTOWN, SOUTH DAKOTA

SECTION 9 PAGE 15

REQUIRED ANCHOR SPACING PER PIER HEIGHT

18' WIDE

Pier Hght	Zone I
16 in	15 ft
24 in	13 ft
32 in	12 ft
40 in	11 ft
48 in	10 ft

16' WIDE

Pier Hght	Zone I
16 in	14 ft
24 in	12 ft
32 in	10 ft
40 in	9 ft
48 in	8 ft

14' WIDE STD.

Pier Hght	Zone I
16 in	15 ft
24 in	14 ft
32 in	12 ft
40 in	11 ft
48 in	10 ft

14' WIDE W/ OPT. 12" OVER HANG

Pier Hght.	Zone I
16 in	10 ft
24 in	13 ft
32 in	12 ft
40 in	11 ft
48 in	10 ft

24' WIDE

Pier Hght	Zone I
16 in	14 ft
24 in	12 ft
32 in	10 ft
40 in	9 ft
48 in	8 ft

24' WIDE (PORCH MODEL)

Pier Hght	Zone I
16 in	14 ft
24 in	12 ft
32 in	10 ft
40 in	9 ft
48 in	8 ft

28' WIDE

Pier Hght	Zone I
16 in	15 ft
24 in	14 ft
32 in	12 ft
40 in	11 ft
48 in	10 ft

28' WIDE (PORCH MODEL)

Pier Hght	Zone I
16 in	15 ft
24 in	14 ft
32 in	12 ft
40 in	11 ft
48 in	10 ft

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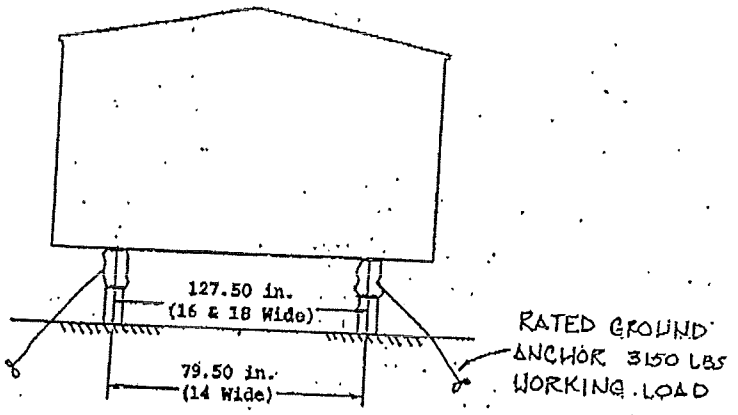
WATERTOWN, SOUTH DAKOTA

SECTION 5 PAGE 16

TYPICAL TIE DOWN SINGLE WIDE



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NO.
01666
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PATIO DOOR INSTALLATION (SWINGING OR SLIDING) W/ HARDBOARD SIDING

After the home has been blocked and leveled, remove sheathing from inside home at patio opening; remove siding and any shipping studs from rough opening. Apply Permagum Sealant or equivalent around screw flange on door. Place door in opening and secure with several screws. Check operation of door before installing all of the screws, shimming where necessary (especially at striker plate location.) Apply silicone caulking across top and down sides of the exterior edges of the door. Insulate any gaps around door from the interior side. Cut and install interior trim pieces.

PATIO DOOR INSTALLATION (SWINGING OR SLIDING) W/VINYL SIDING

After the home has been blocked and leveled, carefully remove vinyl siding at area of rough opening. Remove sheathing and any shipping studs from rough opening. Apply Peragum Sealant or equivalent around screw flange on door. Place door in opening and secure with several screws. check operation of door before installing all of the screws, shimming where necessary (especially at striker plate location). Install vinyl door trim across top and down sides of door and vinyl finish trim across bottom edge. Apply silicone caulking at joint between door and vinyl installation instructions included. Insulate any gaps around door from the interior side. Cut and install interior trim pieces.

IMPORTANT

When installing vinyl siding, follow the five (5) important application details listed below:

1. Nail or Staple Vinyl Siding Through Center of Slot Only to allow for normal expansion and contraction. Secure panels by stapling into every stud.
2. Do not Drive Nails Tight. Head of nail or fastener should never touch vinyl siding. Siding should be hung on nails allowing for normal expansion and contraction; when nails are driven too tight, it can distort the siding, making it unsightly and difficult to properly lock the succeeding panels.
3. Space Vinyl Panels ¼ " from all stops and internal surface of J-channel, window channel and corner post to allow for normal expansion and contraction with changes in temperature. Each vinyl siding piece must be free to move ¼ " side to side. Check each piece as it is hung.
4. Lap Vinyl Siding Panels 1" or one-half of the factory pre-notched End. Never overlap the panels more than 1". Always overlap away from point of greatest traffic. For best appearance, stager end laps a minimum of 3 feet so that one is not directly above the other, unless separated by three courses. Caution: Never overlap panels more than 1".
5. Never Force Saw Through vinyl. Cut with a fine tooth blade (2-16 teeth per inch.) Mount blade in reverse position.

REMEMBER : Vinyl expands and contracts with changes in temperature. Check each piece to make certain that it move to allow for expansion.

SITE PREPARATION

The site selected to place the home should be properly graded to prevent the accumulation of water under the home. Enclosed crawl spaces shall be cross ventilated with a free air space of at least 1/150 of the floor area. Internal moisture control is the responsibility of the home owner by controlling the humidity levels in the home. (See Condensation Control information provided in the warranty information).

WARRANTY INFORMATION

Refer to manufacturers warranty information included in the warranty package for periodic maintenance and general upkeep information on items such as exterior siding, shingles, appliances, windows, doors, floor coverings, etc.....

CUT CEILING OPENING

WARNING

Disconnect all electrical power to the mobile home at the main electrical panel before cutting into the roof and ceiling cavity.

Contact with hot electrical wires could cause equipment damage, fire, personal injury or death.

When cutting into roof and ceiling area extreme care should be taken not to damage any electrical wiring that may be hidden underneath the roof or behind the ceiling.

If alternate source of power is not available, use battery powered or hand tools to cut openings.

An opening in the ceiling must be cut to accommodate the flex duct and control wiring harness.

1. Scribe a 6–7" dia. circle in the ceiling approximately centered above the damper tube assembly. The ceiling hole location may have to be adjusted to miss ceiling joist or other obstructions in the roof cavity.
2. Once the location has been selected, cut the opening in the ceiling.

NOTE: If the Deluxe Blend Air II system is being installed during the construction of the home, avoid dropping sawdust, wood particles or insulation on top of the furnace. The operation of gas and oil furnaces can be affected by contamination within the roof jack openings.

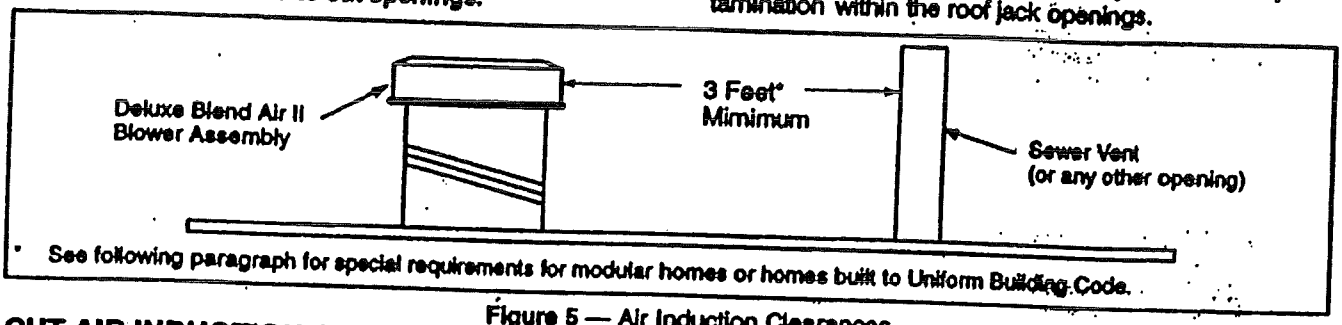


Figure 5 — Air Induction Clearances

CUT AIR INDUCTION OPENING

1. Homes built in accordance with H.U.D. standards: H.U.D. requires that the fresh air intakes on the roof are located at least three (3) feet away form any roof opening, i.e., roof jack, sewer vent, bathroom exhaust, etc.
2. For optimum operation, the induction opening is recommended to be located no less than 1/3 length of the house toward centers. However, the air delivery requirement is still met if placed less than the recommended.

   NOTE: For double wide models with continuous sheathing between the marriage wall, Air Induction should be located so that one end of air outlet expels air toward the minimum 100 square inches opening.

   The opening should be located between rafters and away from the bedroom below.
3. Mark the selected location. Cut an 11 inch diameter hole through the roof and into the roof cavity.

ROUTE FLEX DUCT AND CONTROL CABLE

1. Route the flex duct from the opening in the roof, through the attic area, into the furnace compartment, passing through the 6-7" diameter opening in the ceiling.
2. Route the low voltage control cable in the same fashion. Pass control cable through the 7/8" hole in furnace top and use the plastic strain relief (provided in small parts package) to protect the cable assembly.
3. Install inner flex duct to damper tube assembly using one large wire tie, as shown in Figure 6. Pull down insulation and outer flex duct. (Avoid overtightening of strap.)
4. Observe approved methods of fire-stop requirements for flex duct where it passes through the ceiling. Accessory ceiling rings (P/N 7660-2841) are approved for this purpose.

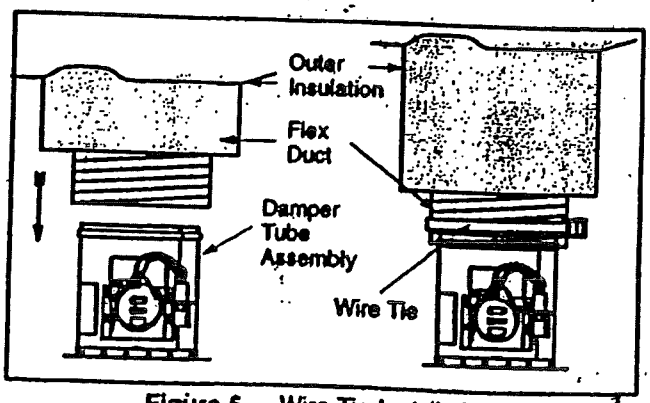


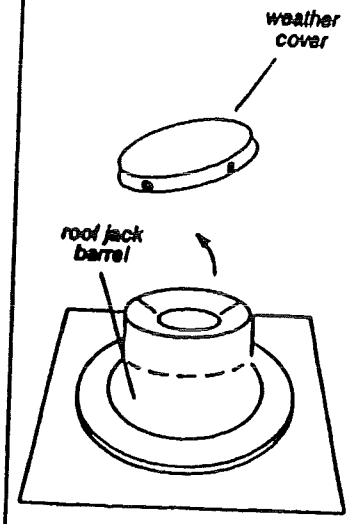
Figure 6 — Wire Tie Installation

BLEND AIR

Install the cap with the screws provided. Turn cap with lower end of seam facing peak of home. Caulk base and seam with butyl caulk.

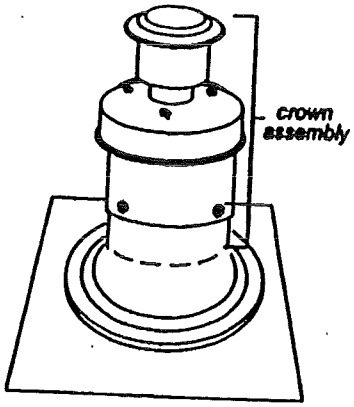
INSTALLATION OF EXTERIOR ROOF JACK EXTENSION ON 4000–7XXX SERIES ROOF JACK, AND REMOVABLE CROWN 4000–8XXX SERIES ROOF JACKS

STEP 1: Remove Weather Cover.



Remove the 3 screws that secure the *weather cover* to the *roof jack barrel* Remove and discard the cover

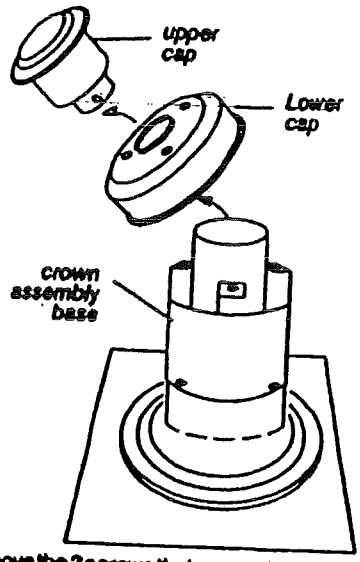
STEP 2: Install Crown Assembly.



Slide the *crown assembly* over the *roof jack barrel* Secure with the 3 screws previously removed from the weather cap, using the pre–punched holes as guides

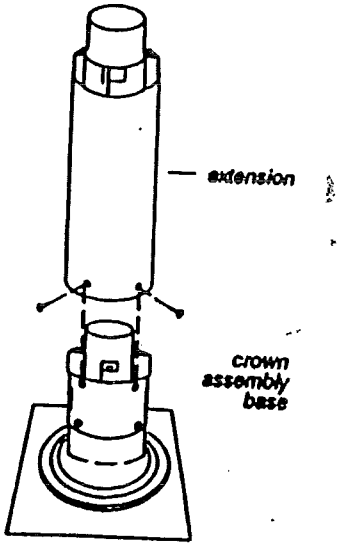
STEP 3: Remove Upper & Lower Caps.

Start here if 4000–7XXX is used.



Remove the 2 screws that secure the *upper cap* to the *crown assembly base* and remove the *upper cap*. Next, remove the 3 screws that secure the *lower cap* to the crown assembly base Set both caps aside for later use

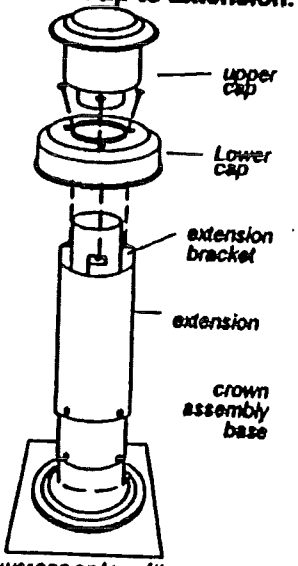
STEP 4: Install Extension



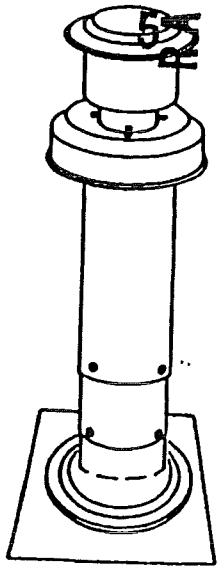
Place the *roof jack extension* on top of the crown assembly base, pushing down firmly to assure a snug fit **IMPORTANT: Make sure that the pipes are connected.**

Using the 4 holes at the base of the extension as a guide, drill 4 holes 1/8" diameter into the crown assembly base Secure the extension to the crown assembly base with the 4 screws provided

STEP 5: Reinstall Upper & Lower Cap to Extension.



Install the *lower cap* on top of the *extension* so that the center pipe sticks through the hole in the lower cap Using the 3 screws removed in step 3, attach the lower cap to the extension bracket Install the *upper cap* over the center pipe of the extension Using the 2 holes located at the base of the upper cap as guides, drill 2 holes 1/8" diameter into the center pipe Finally, attach the *upper cap* to the center pipe using the 2 screws removed in step 3 to the center pipe.



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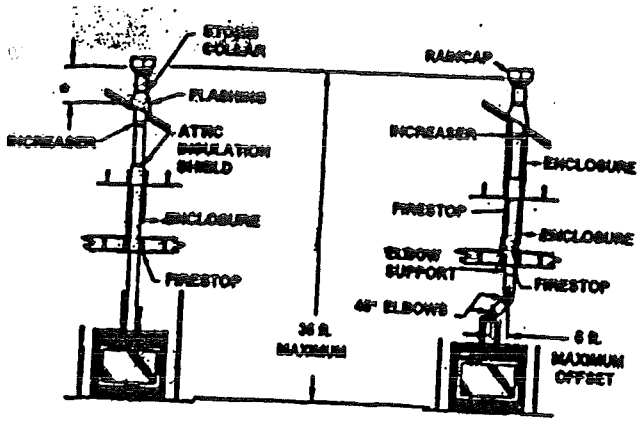


Steps For Installation of Vertical

STEP 1: Locate the fireplace.

* - REFER TO VERTICAL TERMINATION LOCATION CHART

STEP 2: Mark ceiling above unit where flex will come through.

STEP 3: Ceiling opening should be a minimum of 9.5" x 9.5" (242mm x 242mm) and framed to that size.

STEP 4: Mark opening in roof and cut a hole minimum 10.5" x 10.5" (267mm x 267mm) and frame to that size.

STEP 5: Place fireplace in proper location and secure to the floor.

STEP 6: Install firestops and/or a firestop thimble assembly at the ceiling level(s) as follows:

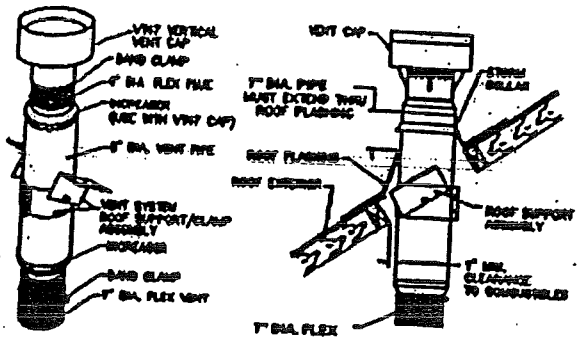
(a) If a room is located above the ceiling, a standard firestop should be secured to the underside of the ceiling joists.

(b) If an attic space (insulated or not) is located above the ceiling, a combination firestop/thimble assembly such as a GFSH7 or equivalent must be used. This should be secured to the underside of the ceiling joists as well.

Note: If offset is required, the upper 45° bend (elbow) must be supported with an offset support. Support flex every 3 feet when vertical venting.

STEP 7: Rigid pipe section included with vertical termination must be used in conjunction with the roof support so that the termination is secure in winds. Attach increaser to the bottom of rigid section.

Install roof support, rigid section of pipe and flashing. Make sure vent cap will be in accordance with the vertical termination location chart above the roof, and the flashing below the shingles.



STEP 8: Install storm collar and caulk around the pipe.

STEP 9: Install flex at unit and bring up to termination. It will be necessary to remove 30 inches of flex from the 7" outer to make up for the rigid piece. Attach 4" flue to termination (clamp). Screw termination to rigid pipe. Clamp flex to rigid pipe.

Unit Adjustment & Maintenance

Once installed, the unit should be operated at least 3 times to ensure that all is in working order. Note: Manufacturing oils will smoke during initial firing of appliance. Open windows for ventilation.

Unit Adjustment

Before leaving, the installer should make the following checks:

(a) BTU Input/Gas pressure
The fireplace input is marked on the Rating Plate. The gas valve comes factory preset to the proper rated pressure and adjustment should not be necessary. If there is any question of input, then it may be necessary to check manifold pressure.

Manifold pressure can be measured by using a 5/16" I.D. hose. In the right hand side of the valve and connecting a manometer.

Two test gage ports are accessible for test gage connection:

(i) Tap on the left side of the valve will give inlet supply pressure.

(ii) Tap on the right side of the valve will give manifold pressure.

Loosen screw in test port 1/2 turn to measure pressure. Tighten screw when measurement is complete.

Pressure ranges are as listed below:

Gas Supply Pressure (inches w.c.)

	Minimum	Normal	Maximum
Natural Gas	4.5	7.0	14.0
L.P. (Propane)	10.8	11.0	14.0

Manifold Pressure (inches w.c.)

	Normal (HI)	(LOW)
Natural Gas	3.5	1.6
L.P. (Propane)	10.0	6.3