

FEBRUARY 1983



CHAMPION

HOME BUILDERS CO.

**INSTRUCTION GUIDE
FOR SET-UP & INSTALLATION
OF SINGLE-SECTION
& DOUBLE-SECTION
MANUFACTURED HOMES**

- ATLANTIC • CHAMPION • CONCORD
- HUNTINGTON • MANATEE • METAMORA
- NEW HAVEN • PIEDMONT • SEQUOIA
- SUNVIEW • TAMARACK • TITAN
- WOLVERINE • WOODLAKE

HOMEOWNERS: Only qualified persons should perform any setup, installation, repairs, changes or alterations to any portion of your home.

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RADCO

FEDERAL MOBILE HOMES
CONSTRUCTION & SAFETY
STANDARD

AUG 21 1982

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APPROVED

INTRODUCTION

Your home has been designed, constructed and inspected in accordance with the Federal Mobile Home Construction and Safety Standards in effect on the date of manufacture.

The design criteria for your individual home may be found on the data plate, which also contains other essential information such as where your home was manufactured, factory-installed equipment, and heating and cooling information. This data plate may be found attached to your home in one of the following locations:

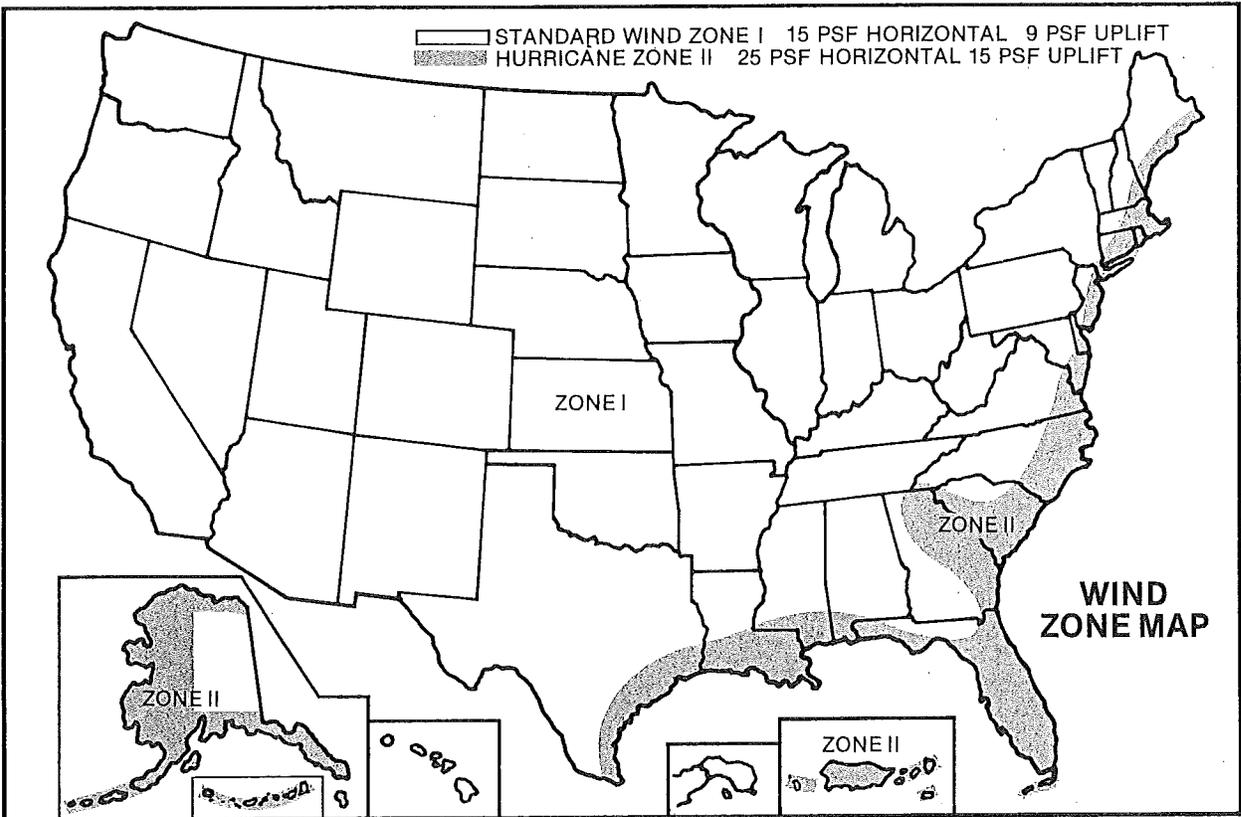
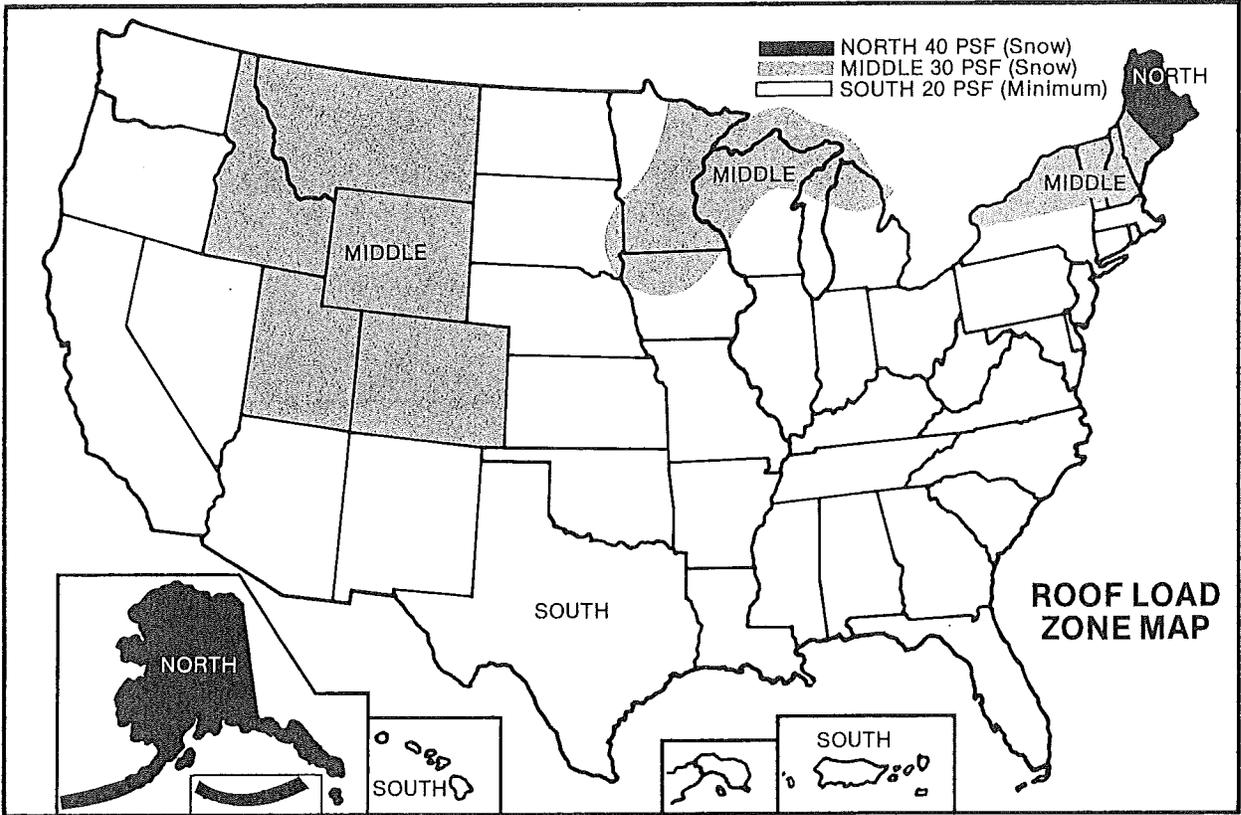
1. Rear Bedroom Closet Wall
2. Laundry Area
3. Water Heater Door
4. Near Main Electric Panel

In preparing your home for occupancy, **IT IS EXTREMELY IMPORTANT THAT IT BE PROPERLY SET, BLOCKED AND LEVELED WITHIN REASONABLE TOLERANCES** by a knowledgeable and experienced mobile home dealer or installer.

Proper setup will, under normal circumstances, prevent the home from sagging and prevent you from possibly incurring expensive repair bills.

The following information is presented to instruct and assist qualified personnel in setting up your home. Also refer to your Mobile Home Owner's Maintenance Guide for additional information.

Equipment not installed by the manufacturer must be installed by qualified personnel following the installation instructions supplied with the equipment. Champion cannot accept responsibility for damage caused by improperly installed equipment.



GENERAL INFORMATION

SITE PREPARATION

The mobile home site must be properly graded and sloped to provide storm drainage runoff and to prevent water accumulation.

It is recommended that a layer of polyethylene plastic sheeting or roofing felt be placed on the ground under the home to form a vapor barrier.

FIRM FOUNDATION

A firm foundation is absolutely necessary before your home is blocked and leveled.

This should prevent your home from sagging and will be considered before Champion Home Builders Co. honors any sag-related warranty claims.

If the site is on filled-in soil, it must be compacted to at least 90% of its maximum relative density. If you are unsure of soil bearing capacity, confer with local building authority for the recommended soil bearing capacity in your location. Footings should then be supplied to comply with these recommendations.

Before your home is blocked and leveled, it should be set on a solid poured concrete slab or "pad," wide ribbons of poured concrete, or concrete pier footings, whichever foundation is suggested and judged best by your home installer as required by local regulation.

PROPER BLOCKING SUPPORTS

The blocking supports for your home should be sturdy. Adjustable steel jacks especially designed for mobile home blocking and leveling are highly popular and recommended. However, cement blocks, piers or steel horses may be adequate blocking devices.

POSSIBLE CONSEQUENCES OF INCORRECT BLOCKING AND LEVELING

Incorrect setting, blocking and leveling of your home can produce a sagging home and these possible related conditions:

- (1) Buckling and/or loosening of walls, partitions, siding, ceilings, doors, floors, linoleum, carpeting, insulation,

- wiring, sinks, tubs, toilets, weather stripping and miscellaneous fixed original fixtures of the home.
- (2) Leaking windows, doors, roof, ceiling, walls, floor, seams and joints in general caused from rain, snow or moisture.
- (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 system.

PERIODIC RELEVELING OF HOME MAY BE NECESSARY

If any of the aforementioned sag-related conditions occur, as listed in conditions numbered (1), (2), (3) and (4) after your home has been properly blocked and leveled you should recheck the home's leveling. In some parts or regions of the country, initial proper blocking and leveling of the home can be gradually impaired due to generally abnormal or even relatively normal settling of the land or site on which it sets. Future transportability of the home may be impossible if structural damage has been introduced through improper blocking or neglect of periodic inspection of the home's blocked and leveled condition.

To check whether your home needs possible releveling from time to time, simply place a carpenter's level upon the floor of the home at several and various lengthwise and crosswise spots in each room to see if it is reasonably level throughout.

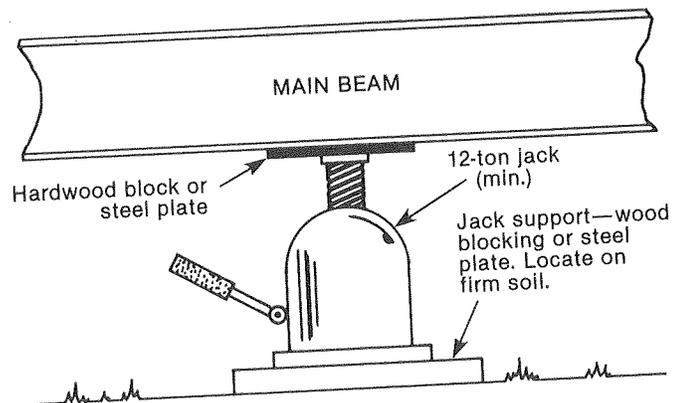
Should releveling be necessary, corrective measures can be taken by having a competent and knowledgeable mobile home mover or installer follow the suggested procedures outlined on Page 6. Although these procedures may appear easy for an amateur to attempt, they require repeated experience to master.

Before releveling, loosen frame tie downs and optional ground straps prior to jacking up home.

SINGLEWIDE AND DOUBLEWIDE JACKING AND BLOCKING PROCEDURES

General:

1. Use only jacks in good condition with a 12-ton minimum rating.
2. To distribute the concentrated loads created by the jacks, $3/8" \times 4" \times 12"$ steel plates or $4" \times 4" \times 12"$ hardwood blocks should be placed between the jacks and the main beam.
3. **Caution:** To prevent the jacks from tipping, be sure that there is a firm support under the jack base.
4. It is recommended that the tires and axles be left on the unit until all the blocking is done.
5. You must follow the sequence of jacking outlined on the following pages to avoid overstressing structural members. Excessive or nonuniform jacking during the leveling process could cause the home to be racked or twisted, thus voiding your warranty.
6. It is recommended that the home be set as low to the ground as possible. However, exterior finishes should be no closer than 6" from the ground.
7. See Page 22 for jacking and blocking units with C-channel frames.



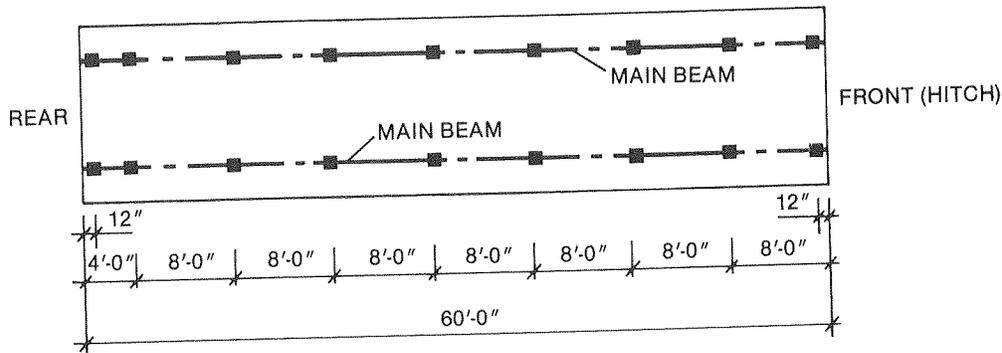
SINGLEWIDE SET UP PROCEDURE

1. Position the home in its final location.
2. Using the screw-type jack at the hitch, "rough" level the home. Place adequate blocking under the hitch to prevent the home from falling in case the screw jack should fail.
3. Place one jack under each main beam on each side of the home and centrally locate them with respect to the axles. Operating these jacks simultaneously raises the home high enough to place supports or pliers under the main beams at front and rear of axles. Do not exceed the spacing shown on Page 7.
4. Jack up the front of the unit and position pier supports under the main beams within 1' 0" of the front end. Repeat this procedure at the rear of the home.
5. Position the rest of the pier supports under the main beams per spacing shown on Page 7.
6. Finish leveling the home using a carpenter's level, water level or similar equipment. The last height adjustment is made by jacking up the main beam and inserting hardwood shims between the main beams and piers or adjusting the adjustable steel jacks.
7. The tie-down system must be connected as shown on Page 10. **UNDER NO CIRCUMSTANCES ARE THE OPTIONAL GROUND STRAPS TO BE USED WITHOUT THE FRAME TIE DOWNS.**
8. Connect and test the utility systems (electrical, water, drain lines and gas lines as applicable) as detailed in the utility section.
9. Check the home for the following:
 - (A) Exterior Doors (should open and close easily, lock and unlock easily).
 - (B) Passage Doors (should open and close easily and be in proper alignment).
 - (C) Windows (should open and close easily).
NOTE: READ EGRESS INSTRUCTIONS ON ALL BEDROOM WINDOWS.
 - (D) Cabinet doors and drawers (should open and close easily and be in proper alignment).
10. If it becomes necessary to relevel the home, loosen the frame tie downs and optional ground straps and follow the procedures in Step #6.

DOUBLEWIDE SET UP PROCEDURE

1. Position "A" half of home (unit with plumbing, gas and electric) in its final position.
2. Rough level this half of the home as outlined in Steps 2 through 6 of Singlewide Set Up Procedures. Do not exceed the correct pier spacing shown on Page 8 or 9.
3. Remove shipping material from both units and check for obstructions that would prevent proper mating of the two units. Leave shipping wall framing in place until both units are together and the roof, floor and wall connections have been made.
4. To help with the final placement of the "B" unit, place pieces of greased sheet metal in the final location of the "B" unit wheels.
5. Position "B" unit along side of "A" unit. Approximately 6" or less should separate the two halves and the ends of the house should be in exact alignment.
6. Slide "B" unit into its final position against "A" unit, making sure the ends are still in exact alignment. Level "B" unit as outlined in Steps 2 through 6 of Singlewide Set Up Procedures. Do not exceed the correct pier spacing as shown on Page 8 or 9.
7. Finish leveling the home using a carpenter's level, water level or similar equipment. The last height adjustment is made by jacking up the main beam and inserting hardwood shims between the main beams and piers or adjusting the adjustable steel jacks.
8. Fasten roof ridge beam together and seal as shown on Page 12. If the home has a shingle roof, remove the shipping strips and seal the holes.
9. Pack insulation into the floor seam. Fasten the floor edge joists together as shown on Page 11. Fasten a 6" strip of exterior shipping seal to floor. Place pliers directly under the center seam of the floor according to the directions on Page 8 or 9. Block all exterior door openings at each edge of doors.
10. Pack insulation into seams at the end walls. Fasten the walls together with 3" metal strips on interior (See Page 12). Cover exterior with a 6" strip of shipping seal and install exterior siding.
11. Remove shipping walls and fasten marriage wall openings together as shown on Page 12.
12. Connect and test utility systems (electrical, water, drain lines, if applicable) as detailed in Utility Section.
13. See Page 20 for heat duct crossover connection.
14. The tie-down systems must be connected as shown on Page 10. **UNDER NO CIRCUMSTANCES ARE THE OPTIONAL GROUND STRAPS TO BE USED WITHOUT THE FRAME TIE DOWNS.**
15. Install metal strips at the centerline of doublewides at floor and ceiling archway, door openings and living rooms, etc. Fasten with 6 d nails on 12" centers. See Page 12.
16. Trim out archways, install ceiling beams, passage doors and other trim. See Page 12.

TYPICAL BLOCKING DIAGRAM FOR SINGLEWIDES



MINIMUM PIER CAPACITIES (in lbs.)

MINIMUM SPACING FOR BLOCKING	ROOF LOAD ZONE		
	20#	30#	40#
12 wide 8'0" o.c. max.	3750	4225	4700
14 wide 8'0" o.c. max.	4328	4880	5424

The diagram above shows the minimum required placement of blocks under the frame of a typical length and width mobile home. It is extremely important to check with local building officials prior to blocking your home as to the latest local codes in your area.

FRAME BLOCKING

Begin by placing piers at front and rear of home. Starting at front, place piers at a maximum of 8' o.c. along both main beams the entire length of home. Follow this procedure for any length of Champion-built home.

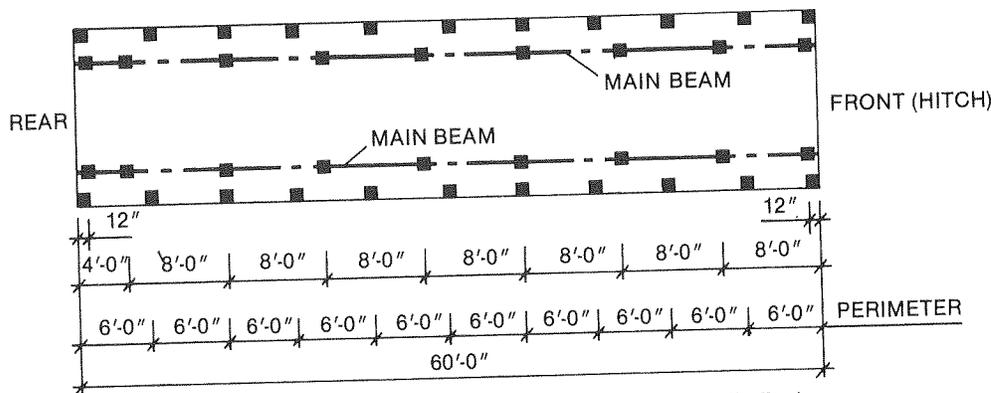
FRAME BLOCKING PIER FOOTINGS

Based on a soil capacity of 1000 lb. per square foot, a suggested footing size for all piers is 2'6" square.

Alternate methods are acceptable if they meet with local soil bearing capacities.

FOR 60# ROOF LOAD ZONE SEE BELOW.

TYPICAL BLOCKING DIAGRAM FOR SINGLEWIDES—60 LB. ROOF LOAD



MINIMUM PIER CAPACITIES (in lbs.)

MINIMUM SPACING FOR BLOCKING	ROOF LOAD ZONE 60#	MINIMUM SPACING FOR PERIMETER BLOCKING	ROOF LOAD ZONE 60#
12 wide 8'0" o.c. max.	2272	12 wide 6'0" o.c. max.	2510
14 wide 8'0" o.c. max.	2648	14 wide 6'0" o.c. max.	2916

NOTE: 60-lb. roof load areas require BOTH frame and perimeter blocking

The diagram above shows the minimum required placement of blocks under the frame of a typical length and width mobile home. It is extremely important to check with local building officials prior to blocking your home as to the latest local codes in your area.

FRAME BLOCKING

Begin by placing piers at front and rear of home. Starting at front, place piers at a maximum of 8' o.c. along both main beams the entire length of home. Follow this procedure for any length of Champion-built home.

PERIMETER BLOCKING

Begin by placing piers at front and rear of home. Starting at front, place piers at a maximum of 6' o.c. along both rim members the entire length of home. Follow this procedure for any length of Champion-built home.

FRAME BLOCKING PIER FOOTINGS

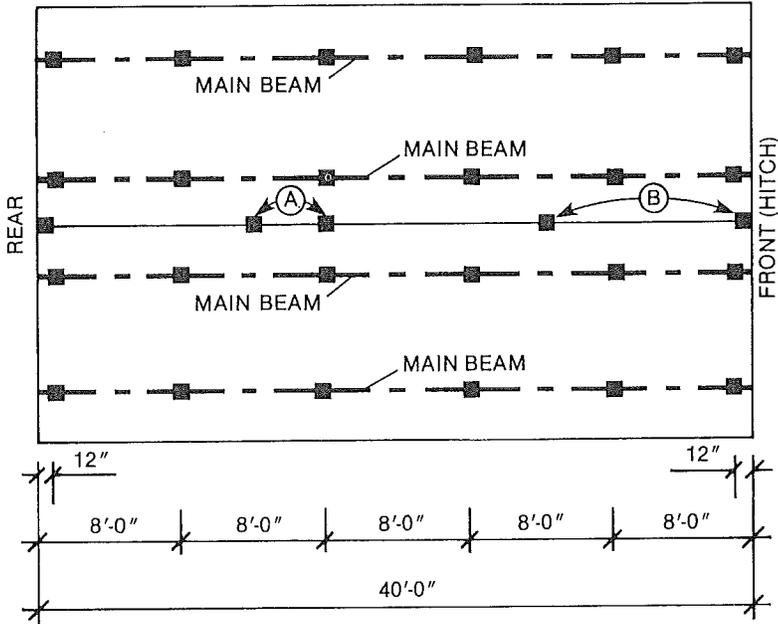
Based on a soil capacity of 1000 lb. per square foot, a suggested footing size for all piers is 2'6" square.

PERIMETER BLOCKING PIER FOOTINGS

Based on a soil capacity of 1000 lb. per square foot, a suggested footing size for all piers is 2'0" square.

Alternate methods are acceptable if they meet with local soil bearing capacities.

TYPICAL BLOCKING DIAGRAM FOR DOUBLEWIDES



FRAME BLOCKING PIER FOOTINGS

Based on a soil capacity of 1000 lb. per square foot, a suggested footing size for all piers is 2'6" square.

Alternate methods are acceptable if they meet with local soil bearing capacities.

It is extremely important to check with local building officials as to the latest local codes in your area.

MINIMUM PIER CAPACITIES (in lbs.)

MINIMUM SPACING FOR BLOCKING	ROOF LOAD ZONE		
	20#	30#	40#
24 wide 8'0" o.c. max.	3750	4225	4700
28 wide 8'0" o.c. max.	4328	4880	5424

MINIMUM PIER CAPACITIES FOR MARRIAGE WALL OPENINGS (in lbs.)

CLEAR SPAN DISTANCE IN MARRIAGE WALL	20#		30#		40#	
	24'	28'	24'	28'	24'	28'
4'-1" — 8'-0"	1260	1476	1724	2020	2192	2568
8'-1" — 12'-0"	1890	2214	2586	3030	3288	3852
12'-1" — 16'-0"	2520	2952	3448	4040	4384	5136

The diagram above shows the minimum required placement of blocks under the frame of a typical length and width mobile home.

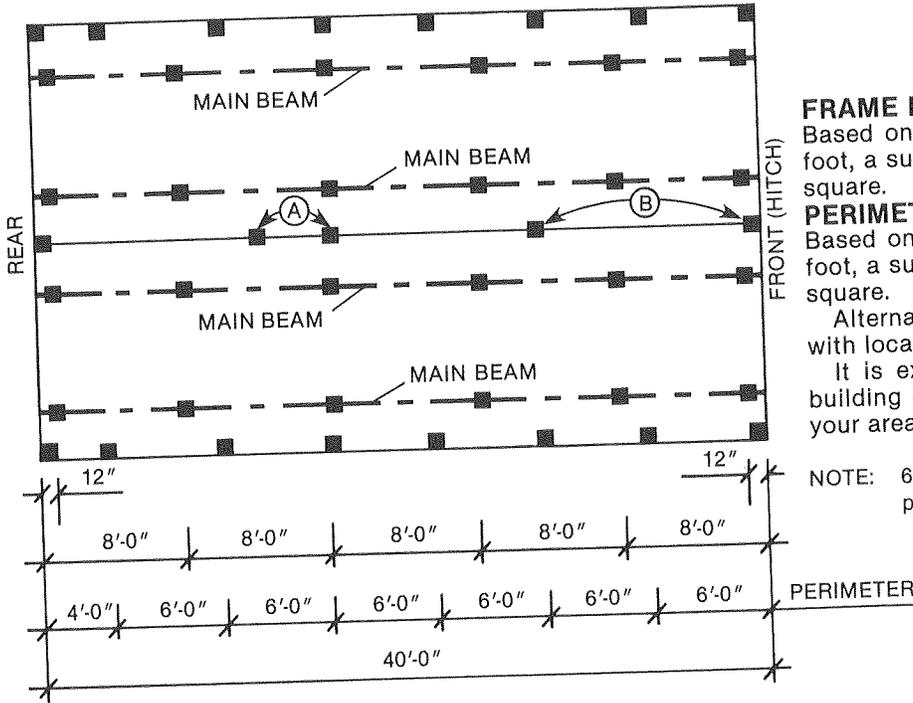
FRAME BLOCKING

Begin by placing piers at front and rear of home. Starting at front, place piers at a maximum of 8' o.c. along both main beams the entire length of home. Follow this procedure for any length of Champion-built home.

Other blocking positions are also required under the center marriage walls, depending on the model. These positions are determined by the locations of the openings in the marriage wall. There must be blocking at each end of the openings shown as A and B on diagram above and vary depending on the model. For clear span openings and pier capacities see the chart shown above.

FOR 60# ROOF LOAD ZONE SEE PAGE 9

TYPICAL BLOCKING DIAGRAM FOR DOUBLEWIDES—60 LB. ROOF LOAD



FRAME BLOCKING PIER FOOTINGS

Based on a soil capacity of 1000 lb. per square foot, a suggested footing size for all piers is 2'6" square.

PERIMETER BLOCKING PIER FOOTINGS

Based on a soil capacity of 1000 lb. per square foot, a suggested footing size for all piers is 2'0" square.

Alternate methods are acceptable if they meet with local soil bearing capacities.

It is extremely important to check with local building officials as to the latest local codes in your area.

NOTE: 60-lb. roof load areas require BOTH frame and perimeter blocking

MINIMUM PIER CAPACITIES (in lbs.)

MINIMUM SPACING FOR BLOCKING	ROOF LOAD ZONE 60#	MINIMUM SPACING FOR PERIMETER BLOCKING	ROOF LOAD ZONE 60#
24 wide 8'0" o.c. max.	2272	12 wide 6'0" o.c. max.	2510
28 wide 8'0" o.c. max.	2648	14 wide 6'0" o.c. max.	2916

MINIMUM PIER CAPACITIES FOR MARRIAGE WALL OPENINGS (in lbs.)

CLEAR SPAN DISTANCE IN MARRIAGE WALL	60#	
	24'	28'
0'—4'-0"	1562	1830
4'-1"—8'-0"	3124	3660
8'-1"—12'-0"	4686	5490
12'-1"—16'-0"	6248	7320

The diagram above shows the minimum required placement of blocks under the frame of a typical length and width mobile home. It is extremely important to check with local building officials prior to blocking your home as to the latest local codes in your area.

FRAME BLOCKING

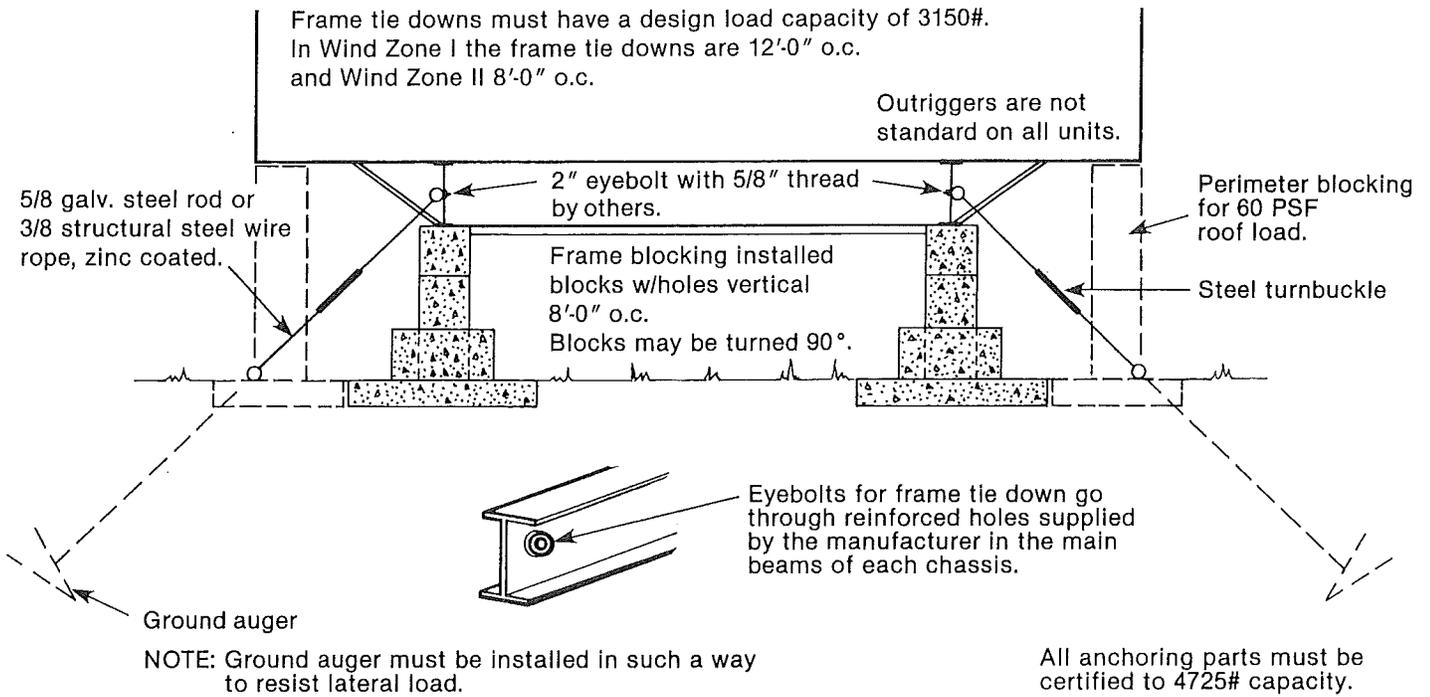
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Other blocking positions are also required under the center marriage walls, depending on the model. These positions are determined by the locations of the openings in the marriage wall. There must be blocking at each end of the openings shown as A and B on diagram above and vary depending on the model. For clear span openings and pier capacities see the chart shown above.

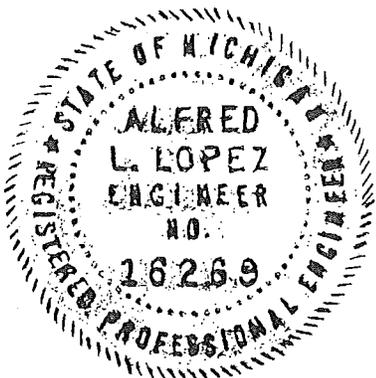
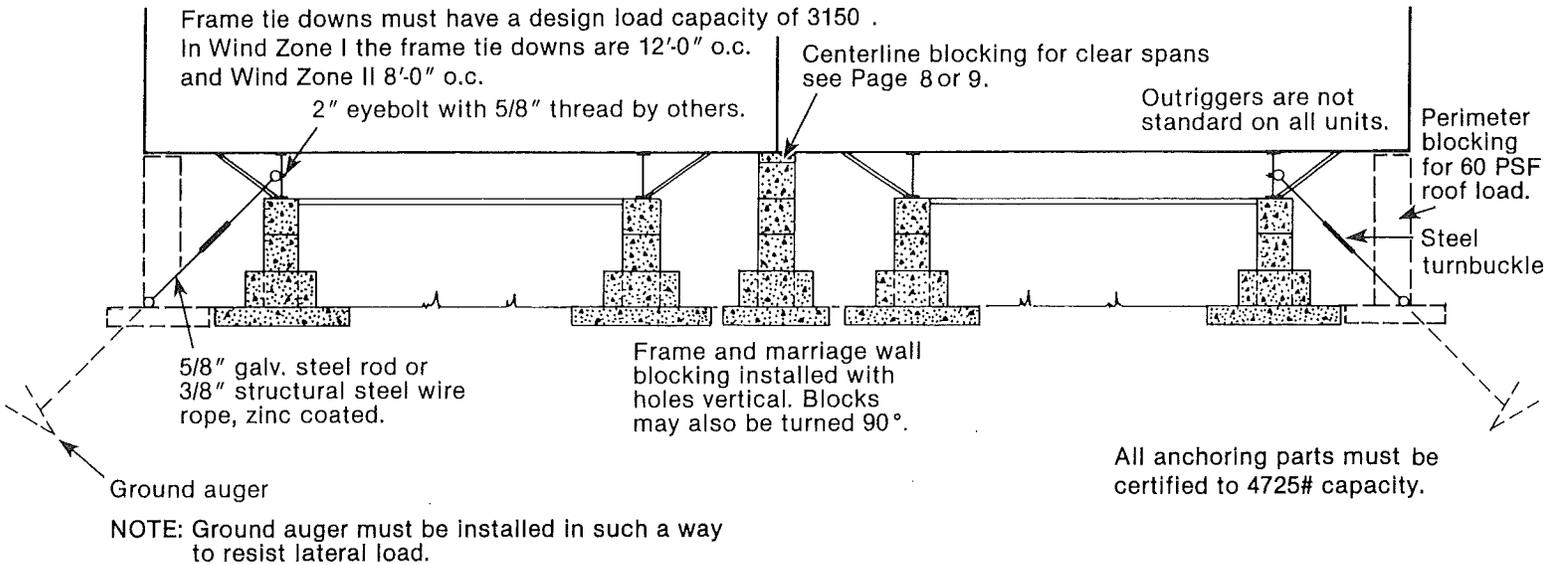
PERIMETER BLOCKING

Begin by placing piers at front and rear of home. Starting at front, place piers at a maximum of 6' o.c. along both rim members the entire length of home. Follow this procedure for any length of Champion-built home.

TIE-DOWN INSTRUCTIONS FOR SINGLEWIDES

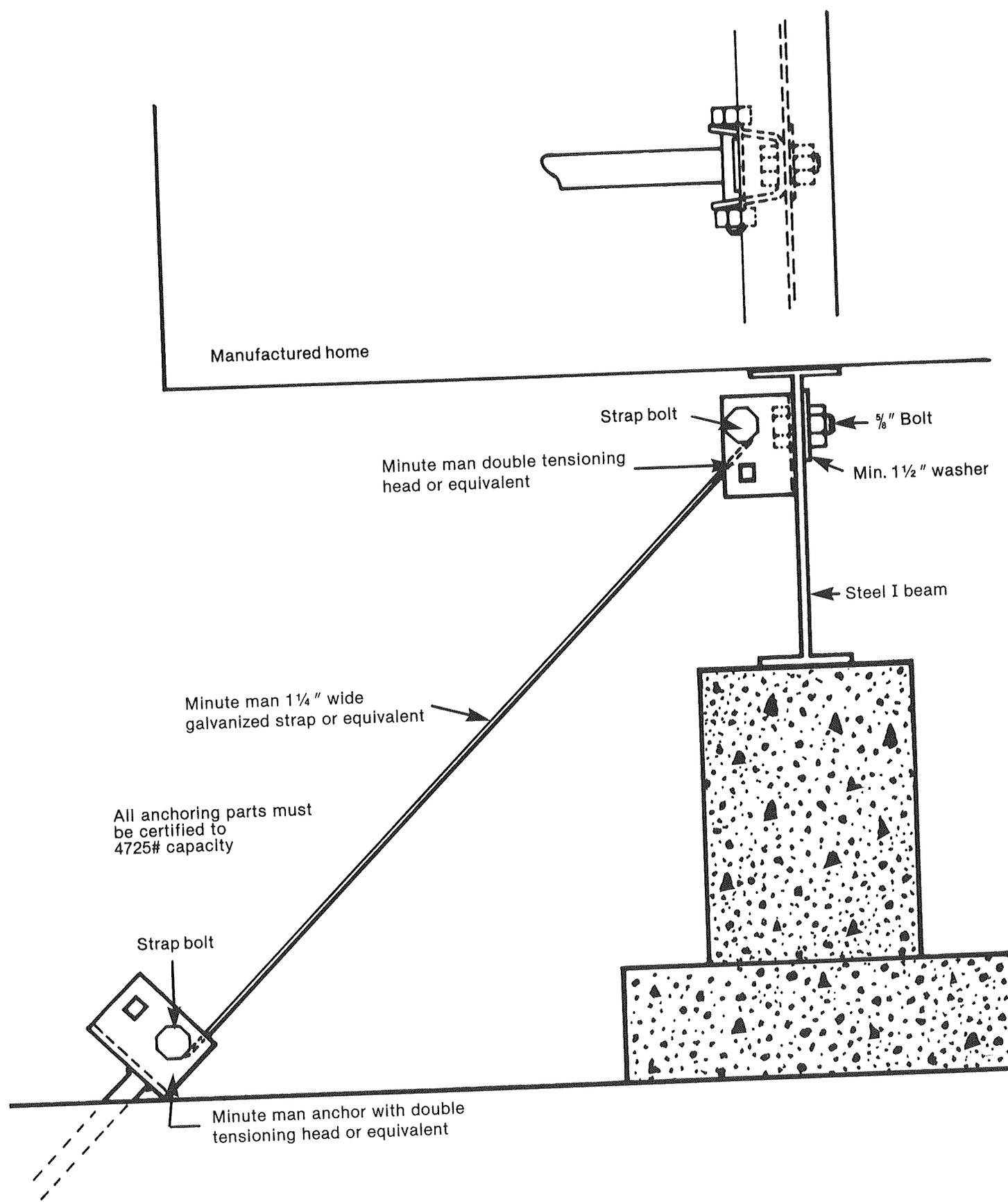


TIE-DOWN INSTRUCTIONS FOR DOUBLEWIDES



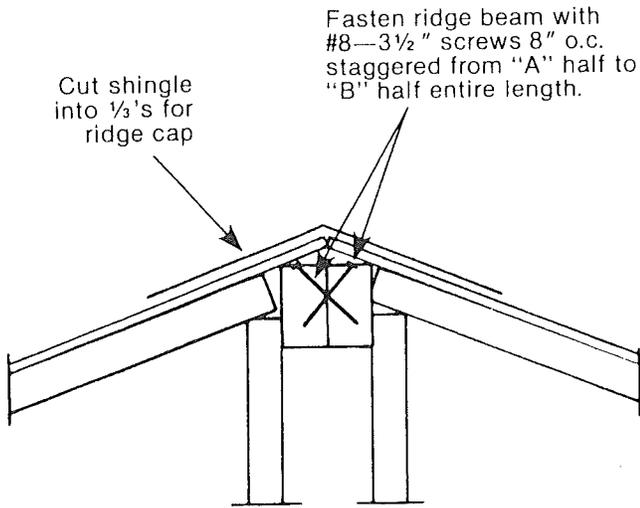
NOTE: Champion Home Builders has designed their homes to only require the use of frame ties. When optional ground straps are sold, their use is over and above that required by Champion and the Federal Standard for tie-down of our homes. Ground straps do not alter the requirements for frame ties. Under no circumstances are the optional ground straps to be used without frame ties. Unless the anchor is certified to accept the combined loads, optional ground straps must be fastened to separate ground anchors.

ALTERNATE TIE DOWN INSTRUCTIONS FOR SINGLEWIDES AND DOUBLEWIDES

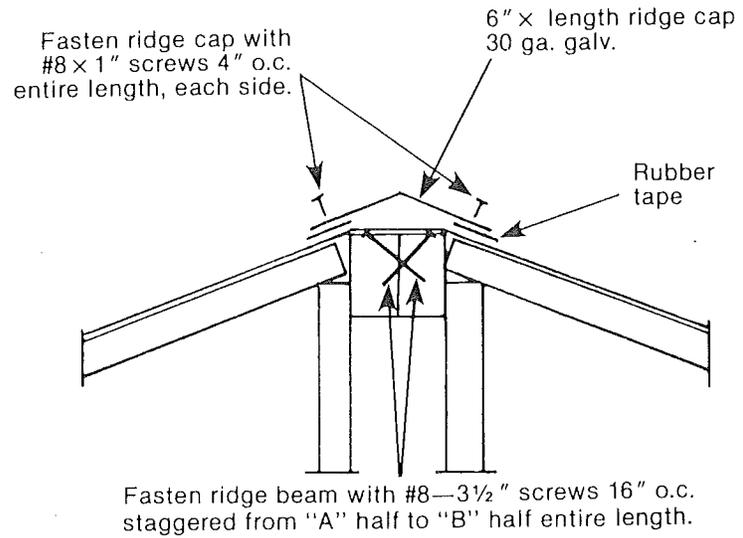


DOUBLEWIDE CONNECTION DETAILS

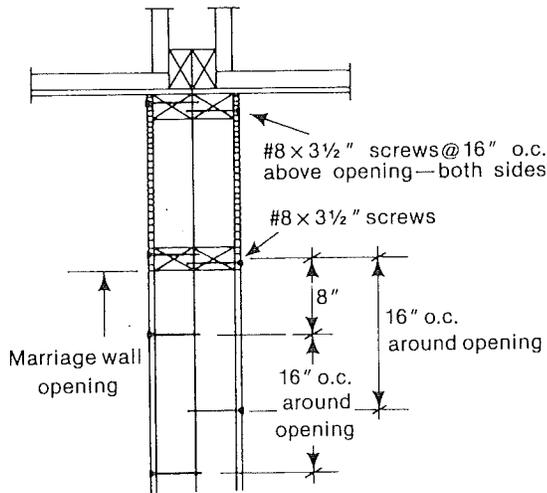
SHINGLE ROOF



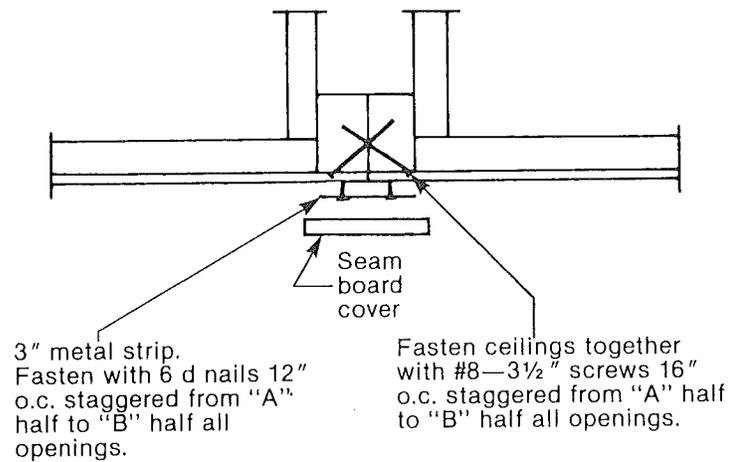
METAL ROOF



MARRIAGE WALL OPENINGS

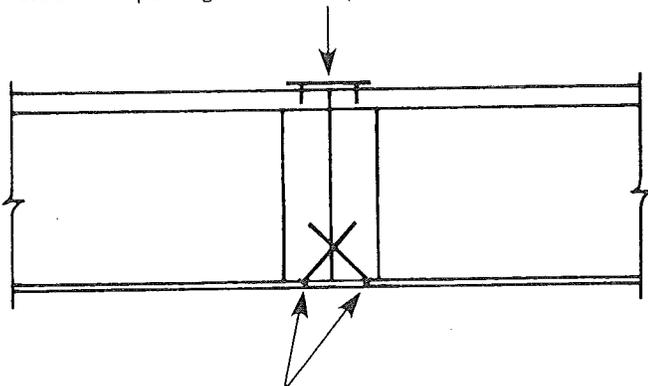


CEILING



FLOOR

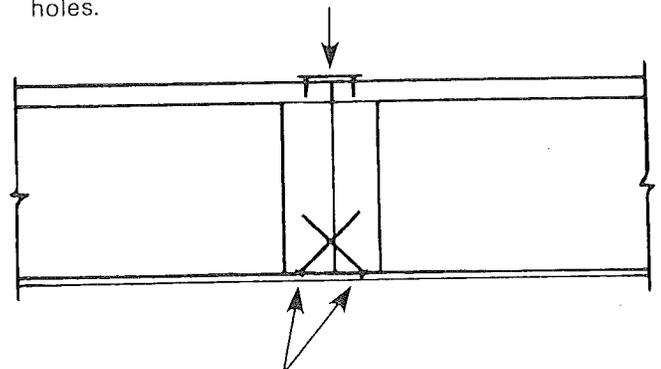
3" metal strip fastened with 6 d nails 12" o.c. each side. All openings under carpet.



Fasten floor with #8-3 1/2" screws 16" o.c. staggered from "A" half to "B" half entire length.

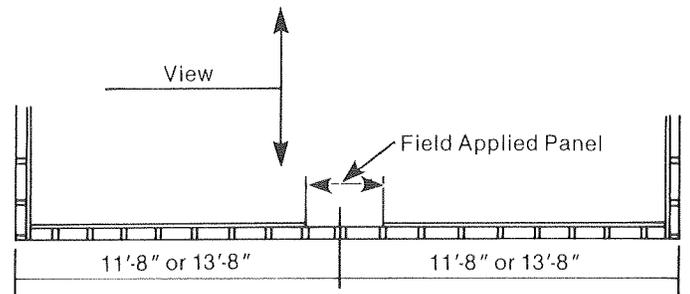
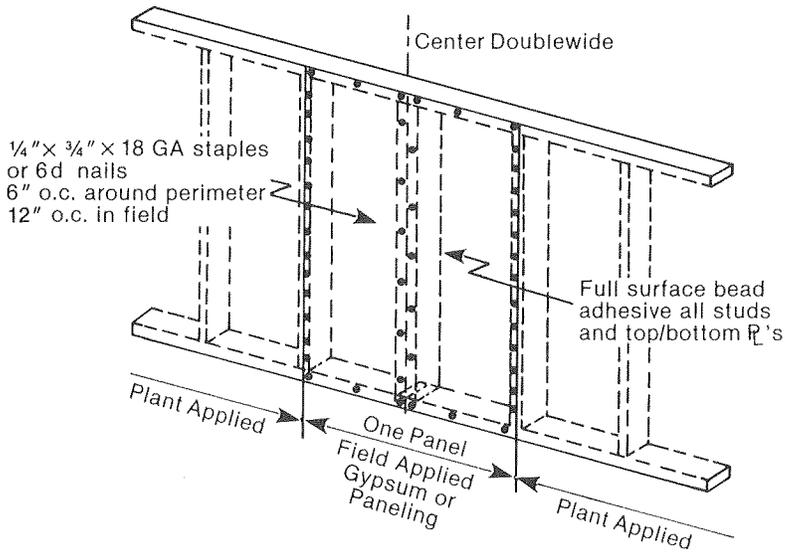
FLOOR

Aluminum threshold strip at openings not carpeted. Fasten with #3-3/4" drive nails through prepunched holes.



Fasten floor with #8-3 1/2" screws 16" o.c. staggered from "A" half to "B" half entire length.

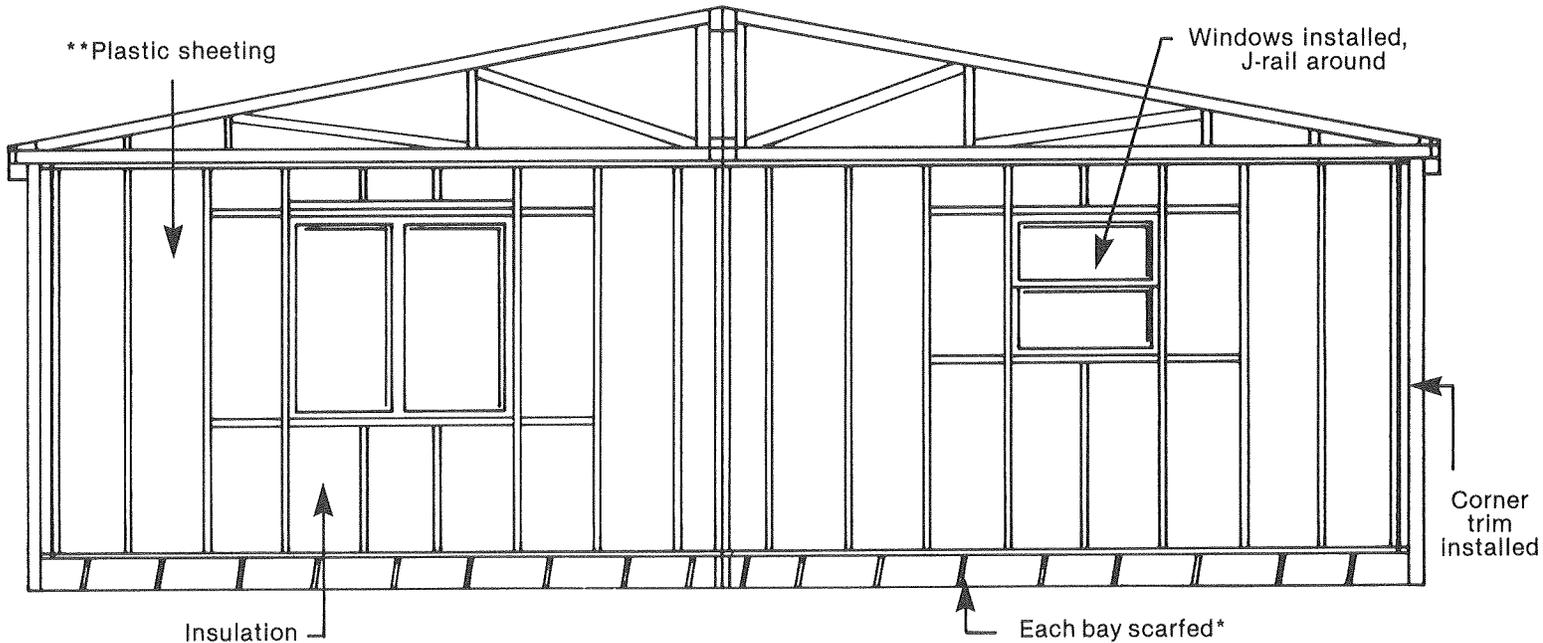
ALTERNATE FIELD APPLIED INTERIOR END WALL PANEL



This detail approves the use of one panel to trim off the area on an end wall of a doublewide home with one panel.

This panel may not be smaller than 16" nor larger than 32" plus any additional width necessary to span \mathcal{C} gaps that may result when the 2 halves of the unit have been brought together.

HORIZONTAL LAP SIDING



NOTE: Doublewide homes with horizontal lap siding may be shipped with no siding on the front and rear endwalls.

Champion will install: windows/doors trimmed with J-rail to receive siding; corner* trim for siding; insulation; and any optional sheathing. Front and rear will be covered with plastic sheathing for transit. All siding, starter, trim, fasteners, shutters, and vents will be shipped loose in home. Dealer will complete installation after home is set up. This would include installation of roof vents if required.

*Scarffing not required with optional sheathing.

**Plastic sheathing must be slit at top of each stud bay when no sheathing is used. With sheathing, the plastic sheathing must be removed.

UTILITY SYSTEM CONNECTIONS AND TESTING SECTION

GENERAL

Before leaving the factory, the gas, water, and drain line systems of your home have been tested for leaks. In addition, the electrical system has been thoroughly tested. However, prior to connecting these systems to their supply, another test is recommended to ensure that these systems are functioning properly after your home has been set up. Following are the procedures to follow in conducting these tests. On a multiwidth unit (for example, doublewide) all utility connections between units should be made as detailed in the doublewide set up procedure and visually inspected before performing the following tests.

All utility connections must be made by authorized service personnel who are familiar with the requirements in your local area.

WATER DISTRIBUTION CONNECTION AND TEST

CAUTION: THE WATER SYSTEM IN YOUR MOBILE HOME IS DESIGNED FOR WATER PRESSURE NOT TO EXCEED 80 PSI. IF THE WATER PRESSURE FROM THE SUPPLY SOURCE EXCEEDS, OR MAY EXCEED, 80 PSI, A PRESSURE-REDUCING VALVE MUST BE INSTALLED.

Connect the water supply to the mobile home water inlet. Check the water distribution system and the supply connections for evidence of leakage. If your home is not equipped with a master water shutoff valve, one must be installed between the home and the supply source. This valve must be either a full port gate or full port ball valve with threaded or solder joints.

NOTE: IN AREAS SUBJECT TO FREEZING, THE EXPOSED WATER PIPE MUST BE PROTECTED. AN ELECTRICAL RECEPTACLE IS PROVIDED CONVENIENT TO THE POINT OF CONNECTION. TO PREVENT FREEZING, WRAP THE EXPOSED PIPE WITH HEAT TAPE LISTED FOR USE WITH A MOBILE HOME. HEAT TAPE MUST BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

IF YOUR HOME IS EQUIPPED WITH AN UNINSULATED WATER HEATER DOOR, THE PIPES IN THE WATER HEATER COMPARTMENT SHOULD BE INSULATED.

DRAINAGE SYSTEM TEST

Connect the drainage piping system to the lot or site inlet and test by allowing water to flow into all fixtures, including the clothes washer standpipe (if applicable), for a period of three minutes. Check for any evidence of leakage in the drainage piping system.

NOTE: SOME COMPONENTS OF THE DRAIN SYSTEM MAY BE SHIPPED LOOSE WITH YOUR HOME TO PROTECT THEM FROM IN-TRANSIT DAMAGE. ALL NECESSARY ABS PIPE AND FITTINGS ARE PROVIDED TO BRING THE ENTIRE

DRAIN SYSTEM TO ONE DISTRIBUTION POINT. THESE FITTINGS AND PIPE SHOULD BE INSTALLED BY QUALIFIED PERSONNEL USING CEMENT SUITABLE FOR ABS PIPE.

DRAINING WATER LINES

If it becomes necessary to drain the water line to prevent freezing, first shut off the incoming water. Open all taps in the home then remove the drain plug located under the water heater compartment. After all the water has drained out, replace the drain plug with an air valve. Apply air until all water has been blown out.

The water heater may have a separate drain cock and must be drained with a short garden hose.

GAS PIPING SYSTEM TEST

CAUTION: THE GAS PIPING SYSTEM IN YOUR MOBILE HOME IS DESIGNED FOR A PRESSURE NOT TO EXCEED A 14-INCH WATER COLUMN (½ PSI). IF GAS FROM SUPPLY SOURCE EXCEEDS, OR MAY EXCEED, THIS PRESSURE, A PRESSURE REDUCING VALVE MUST BE INSTALLED. **CHECK ALL APPLIANCE CONNECTIONS AND THE GAS INLET CONNECTION FOR LEAKS WITH SOAPY WATER OR BUBBLE SOLUTION.**

CAUTION: DO NOT OVER PRESSURE GAS PIPING SYSTEM AS DAMAGE MAY RESULT.

For safe and efficient operation of gas appliances, the design pressure limitations should not be exceeded. For natural gas systems, the gas pressure should not exceed 10½" water column and should not be less than a 7-inch water column. For LPG systems, the pressure should not exceed 14-inch water column or be less than an 11-inch water column.

Connect a properly sized gas supply connector from the gas supply line to the mobile home gas piping inlet. Check that all appliance shutoff valves are open and all appliance burner valves closed. Pressurize the gas piping system by opening the main gas shutoff valve.

Visually check gas appliance vents to ensure that they have not been dislodged in transit and are securely connected to the appliance.

ELECTRICAL SYSTEM TEST

CAUTION: ELECTRICAL SYSTEM CONNECTION AND TESTING MUST BE PERFORMED ONLY BY QUALIFIED ELECTRICAL SERVICEMEN USING APPROVED ELECTRICAL TEST EQUIPMENT.

The following should be done before connecting to the power source:

A continuity test with all branch circuit breakers and switches controlling individual outlets in the "on" position should be conducted. There should be no evidence of connection between any of the supply conductors (in-

cluding neutral) and the grounding circuit. In addition, all noncurrent carrying metal parts of the electrical system including fixtures, appliances, and the chassis of the mobile home should be tested for continuity with the grounding circuit.

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 UNDER THE HOME.

All required components and fittings are provided in the home. Openings in either the wall or floor are provided. After the duct is installed, the openings in the wall or floor (both inside and outside) must be caulked or sealed.

If your home is not equipped with a dryer, but an electrical outlet is provided for one, then an opening in the wall or floor is provided. Installation of the exhaust system must be in accordance with the dryer manufacturer's installation instructions.

FLASHING AND SEALING

Joints between dissimilar materials and joints between exterior coverings and frames of openings shall be protected with a compatible sealant suitable to resist infiltration of air or water, except for any designed ventilation of wall or roof cavity.

When adjoining material or assemblies of materials are of such nature that separation can occur due to expansion, contraction, wind loads or other loads induced by transportation, the sealant must be of a type that is flexible and nonhardening to resist these conditions.

BOTTOM BOARD PATCH

Use a bottom board patch to seal openings and to repair tears in the bottom board.

Patching of bottom board:

1. Using 3M double-faced tape #927, patches may be constructed of any shape and size utilizing scrap pieces of bottom board or other suitable material.
2. A 2" reinforced pressure-sensitive, one-sided tape, 3M #393 or equivalent, is available for patching small tears and cuts which occur during set up.
3. Outward flare tacker may be used on site. The patch should first be affixed to the bottom using 3M #393 or equivalent to secure the perimeter and then fastened on the perimeter at 3" intervals with tacker.
4. Per manufacturer's recommendations.

FRAME FINISH TOUCH-UP

The frame of your home has been protected against corrosion at the factory. If for some reason this protection is scraped off, you should touch up the area affected with Mortel #931—Thin Film Undercoating—water based, or equivalent.

FIREPLACES AND WOOD BURNING STOVES

1. Fireplaces and wood burning stoves must be installed to manufacturer's installation instructions.
2. All "ship loose" components must be installed prior to initial start up of the unit. For example, if the flue stack or chimney and termination pieces are shipped loose in the unit, they must be installed per instruction prior to firing the unit.

3. Use only components supplied by the fireplace or wood burning stoves manufacturer. Use of other components may void your warranty and create a fire hazard.

PERIMETER VENTING

When installing skirting or perimeter foundation, provide air vents at the rate of one square inch of vent for every square foot of home.

INSTALLATION OF EXTERNAL COOLING UNITS DUCTED INTO MAIN AIR DISTRIBUTION SYSTEM

SINGLEWIDE UNITS:

Air from external cooling units shall be introduced into the main air distribution system such that an equal number of floor registers will result on either side of the entrance point where possible. Where there is an odd number of registers, one side of the entrance point will have an additional register. A damper must be installed at the entrance point of the outside appliance duct to the main distribution duct to prevent back flow of air into the cooling unit when the house internal furnace is functioning. A damper must also be installed at the point where the internal furnace joins the main distribution system to prevent air from flowing into the furnace when the external cooling unit is functioning.

DOUBLEWIDE UNITS:

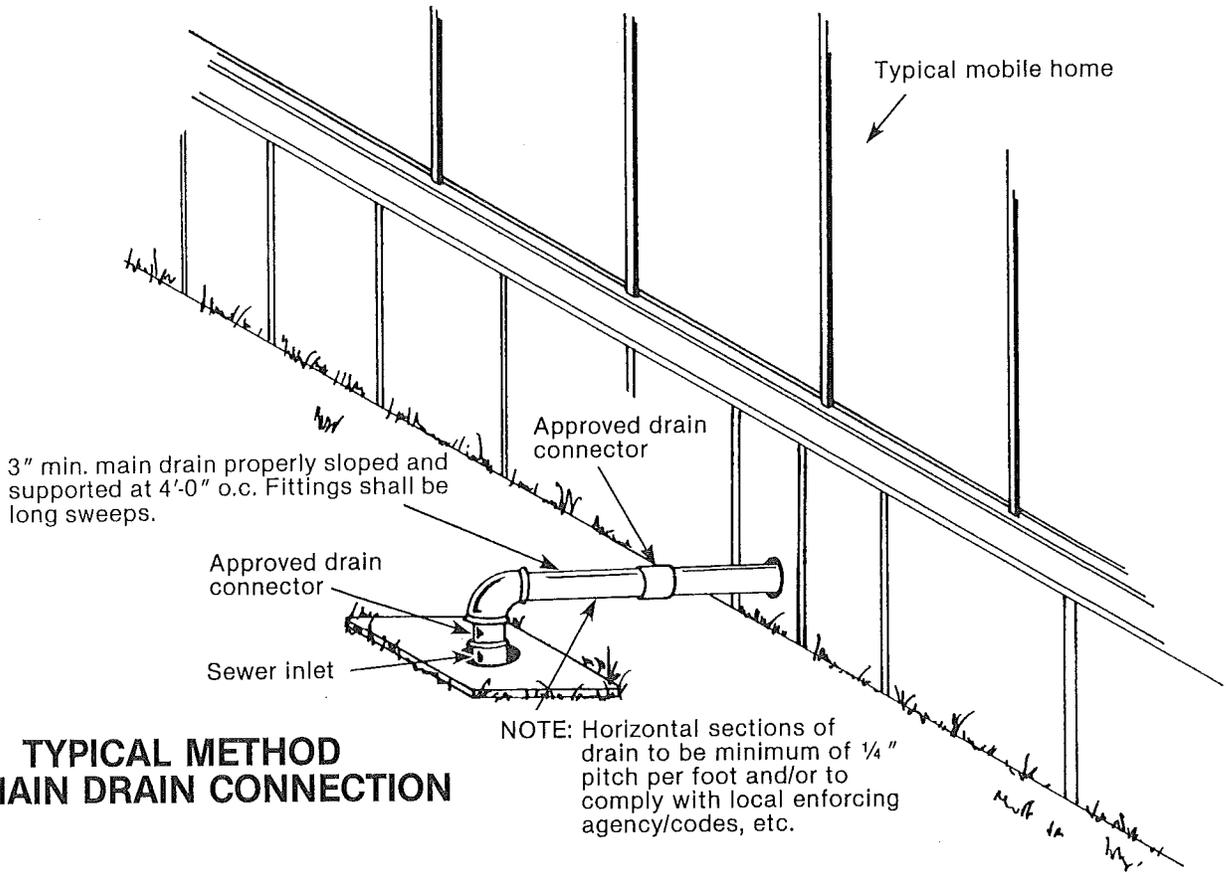
Air from external cooling units shall be introduced into each half of a doublewide air distribution system such that an equal number of floor registers will result on either side of the entrance point in each half of the home. Where there is an odd number of registers in one or both sides of the home, that side or both sides will have an additional register on one side of the entrance point. A damper must be installed at the entrance point of the outside duct to the main distribution in each half to prevent back flow of air into the cooling unit when the house internal furnace is functioning. Separate ducts from the entrance point under each half of the home will run to a "Y" connection and a single duct will run from this point to the external cooling unit. A damper must be installed at the point where the internal furnace joins the main distribution system to prevent air from flowing into the furnace when the external cooling unit is functioning.

Singlewide and doublewide units:

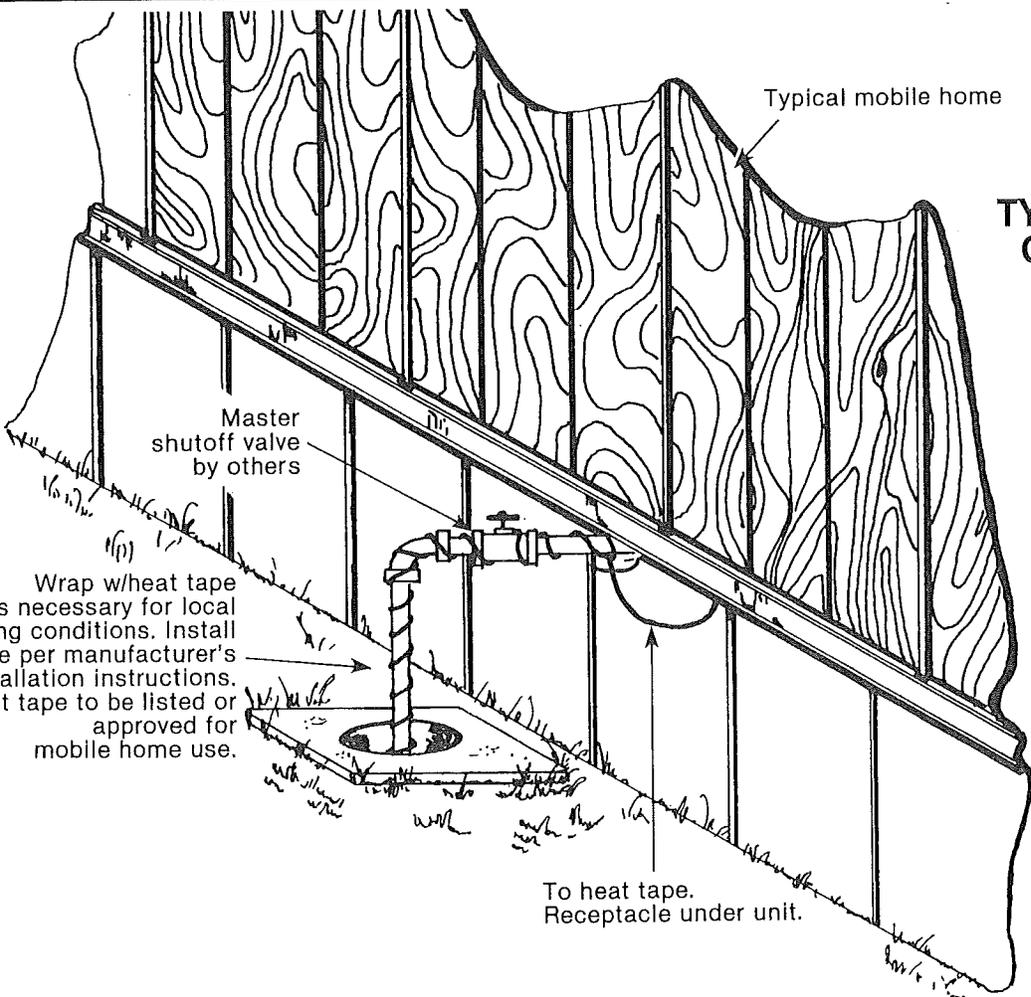
1. Provisions must be made to prevent simultaneous operation of the internal furnace and the external cooling unit.
2. Structural members (floor joists, etc.) shall not be cut, altered, or removed.
3. Return air openings will be located centrally in the home to draw air evenly from all rooms.

OIL-FIRED FURNACES

When an oil-fired furnace is installed, the oil drain hose must be routed through the floor into a container placed under the home to collect any oil drippings from the furnace. This container should be periodically checked and emptied as necessary. Failure to do this could result in a fire hazard due to collection of oil in the ground below the home.



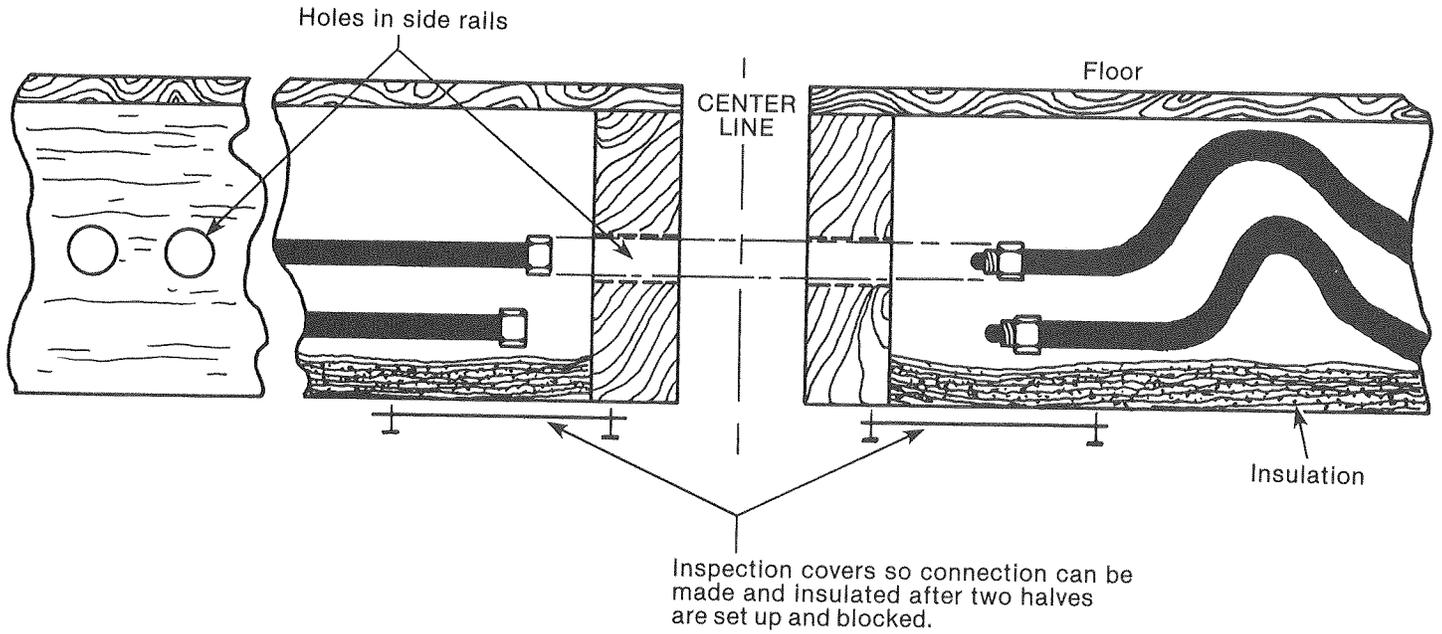
TYPICAL METHOD OF MAIN DRAIN CONNECTION



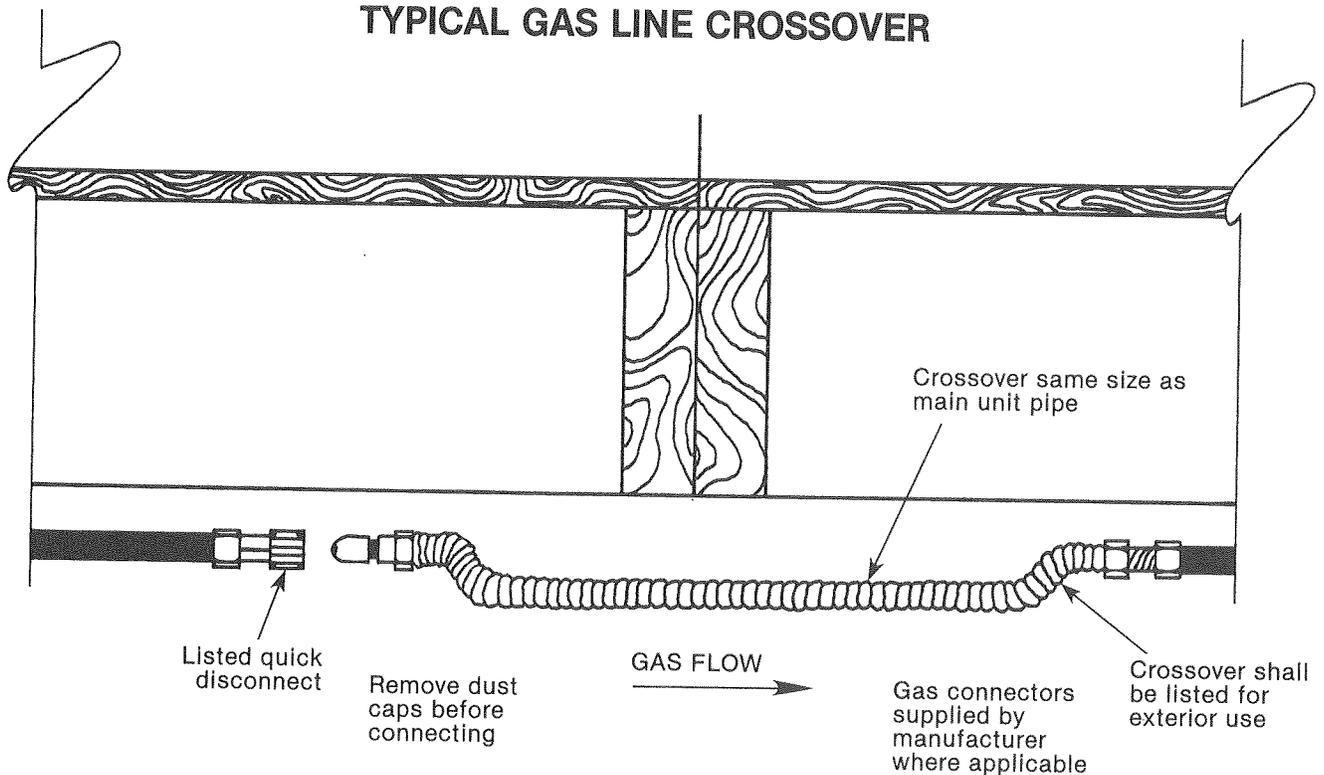
TYPICAL WATER CONNECTION

TYPICAL WATER LINE CROSSOVER

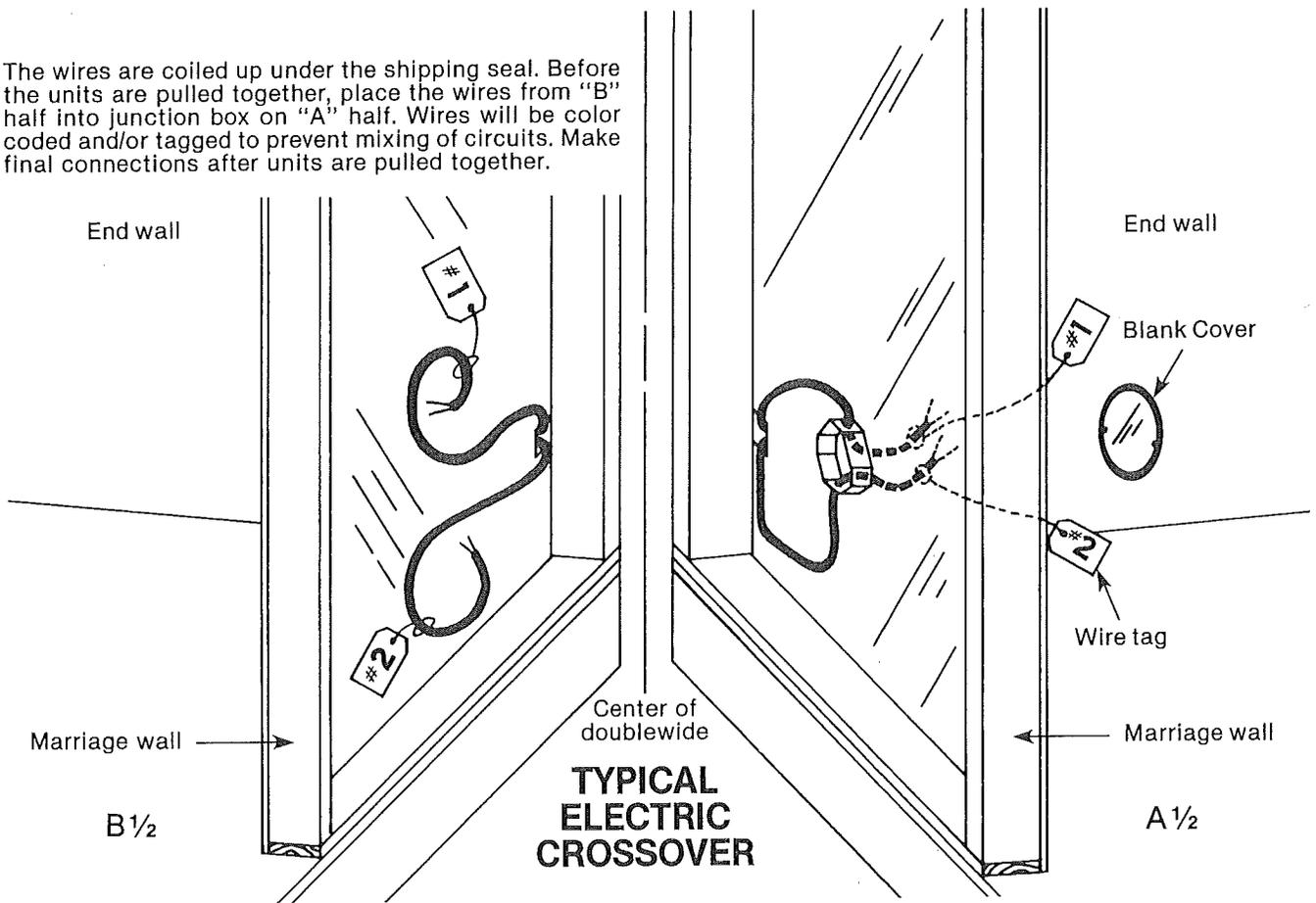
NOTE: If freezing conditions exist, wrap water connector with insulation.
Use water connectors supplied by manufacturer where applicable.



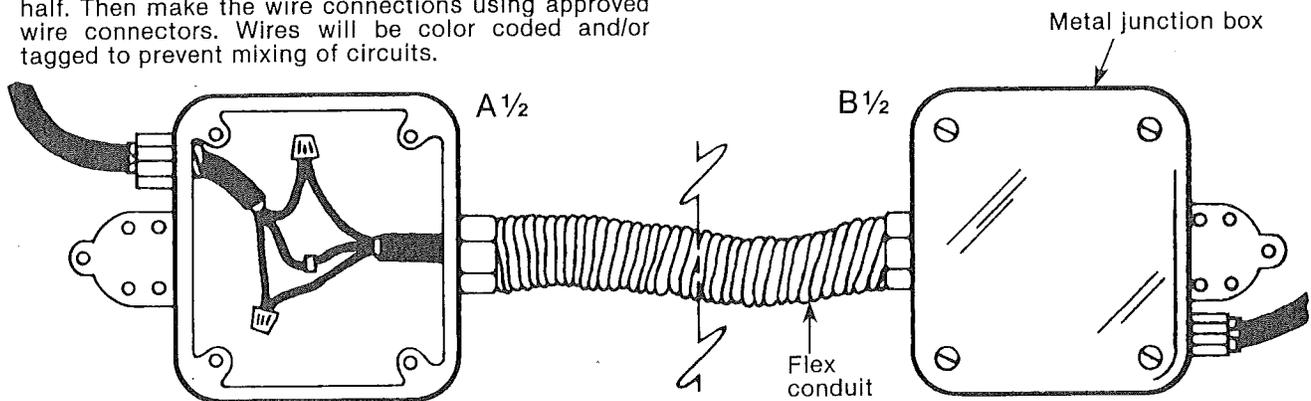
TYPICAL GAS LINE CROSSOVER



The wires are coiled up under the shipping seal. Before the units are pulled together, place the wires from "B" half into junction box on "A" half. Wires will be color coded and/or tagged to prevent mixing of circuits. Make final connections after units are pulled together.

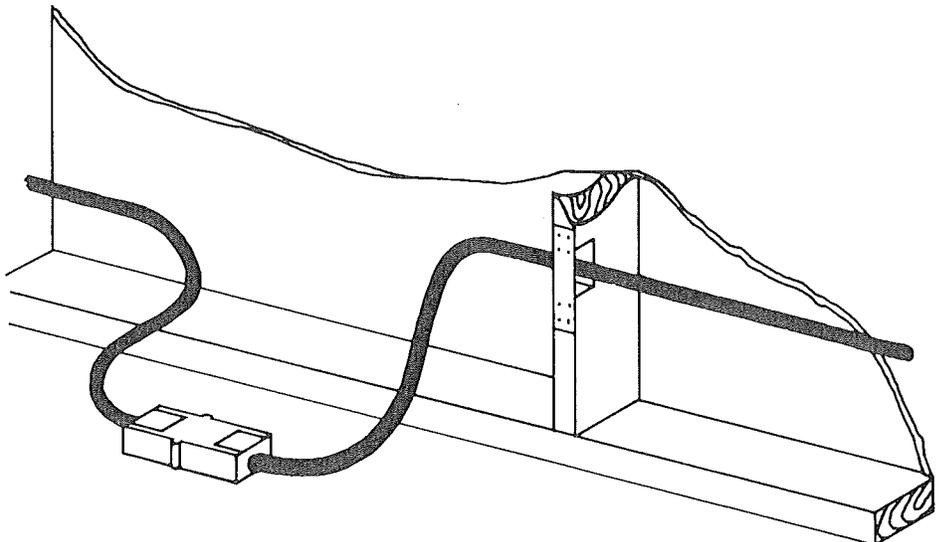


Connect the flex conduit to the junction box on the "A" half. Then make the wire connections using approved wire connectors. Wires will be color coded and/or tagged to prevent mixing of circuits.

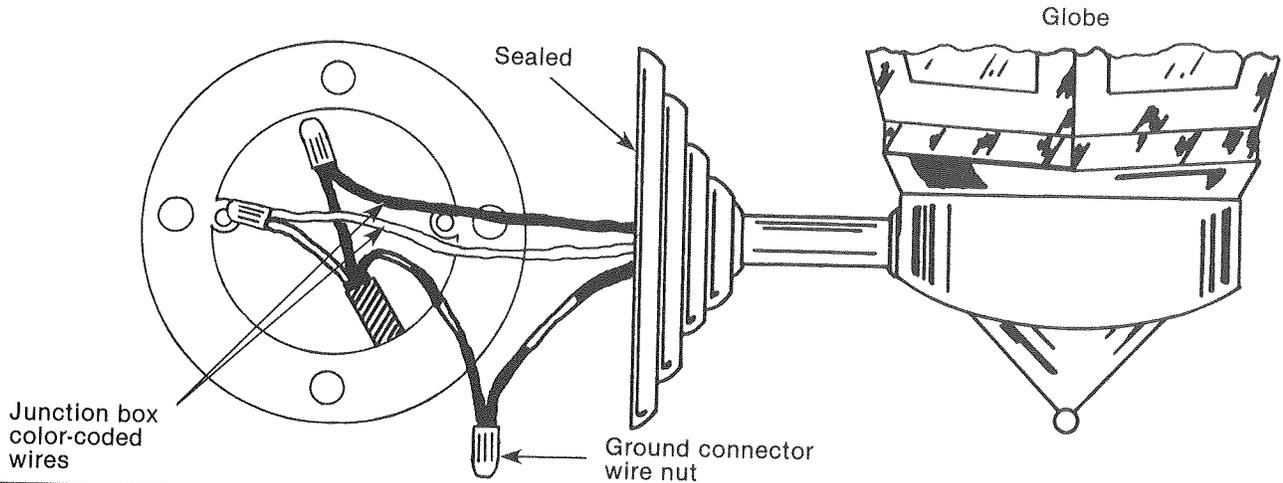


ALTERNATE ELECTRIC CROSSOVERS

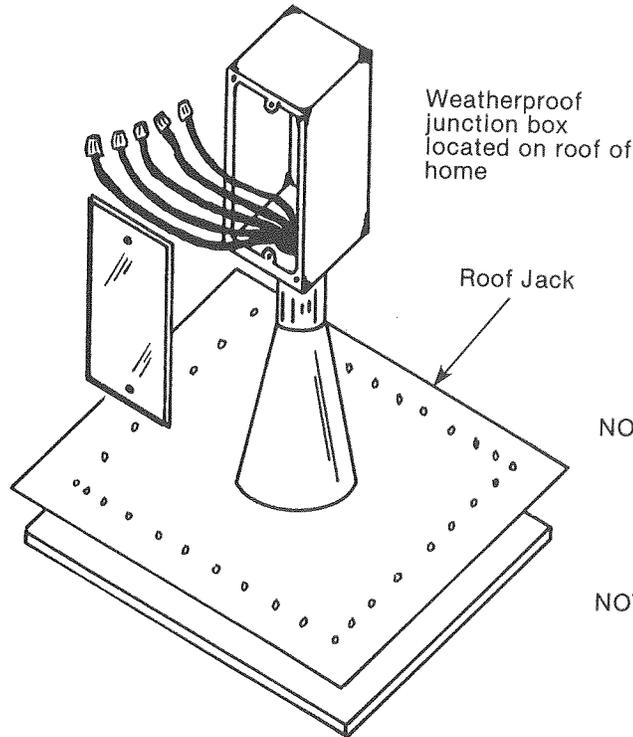
This home may be shipped with one or more plug-in connectors. These connectors are to be snapped together on set up. Connectors will be color-coded and/or tagged to prevent mixing of circuits.



EXTERIOR LIGHT CONNECTION



ELECTRICAL CONNECTION EVAPORATIVE COOLER

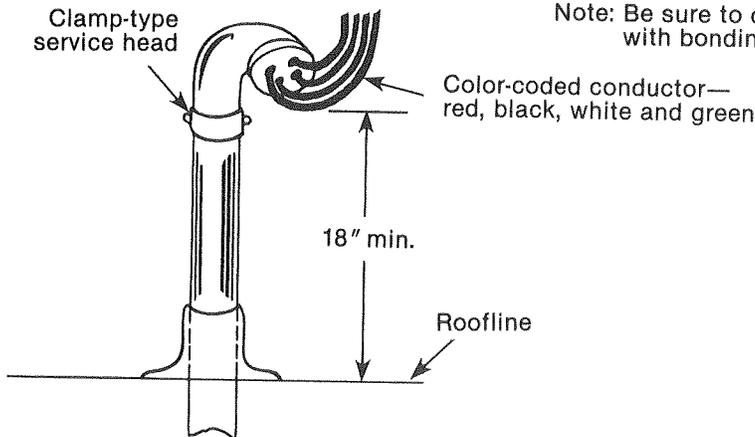


NOTE: Coolers rated at 16 amps to be installed on a 20-amp circuit. Coolers rated at 12 amps to be installed on a 15-amp circuit.

NOTE: One required for each cooler.

TYPICAL OVERHEAD FEEDER ASSEMBLY

Note: Be sure to connect multi-wide chassis together with bonding wire and lug.



COPPER CONDUCTOR SIZE (75° WIRE)

Service Amps	Wire Size			Conduit Size
	Feeder	Ground	Neutral	
40	#8	#8	#8	3/4"
50	#6	#8	#6	3/4"
60	#6	#8	#6	3/4"
80	#4	#8	#4	1"

COPPER CONDUCTOR SIZE (75° WIRE)

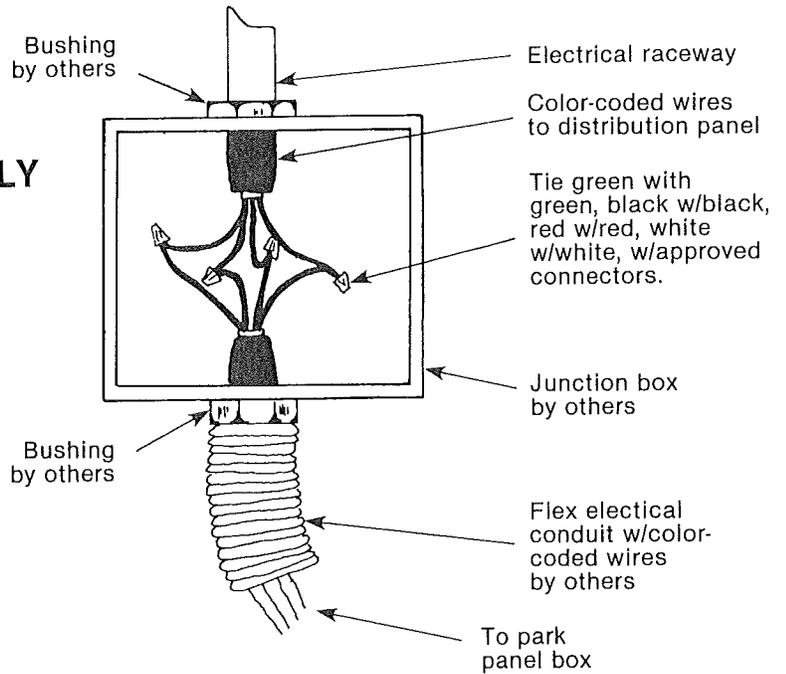
Service Amps	Wire Size			Conduit Size
	Feeder	Ground	Neutral	
100	#3	#8	#3	1 1/4"
125	#1	#6	#3	1 1/2"
150	#0	#6	#3	1 1/2"
200	#000	#6	#3	2"

TYPICAL UNDERSIDE FEEDER ASSEMBLY

Note: Be sure to connect Double wide Chassis together with bonding wire and lug.

JUNCTION BOX SIZE

For straight pulls the length of 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.



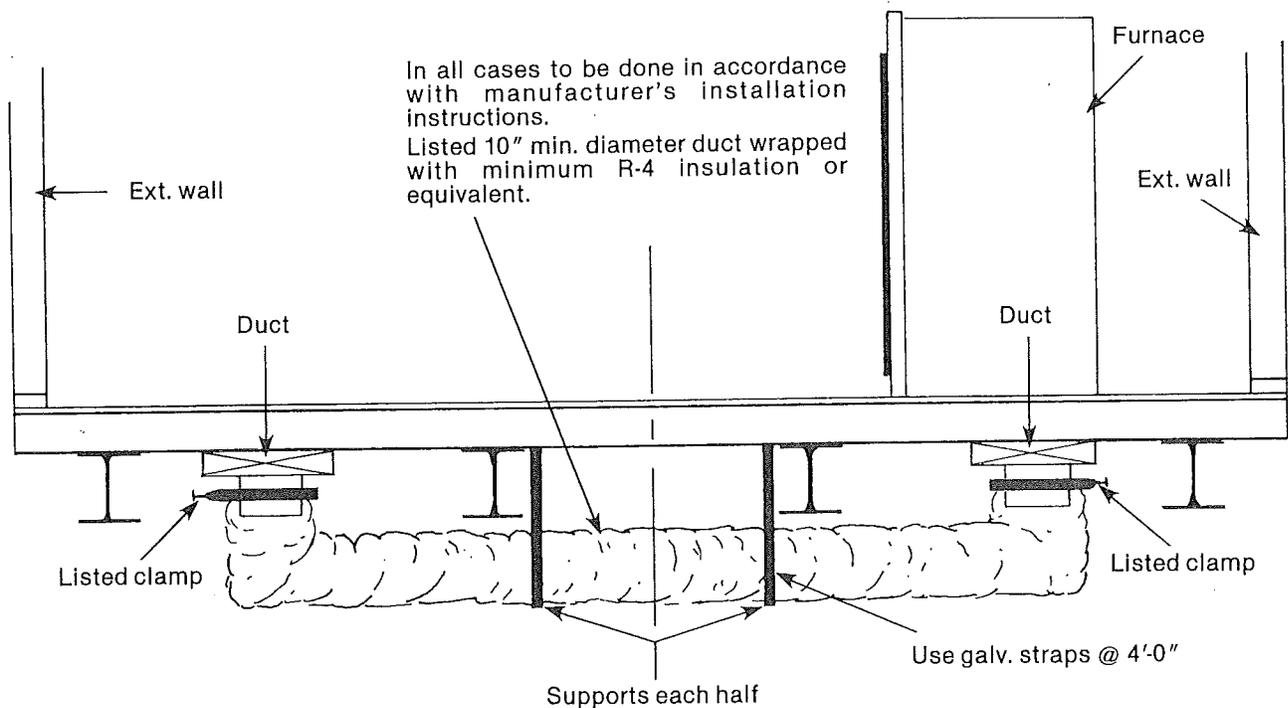
COPPER
CONDUCTOR SIZE (75° WIRE)

Service Amps	Wire Size			Conduit Size	Box Size
	Feeder	Ground	Neutral		
40	#8	#8	#8	¾"	4 × 4 × 4
50	#6	#8	#6	¾"	4 × 4 × 4
60	#6	#8	#6	¾"	4 × 4 × 4
80	#4	#8	#4	1"	4 × 4 × 4

COPPER
CONDUCTOR SIZE (75° WIRE)

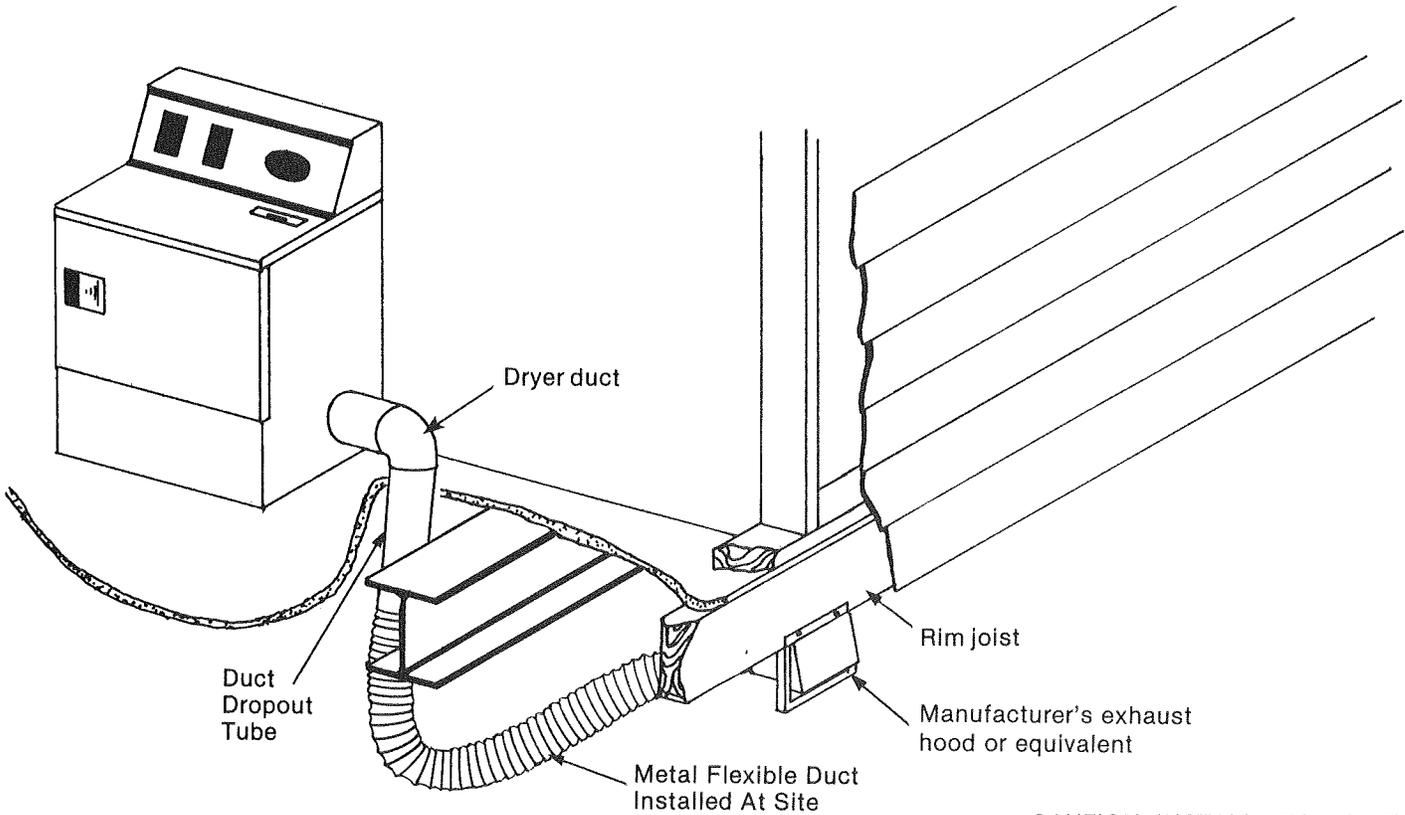
Service Amps	Wire Size			Conduit Size	Box Size
	Feeder	Ground	Neutral		
100	#3	#8	#3	1¼"	10 × 10 × 4
125	#1	#6	#3	1½"	10 × 12 × 4
150	#0	#6	#3	1½"	10 × 12 × 4
200	#000	#6	#3	2"	12 × 12 × 4

TYPICAL HEAT DUCT CROSSOVER



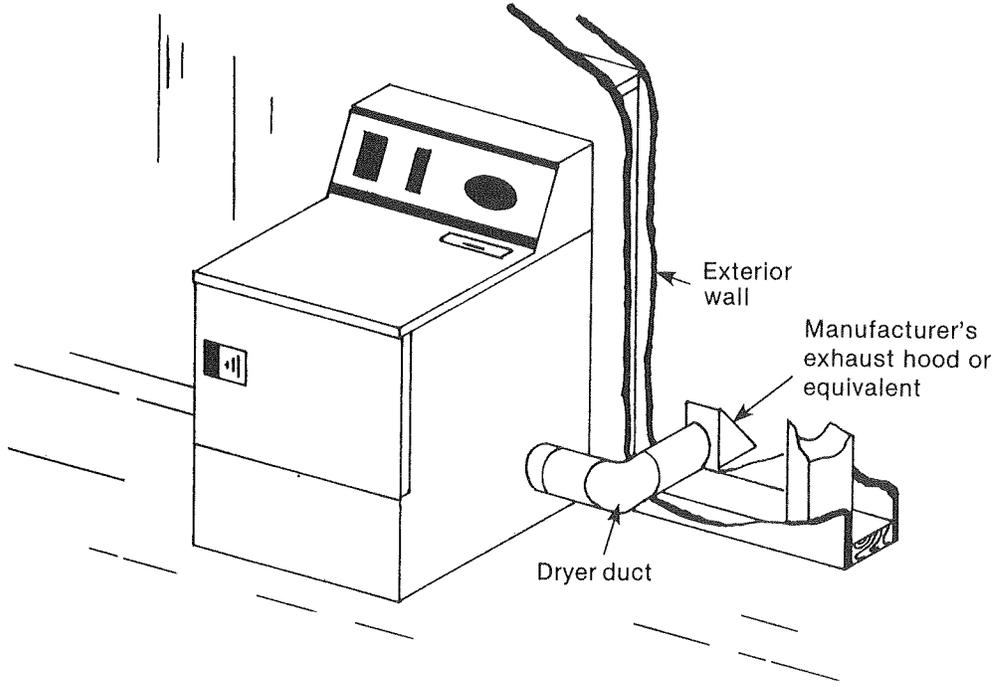
NOTE: Duct shall not come in contact w/ground

DRYER EXHAUST SYSTEM



CAUTION: THIS EXHAUST SYSTEM MUST NOT TERMINATE UNDER THE HOME.

CAUTION: INSTALLATION OF THE EXHAUST SYSTEM MUST BE IN ACCORDANCE W/ THE DRYER MANUFACTURER'S INSTRUCTIONS.

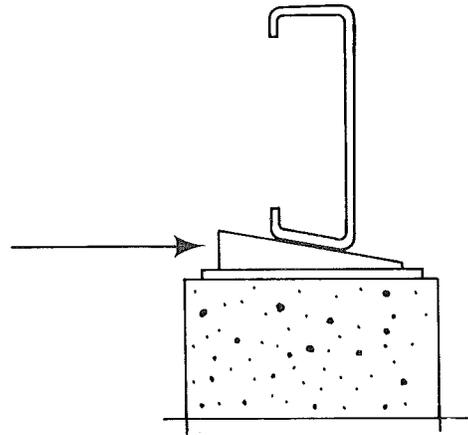
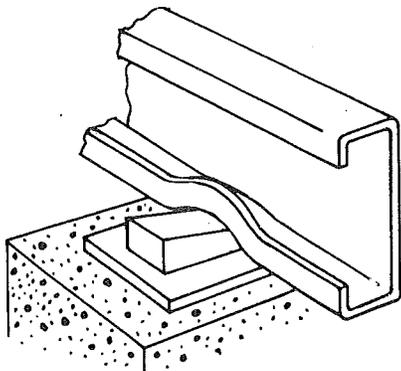


FIELD SETUP FOR C-CHANNEL

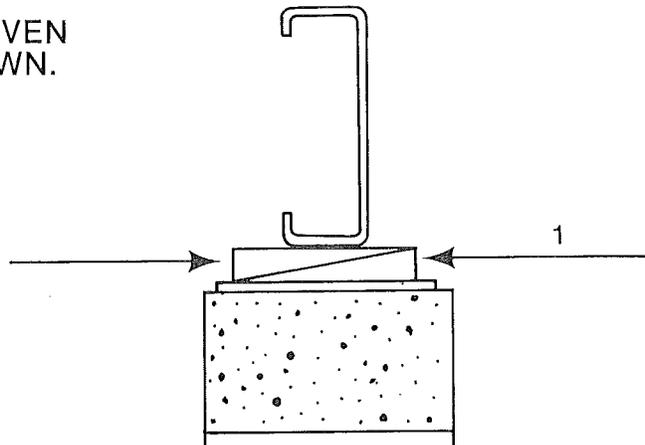
Adhere to our normal list of procedures while observing the following suggestions:

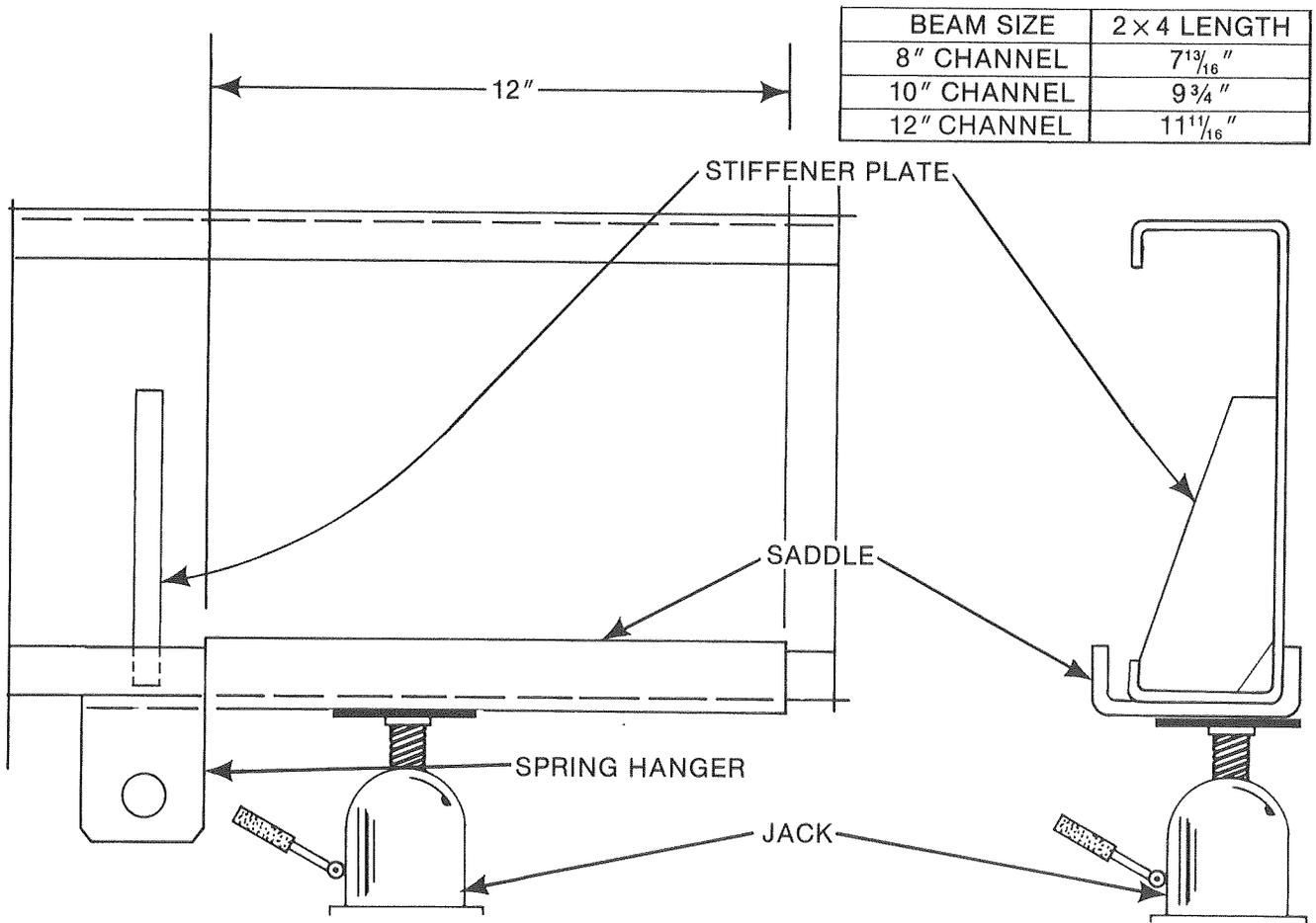
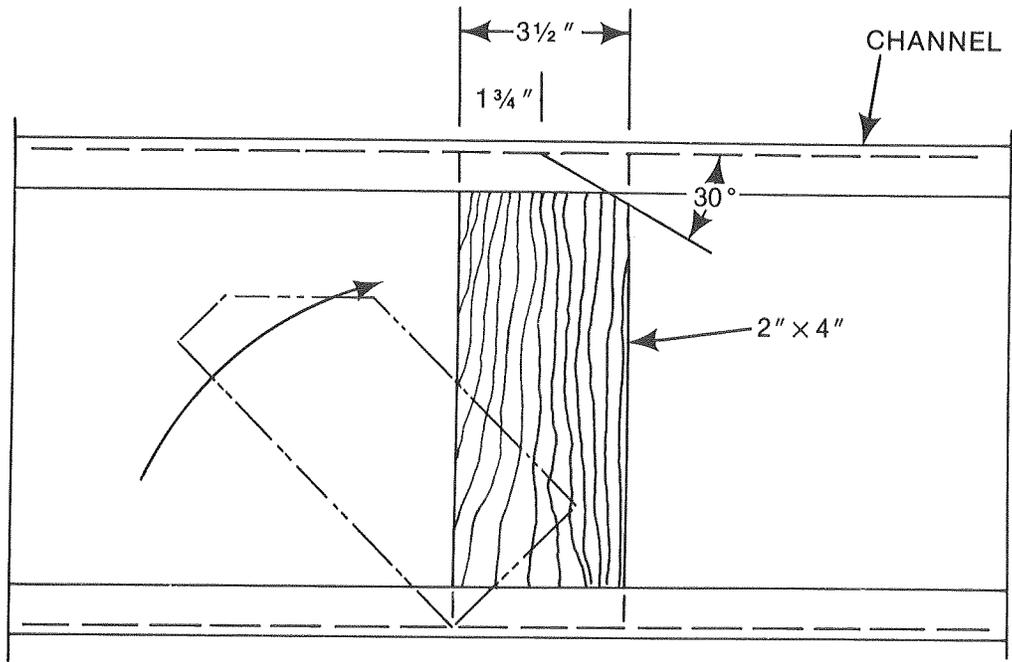
1. Spread load between leveling jack and C-Beam by the use of a 12-inch angle or U-saddle placed on the jack point to receive the bottom flange of the C-Beam (Note detail). Use minimum of two jack points.
2. In axle area place jack-saddle next to the spring hanger to accommodate jacking to proper elevations and level.
3. After elevation and leveling has been accomplished the first of the two wood wedges required is driven from the inside-out direction so as to make initial contact under the vertical web of the C-Beam. The second wedge is then driven from the outside so the load is transmitted through a level wedge surface avoiding flange tip-up.
4. Unusual site conditions may necessitate extra precautions. C-Beam can easily be stiffened in preparation for extra jacking by turning a length of 2 × 4 vertically inside the C-Beam at jack-point location. (Note detail). Under normal site conditions this should not be necessary.

INCORRECT
WEDGE DRIVEN AGAINST
TOE OF CHANNEL CAUSING
FLANGE ROTATION.



CORRECT
USE TWO WEDGES DRIVEN
IN SEQUENCE AS SHOWN.





Note: Stiffener Plate Design may vary from that shown above.



CHAMPION
HOME BUILDERS CO.