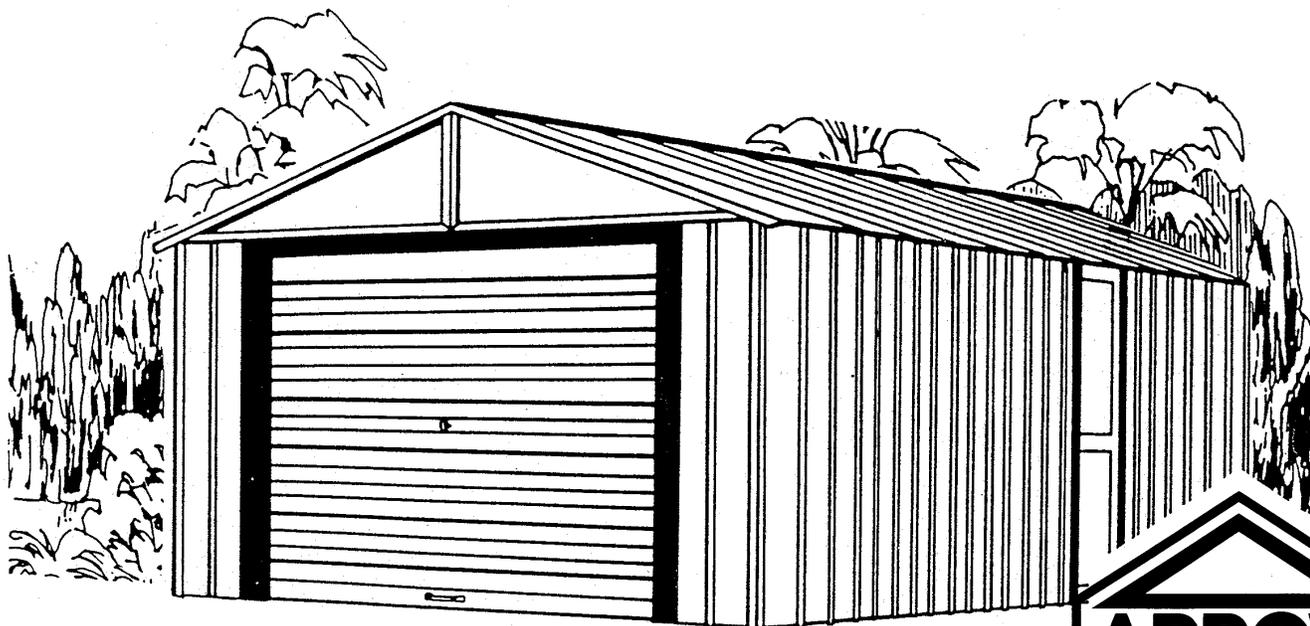


Owner's Manual & Assembly Instructions

BX1

Model No. **VT1421** **697.68889**
 VT1431 **697.68890**



704910801

BUILDING DIMENSIONS * Size rounded off to the nearest foot



CAUTION: SOME PARTS HAVE SHARP EDGES. CARE MUST BE TAKEN WHEN HANDLING THE VARIOUS PIECES TO AVOID A MISHAP. FOR SAFETY SAKE, PLEASE READ SAFETY INFORMATION PROVIDED IN THIS MANUAL BEFORE BEGINNING CONSTRUCTION. WEAR GLOVES WHEN HANDLING METAL PARTS.

*Approx. Size	Foundation Size	Storage Area		Exterior Dimensions (Roof Edge to Roof Edge)			Interior Dimensions (Wall to Wall)		
				Sq. Ft.	Cu. Ft.	Width	Depth	Height	Width
14' x 21'	164" x 255 1/2"	291	2527	169"	260 3/4"	116"	164"	255 1/2"	114 1/2"
14' x 31'	164" x 370 1/2"	422	3663	169"	375 3/4"	116"	164"	370 1/2"	114 1/2"
4,3m x 6,4m	4,17m x 6,49m	27,0m ²	71,6m ³	4,29m	6,62m	2,95m	4,17m	6,49m	2,91m
4,3m x 9,5m	4,17m x 9,41m	39,2m ²	103,7m ³	4,29m	9,54m	2,95m	4,17m	9,41m	2,91m

BEFORE YOU BEGIN...

A2

Owner's Manual

Before beginning construction, check local building codes regarding footings, location and other requirements. Study and understand this owner's manual.

Important information and helpful tips will make your construction easier and more enjoyable.

Assembly Instructions: Instructions are supplied in this manual and contain all appropriate information for your building model. Review all instructions before you begin, and during assembly, follow the step sequence carefully for correct results.

Foundation and Anchoring: Your storage building must be anchored to prevent wind damage. A foundation is also necessary as a base in order to construct a square and level building. Anchoring and foundation materials are not included with your building. We recommend the combined use of an **Arrow Floor Foundation Kit** and an **Arrow Anchoring Kit** as an effective method of securing your building to the ground (Available by mail order or at your local dealer) or you may construct the foundation and anchoring system of your choice. Your assembly instructions provide information on a few methods commonly used to secure and level a storage building.

Parts and Parts List: Check to be sure that you have all the necessary parts for your building.

- All part numbers can be found on the parts. All of these numbers (before the -) must agree with the numbers on the parts list. The parts list is located on page 12.

- If you find that a part is missing, include the model number of your building and contact:

Arrow Group Industries, Inc. Customer Service Department
Route 50 East Breese, Illinois 62230
1-800-851-1085

- Separate contents of the carton by the part number while reviewing parts list. The first few steps show how to join related parts to make larger sub assemblies which will be used later.

- Familiarize yourself with the hardware and fasteners for easier use during construction. These are packaged within the carton. Note that extra fasteners have been supplied for your convenience.

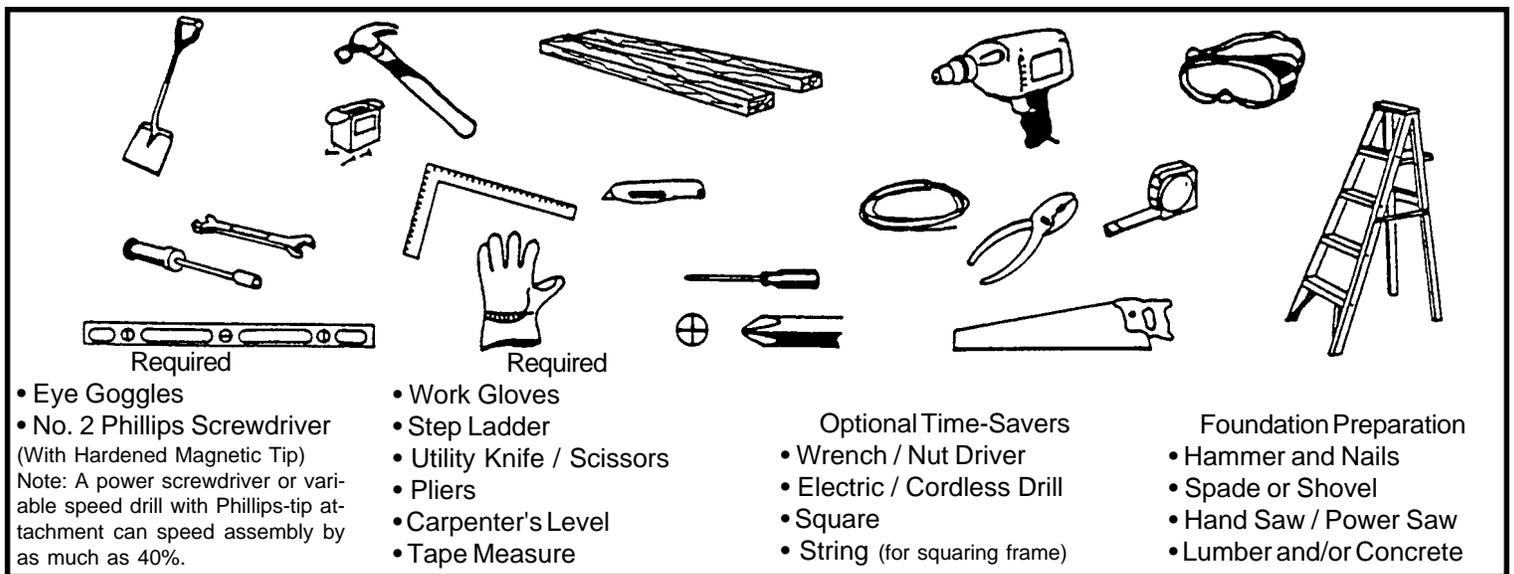
PLAN AHEAD...

A3

Watch the Weather: Be sure the day you select to install your building is dry and calm. Do not attempt to assemble your building on a windy day. Be careful on wet or muddy ground.

Teamwork: Whenever possible, two or more people should work together to assemble your building. One person can position parts or panels while the other is able to handle the fasteners and the tools.

Tools and Materials: These are some basic tools and materials you will need for the construction of your building. Decide which method of anchoring and the type of foundation you wish to use in order to form a complete list of the materials you will need.



Selecting and Preparing Your Site: Before assembly, you will want to decide on a location for your building. The best location is a level area with good drainage.

- Allow enough working space for ease of moving parts into position during assembly. Be sure there will be enough space at entrance for doors to open fully and enough space around the building to be able to fasten the panel screws from the outside.

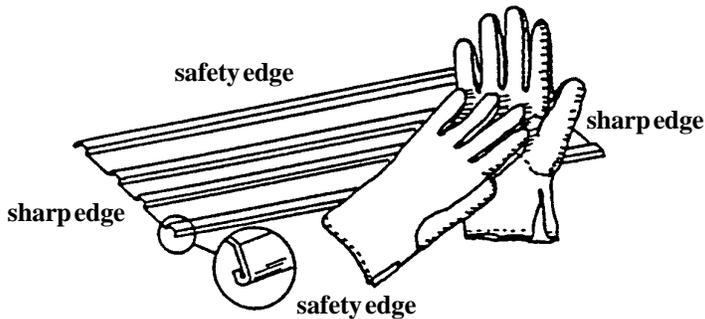
- Before you begin the first steps in assembling your parts, a foundation should be constructed and an anchoring system should be ready to use.

SAFETY FIRST...

A4

Safety precautions are important to follow throughout the construction of your building.

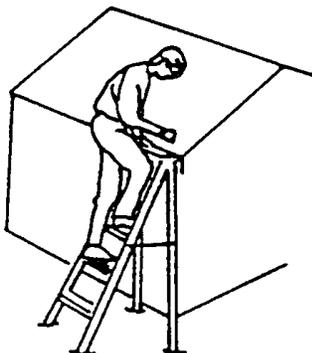
•Care must be taken when handling various pieces of your building since some contain sharp edges. Please wear work gloves, eye protection and long sleeves when assembling or performing any maintenance on your building.



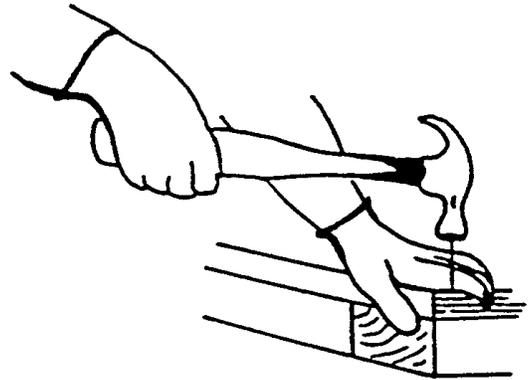
•Keep children and pets away from worksite to avoid distractions and any accidents which may occur.



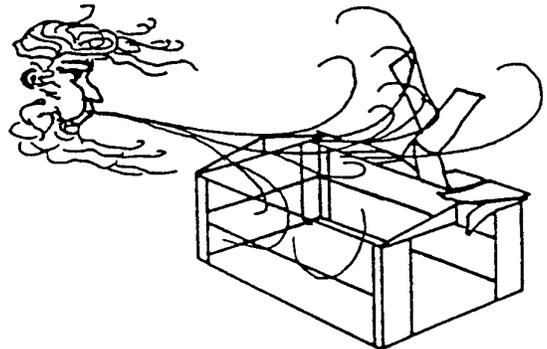
•Never concentrate your total weight on the roof of the building. When using a step ladder make sure that it is fully open and on even ground before climbing on it.



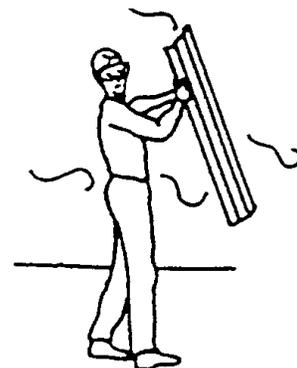
•Practice caution with the tools being used in the assembly of this building. Be familiar with the operation of all power tools.



•Do not attempt to assemble the building if parts are missing because any building left partially assembled may be seriously damaged by light winds. Call 1-800-851-1085



•Do not attempt to assemble the building on a windy day, because the large panels acting as a "sail", can be whipped about by the wind making construction difficult and unsafe.



CARE & MAINTENANCE....

A5 Web

Finish: For long lasting finish, periodically clean and wax the exterior surface. Touch-up scratches as soon as you notice them on your unit. Immediately clean the area with a wire brush; wash it and apply touch-up paint per manufacturer's recommendation.

Roof: Keep roof clear of leaves and snow with long handled, soft-bristled broom. Heavy amounts of snow on roof can damage building making it unsafe to enter. In snow country, Roof Strengthening Kits are available for most Arrow Buildings for added protection against heavy snow accumulation.

Doors: Always keep the door tracks clear of dirt and other debris that prevent them from sliding easily. Lubricate door track annually with furniture polish or silicone spray. Keep doors closed and locked to prevent wind damage.

Fasteners: Use all washers supplied to protect against weather infiltration and to protect the metal from being scratched by screws. Regularly check your building for loose screws, bolts, nuts, etc. and retighten them as necessary.

Moisture: A plastic sheet (vapor barrier) placed under the entire floor area with good ventilation will reduce condensation.

Other Tips....

- Wash off inked part numbers on coated panels with soap and water.
- Silicone caulking may be used for watertight seals throughout the building.

Do not store swimming pool chemicals in your building. Combustibles and corrosives must be stored in air tight approved containers.

Keep this Owner's Manual and Assembly Instructions for future reference.

ACCESSORIES...

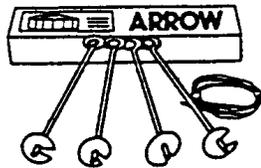
A6 WEB

ROOF STRENGTHENING (heavy snow load) KITS Extra roof beams and gable braces designed for added protection against heavy snow accumulation. Increases the strength of your roof by 50%.

ANCHOR KIT

Model No. AK4

Anchor Kit contains heavy-duty steel augers, 60' (18m) of steel cable and 4 cable clamps. No digging or concrete pouring, just insert cable under roof, over roof beams, into augers and twist augers into the ground. For buildings larger than 10'x9', use 2 kits.



FLOOR FOUNDATION KITS



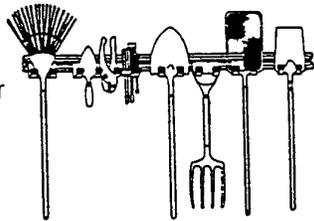
MODELS FB47410, FB5465, FB106-A
FB109-A, FB1010 AND FB1014-A

A simple new floor frame system made of heavy-duty, hot-dipped galvanized steel. Use as foundation for plywood, sand or stone.

TOOL HANGING RACK

Model No. TH100

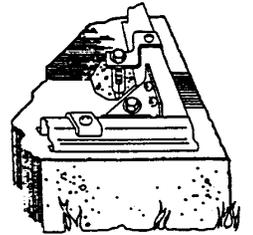
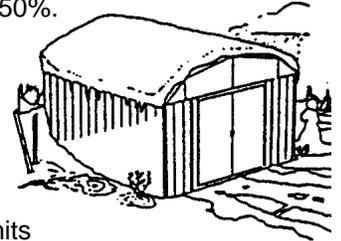
The perfect tool organizer. Twin 25 1/2" (65cm) steel channels plus five heavy-duty snap-in hangers and a small tool holder for screwdrivers, pliers, etc. Holders slide along channel for fully adjustable spacing. Great for garage, basement, or the back of any door. Fits all Arrow storage buildings.



ANCHOR KIT

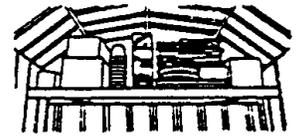
Model No. AK100

New concrete anchor system permits anchoring any size Arrow building directly to a concrete slab. Each kit contains heavy-duty, hot-dipped galvanized steel corner gussets and perimeter clips which fit over the floor frame and lag bolt into a concrete slab. Full assembly instructions and a 1/4" masonry drill bit are included.



ATTIC KIT / WORKBENCH KIT

Heavy-duty galvanized steel bars that fit all 10' wide Arrow buildings. They install quickly and easily to help organize space and create more useable space as an attic or workbench. Will hold up to 250 lbs. (113kg) evenly distributed.

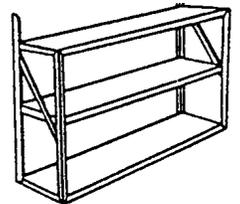
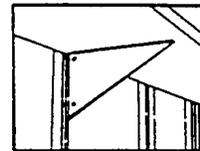
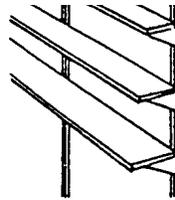


Model No.	Fits	Shipping Weight
AT101	10' Long, 250 lb. (113kg) load+ Fits all Arrow 10' wide buildings.	16 lbs. (7kg)

Must be drilled for use as workbench in Estator.
+ Even weight distribution.

SHELF UNITS

Heavy-duty, galvanized steel shelf units help organize storage space. They easily mount on the wall or sit on the floor. Fits all Arrow buildings.*



Model No. SS404

- Makes 8" to 12" (20-30cm) wide shelves in any length.
- Brackets, braces, hardware included. Lumber is not included.

Model No. SS900-A

- Grey color
- 3 shelves
- Holds up to 85 lbs. (38kg) (even weight distribution)

* Some drilling required to fit buildings without mid-wall bracing.

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Foundation

BX9

The Foundation For Your Building

Concrete Slab

The slab should be at least 3" to 4" (8-10cm) thick. It must be level and flat to provide good support for the frame.

The following are the recommended materials for your foundation.

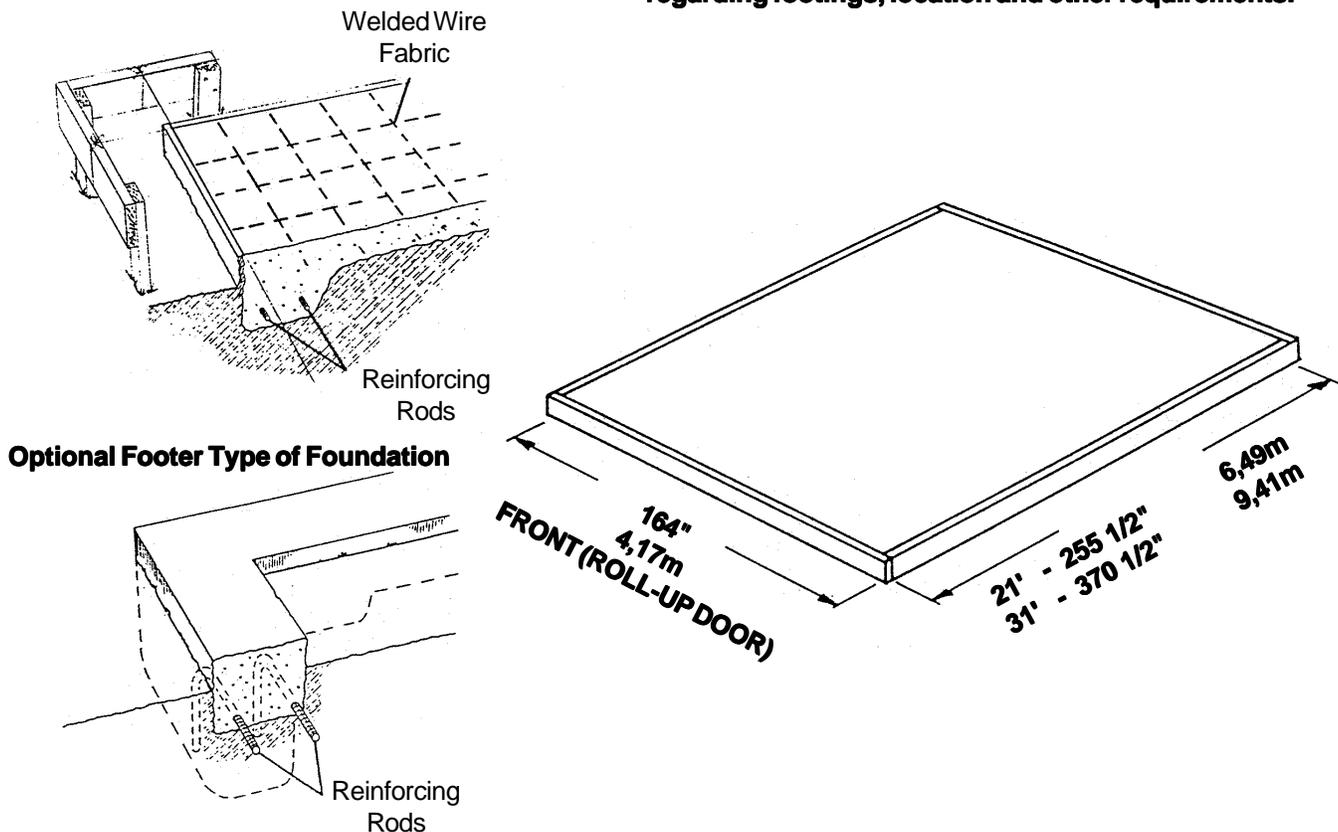
- 2 x 4's (5cm x 10cm) (will be removed once the concrete cures)
- Concrete
- Sheet of 6 mil plastic
- We recommend for a proper strength concrete to use a mix of:
1 part cement ● 3 parts pea sized gravel ● 2 1/2 parts clean sand

Prepare the Site/Construct a Foundation

1. Dig a square, 6" (15cm) deep into the ground (remove grass).
2. Fill up to 4" (10cm) in the square with gravel and tamp firm.
3. Cover gravel with a sheet of 6 mil plastic.
4. Construct a wood frame using four planks of 2x4 (5cm x 10cm) lumber.
5. Pour in concrete to fill in the hole and the frame giving a total of 4" (8-10cm) thick concrete. Be sure surface is level.

Allow 3 - 5 hours for construction and a week for concrete curing time.

Note: Before beginning construction, check local building codes regarding footings, location and other requirements.



Note: Finished Slab dimensions, with lumber removed.

Anchoring

A10

Anchoring Down The Building

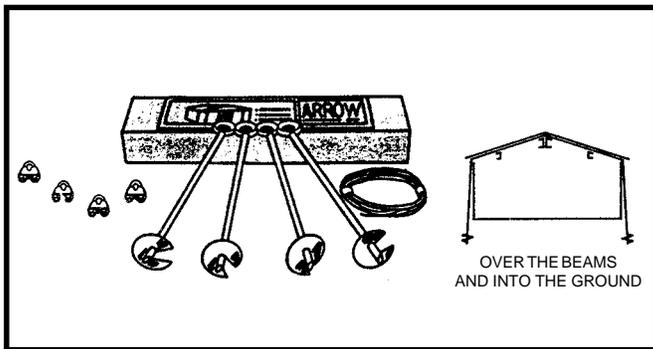
It is important that the entire floor frame be anchored after the building is erected.

Below are recommended ways of anchoring.

Arrow Anchoring Kit: (Model No. AK4 or 60298)

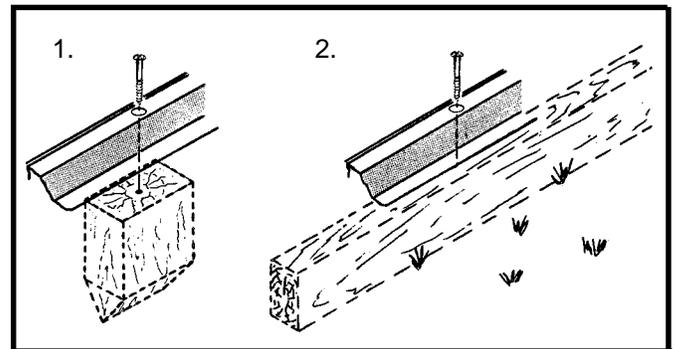
Recommended for use with **any** suggested **base**.

Contains: 4 Anchors with Cable, Clamps and installation instruction.



Anchoring into Wood/Post:

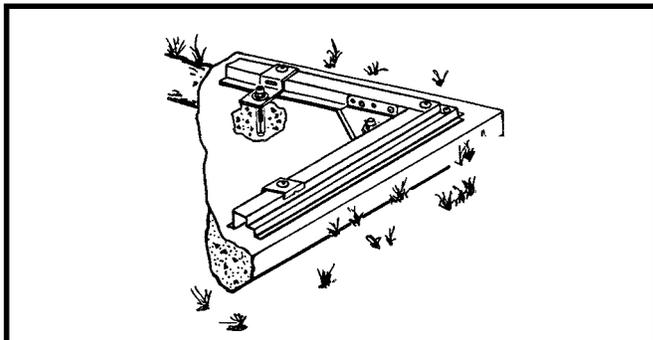
Use 1/4" Wood Screws. There are 1/4" (0,63cm) dia. holes provided in the frames for proper anchoring.



Arrow Anchoring Kit: (Model No. AK100 or 68383)

Recommended for use with the **concrete** foundation.

Contains: Corner gussets, perimeter clips, hardware, 1/4" masonry drill bit and installation instruction.

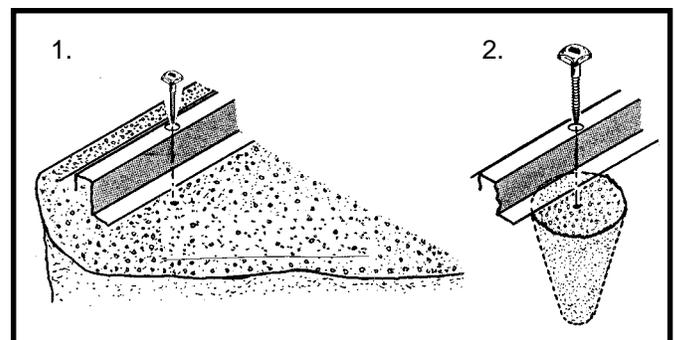


Anchoring into Concrete:

1. For poured concrete slab or footing or patio blocks:

Use 1/4" x 2" Lag Screws.

2. For Anchor Post of Concrete poured after building is erected: Use 1/4" x 6" Lag Screws.



Hardware for Building

BX11

KIT 1



65101
1/4-20 Square Nut
132 (14x21)
254 (14x31)



65408
#10-32x1/4" Bolts (3)



65958
#8-32x7/8" Bolt (2)



65914
#6Ax7/8" Screw (4)



65989
1/4-20x1/2" Hex Head Bolt
132 (14x21)
254 (14x31)

KIT 2



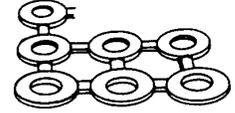
65106
#10-32 Square Nut
501 (14x21)
673 (14x31)

KIT 3



65943
#10-32x7/16" Bolt
498 (14x21)
670 (14x31)

WASHER KIT



66646
Washer
960 (14x21)
1400 (14x31)

HARDWARE SUB KIT

Remove from bag and save for Step 24



65004
#8Ax5/16" Screw
813 (14x21)
1092 (14x31)



65103
#8-32 Hex Nut (2)

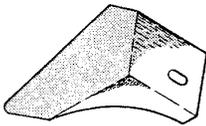


65900A
#10Bx1/2" Black Screw (2)

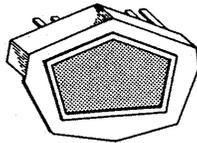


66098
Plastic Spacer (6)

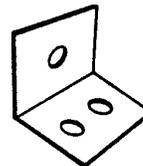
REMAINING HARDWARE PIECES



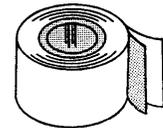
66444
Roof Trim Cap
(2 right & 2 left)



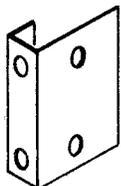
66446 (Arrow Logo)
Peak Cap (2)



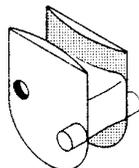
7022
Eave Bracket
4 (14x21)
8 (14x31)



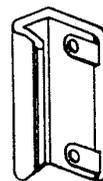
Weather Stripping
67293 (1)
67545 (1 14x21) (2 14x31)



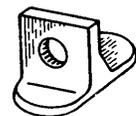
7972
Door Handle Lock Bracket (1)



66242
Door Slide (2)



66260
Handle (2)



66382
Lower Door Guide (2)

Parts List

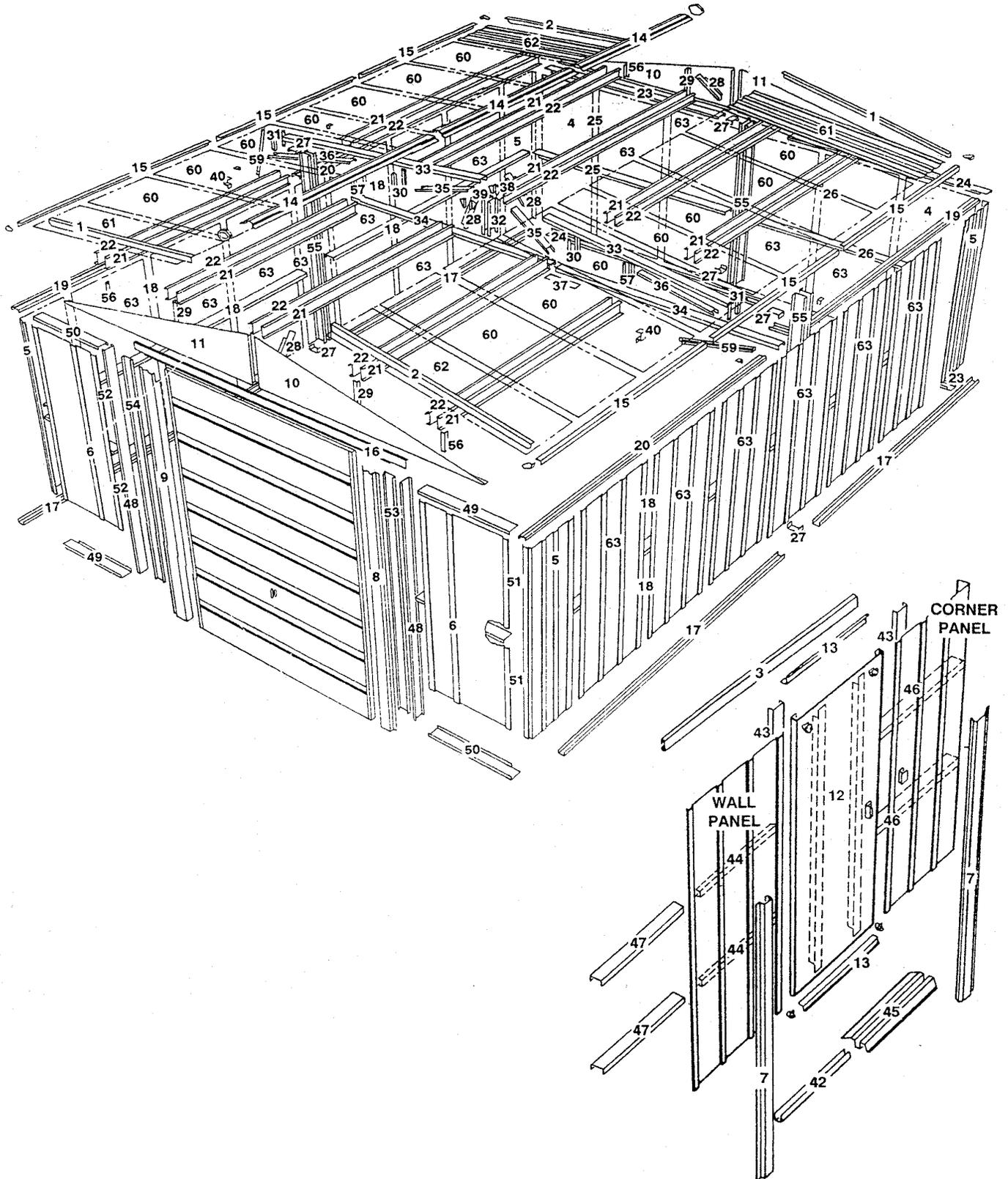
BX12

Carton #1 through #5 contains the VT1421. Carton 6 on Page 14 contains the Roll-up-Door for this building and parts for VT1431.

Assembly Key No.	Part Number	Part Description	Carton 1	Carton 2	Carton 3	Carton 4	Carton 5
	1	7023	Left Roof Trim	2			
	2	7024	Right Roof Trim	2			
	3	7562	Track	1			
	4	9471	Wall Panel	2			
	5	9472	Corner Panel	4			
	6	9473	Front Wall Panel	2			
	7	9477	Door Jamb	2			
	8	9488	Right Door Jamb	1			
	9	9489	Left Door Jamb	1			
	10	9494	Right Gable	2			
	11	9495	Left Gable	2			
	12	9498	Door	1			
	13	9499	Horizontal Door Brace	2			
	14	9509	Ridge Cap	3			
	15	9510	Side Roof Trim	6			
	16	9474	Lintel		1		
	17	9475	Side Floor Frame		4		
	18	9476	Side Wall Channel		6		
	19	9484	Right Side Eave Channel		2		
	20	9485	Left Side Eave Channel		2		
	21	9502	Right Roof Beam		10		
	22	9503	Left Roof Beam		10		
	23	6938	Rear Frame			2	
	24	6939	Rear Frame			2	
	25	6942	Right Rear Wall Channel			2	
	26	6943	Left Rear Wall Channel			2	
	27	6947	Column Gusset			6	
	28	6954	Gable/Truss Strut			4	
	29	6955	Inner Gable Bracket			4	
	30	6958	Inner Truss Bracket			4	
	31	6959	Outer Truss Bracket			4	
	32	6962	Vertical Brace			2	
	33	6963	Upper Chord			2	
	34	6964	Lower Chord			2	
	35	6965	Inner Diagonal Brace			2	
	36	6966	Outer Diagonal Brace			2	
	37	6967	Splice Plate			1	
	38	7003	Left Shear Plate			2	
	39	7004	Right Shear Plate			2	
	40	7817	Spring Support Bracket			2	
	42	9464	Lower Door Track			1	
	43	9465	Support Column			2	
	44	9466	Wall Channel			2	
	45	9467	Ramp			1	
	46	9468	Corner Door Channel			2	
	47	9469	Side Door Channel			2	
	48	9478	Front Column			2	
	49	9480	Front Frame			2	
	50	9481	Front Frame			2	
	51	9482	Right Front Wall Channel			2	
	52	9483	Left Front Wall Channel			2	
	53	9486	Right Track Support			1	
	54	9487	Left Track Support			1	
	55	9490	Center Column			6	
	56	9496	Outer Gable Bracket			4	
	57	9497	Outer Truss Bracket			4	
	58	9500	Vertical Door Brace			2	
	59	9511	Track Strut			2	
	60	9491	Roof Panel				14
	61	9492	Right Roof Panel				2
	62	9493	Left Roof Panel				2
	63	9470	Wall panel				

Assembly by Key No. for 14x21 Building

BX13



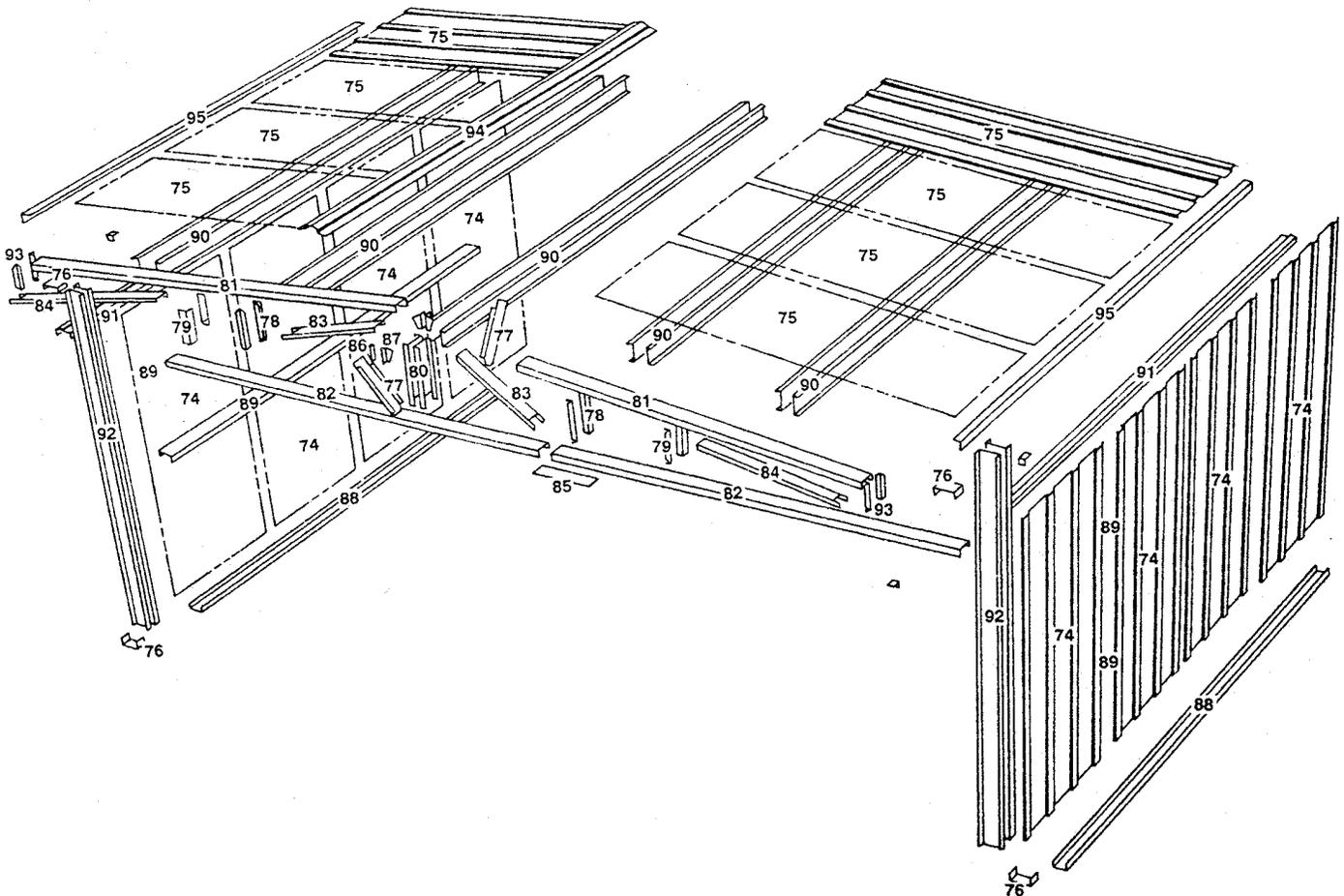
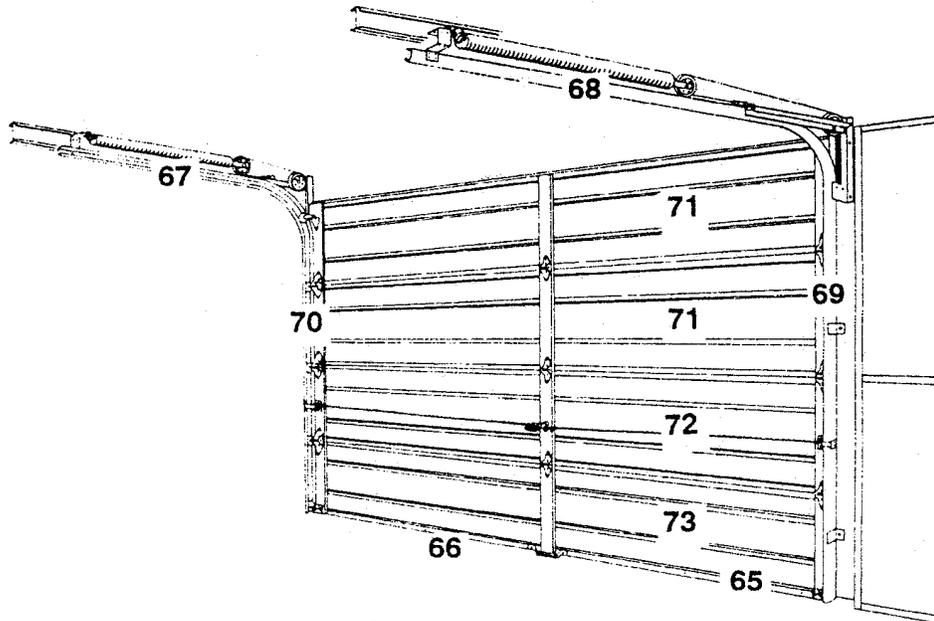
Parts List for Roll-Up-Door & VT1431 or 697.68890

BX14

Assembly Key No.	Part Number	Part Description	Carton 6	Carton 7	Carton 8
	65	9479	Bottom Angle	1	
	66	9504	Weather Strip	1	
	67	67475	Left Horizontal Track	1	
	68	67476	Right Horizontal Track	1	
	69	67666	Right Vertical Track	1	
	70	67667	Left Vertical Track	1	
	71	9506	Door Panel	2	
	72	9507	Door Panel Lock Section	1	
	73	9508	Door Panel Bottom Section	1	
	74	9470	Wall Panel		8
	75	9491	Roof Panel		8
	76	6947	Column Gusset		4
	77	6954	Gable/Truss Strut		2
	78	6958	Inner Truss Bracket		4
	79	6959	Outer Truss Bracket		4
	80	6962	Vertical Brace		2
	81	6963	Upper Chord		2
	82	6964	Lower Chord		2
	83	6965	Inner Diagonal Brace		2
	84	6966	Outer Diagonal Brace		2
	85	6967	Splice Plate		1
	86	7003	Left Shear Plate		2
	87	7004	Right Shear Plate		2
	88	9460	Side Floor Frame		2
	89	9461	Side Wall Channel		4
	90	9462	Roof Beam		10
	91	9463	Side Eave Channel		2
	92	9490	Center Column		4
	93	9497	Outer Truss Bracket		4
	94	9512	Ridge Cap		1
	95	9513	Side Roof Trim		2

Assembly by Key No. Roll-Up Door & 1431 Building

BX15



Hardware for Roll-Up-Door

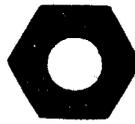
BX16



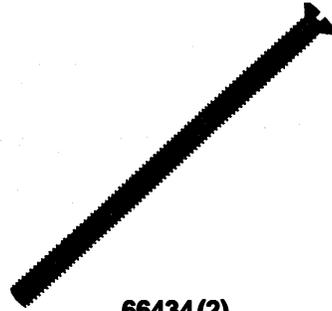
66431 (8)
1/4-20x5/8" Rib
Neck Bolt



66432 (4)
3/8-16x1 1/2" Hex
Head Bolt



66433 (4)
3/8-16 Hex Nut



66434 (2)
#10-32 x 2 1/2" Flat
Head Bolt



66441 (14)
#10-32x3/8" Bolt



66464 (2)
1/4-20x1 1/2" Hex Head
Bolt



65106 (16)
#10-32 Square
Nut



65900A (51)
#10Bx1/2" Black
Truss Head Screw



65101 (16)
1/4-20 Square Nut



65989 (6)
1/4-20x1/2" Hex
Head Bolt

67483
Cable Lacer
(2)

67484
Spring Clevis
(2)

67488
3/16 x 1 5/16"
Heavy "S" Hook
(4)

67503
Stile Spacer
(2)

67504
Inside Latch Bar
Spacer (1)

67482
Keyed Cable
(2)

67485
Left Bottom
Bracket (1)

67486
Right Bottom
Bracket (1)

67490
#1 Hinge
(5)

67491
#2 Hinge
(2)

67492
#3 Hinge
(2)

67494
Lift Handle
(2)

67496
Roller
(10)

67497
Sheave
(4)

67500
Spring
(2)

67513
Spring Restraint
Cable (2)

67525
Inside "T" Handle
(1)

67526
Locking Handle
(1)

67528 Latch Set
(1) Flat Latch Bar
(4) "S" Hooks
(2) Strikers
(2) Spring Latches
(2) Latch Chains

67665
Adjustable Top Fixture
(2)

Step 1

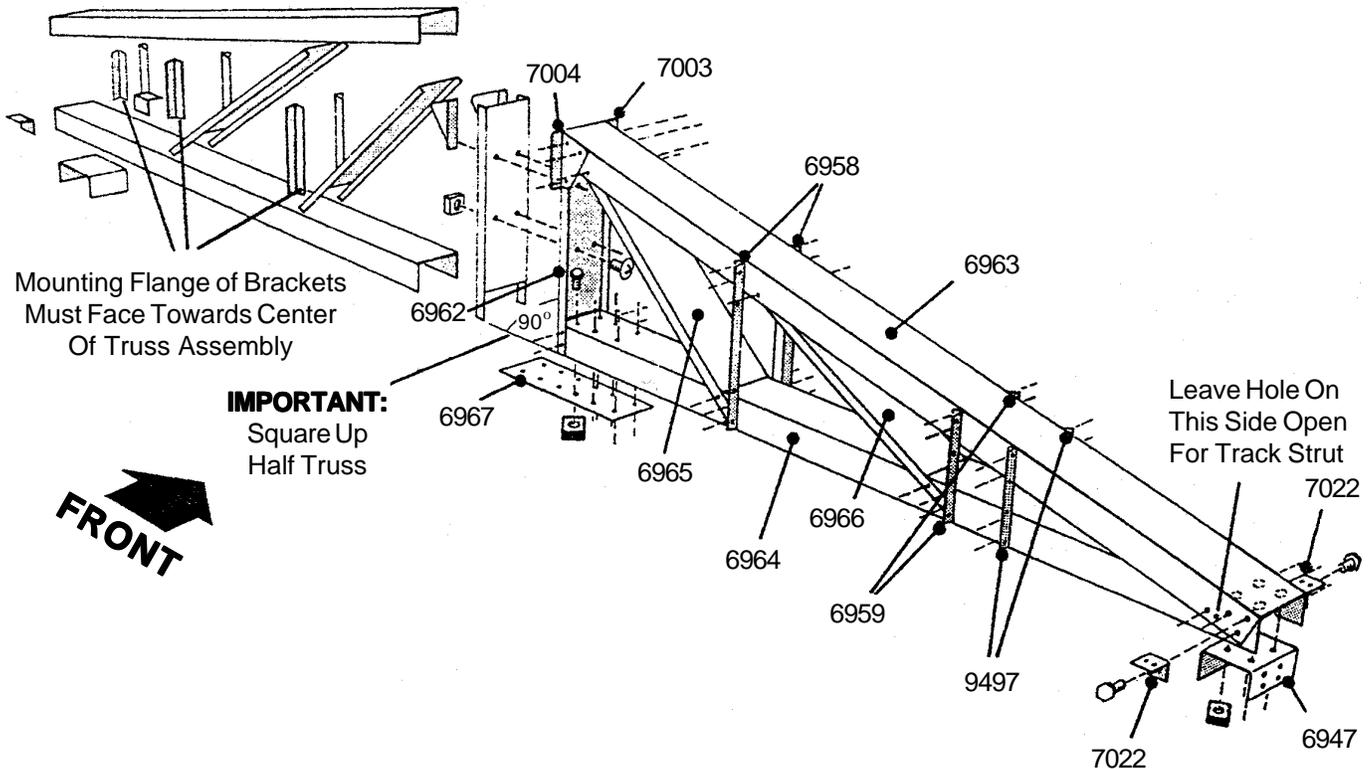
BX17

● Parts Needed For ● Truss Assembly

- 6947 Column Gusset (2)
- 6964 Lower Chord (2)
- 6963 Upper Chord (2)
- 7022 Eave Bracket (4)
- 6962 Vertical Brace (2)
- 7004 Right Shear Plate (2)
- 7003 Left Shear Plate (2)
- 6965 Inner Diagonal Brace (2)
- 6958 Inner Truss Bracket (4)
- 6966 Outer Diagonal Brace (2)
- 6959 Outer Truss Bracket (4)
- 9497 Outer Truss Bracket (4)
- 6967 Splice Plate (1)

- 1** Assemble 1/2 truss at a time. Attach **column gusset** to **lower chord** securely using #1/4-20x1/2" hex head bolts and square nuts. All other connections are to be made loosely.
- 2** Fasten **lower chord** to **upper chord** and **eave bracket** to **upper chord**.
- 3** Fasten **vertical brace** to **lower chord**.
- 4** Fasten **right shear plate** and **left shear plate** to **vertical brace** and **upper chord**.
- 5** Fasten **inner diagonal brace** to **upper chord** and **lower chord**.
- 6** Fasten 2 **inner truss brackets** to **upper chord** and **lower chord** and **inner diagonal brace** as shown.

- 7** Fasten **outer diagonal brace** to **upper chord** and **lower chord**.
- 8** Fasten 2 **outer truss brackets** to **upper chord, lower chord** and **outer diagonal brace**.
- 9** Fasten 2 **outer truss brackets** to **upper** and **lower chords**.
- 10** Square up 1/2 truss, adjust and tighten all fasteners.
- 11** Assemble the other half of truss.
- 12** Splice both halves together with the **splice plate** and join the (4) #10-32x7/16" bolts and square nuts through **vertical brace**.
Make 1 assembly for the 14x21.
Make 2 assemblies for the 14x31.



Step 2

BX18

● Parts Needed For ● Gables/Column Assemblies

- 9494 Right Gable (2)
- 9495 Left Gable (2)
- 6955 Inner Gable Bracket (4)
- 9496 Outer Gable Bracket (4)
- 9490 Center Column (6 14x21) (10 14x31)

The gables go on top of the front and rear walls to support the roof beams. The center columns support the truss and the framework.

NOTE

The gables are packed nested together and might be mistaken as one piece. Carefully separate them before continuing.

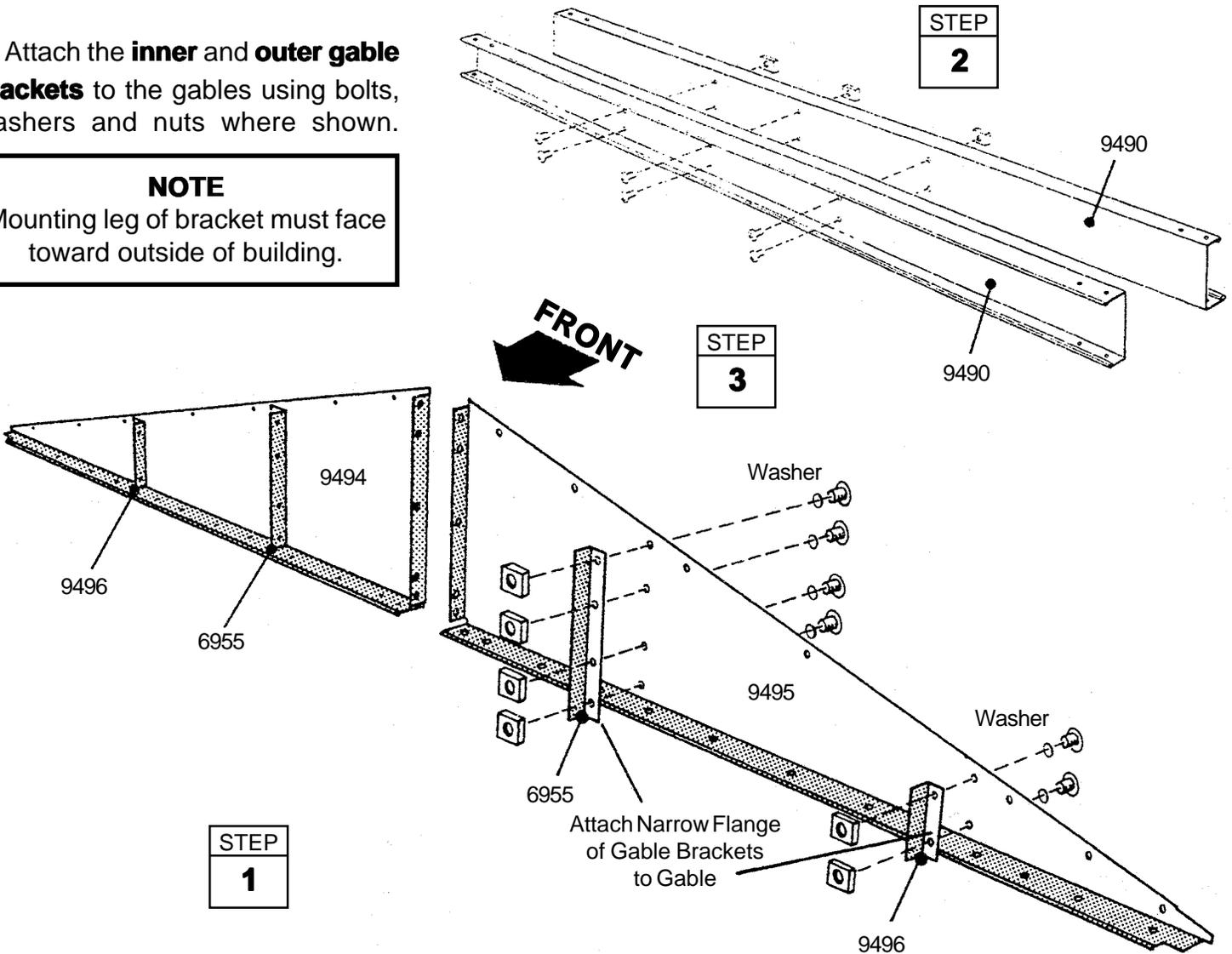
1 Attach the **inner** and **outer gable brackets** to the gables using bolts, washers and nuts where shown.

NOTE

Mounting leg of bracket must face toward outside of building.

2 Align the holes on the **center columns** back to back and fasten together using 6 bolts and nuts. Make 3 assemblies for the 14x21. Make 5 assemblies for the 14x31.

3 Set these pieces aside for later assembly.



Step 3

BX19

● Parts Needed For ● Roof Beam Assemblies

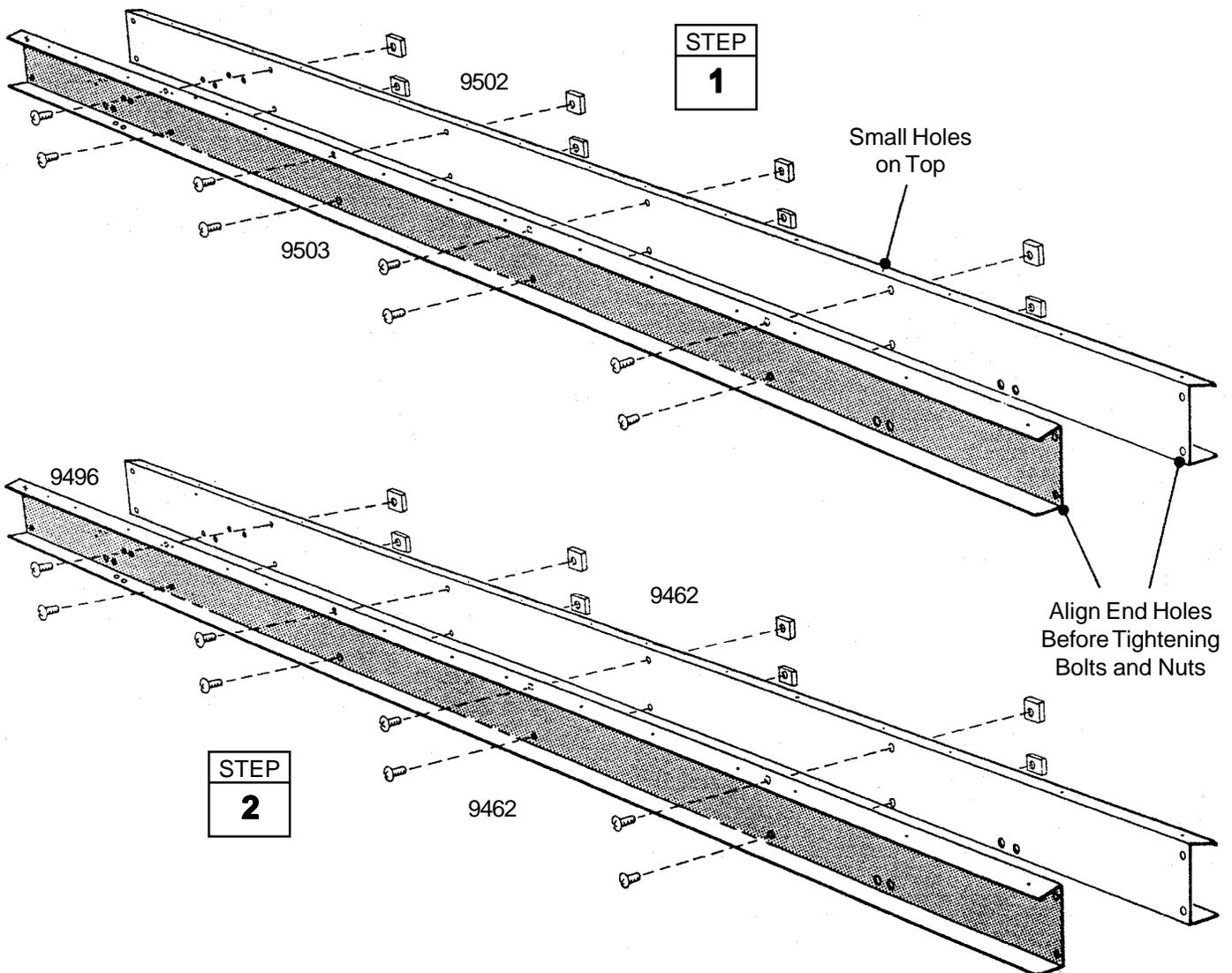
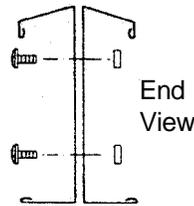
- 9502 Right Roof Beam (10)
- 9503 Left Roof Beam (10)
- 9462 Roof Beam (10 14x31)

The roof beams join the gables to the truss and supports the roof panels.

1 Align the holes on a **left and right roof beam** back-to-back and fasten together using 8 bolts and nuts. Make 10 assemblies.

2 On the 14x31 fasten **roof beams** together in the same manner. Make 5 assemblies.

Assembled



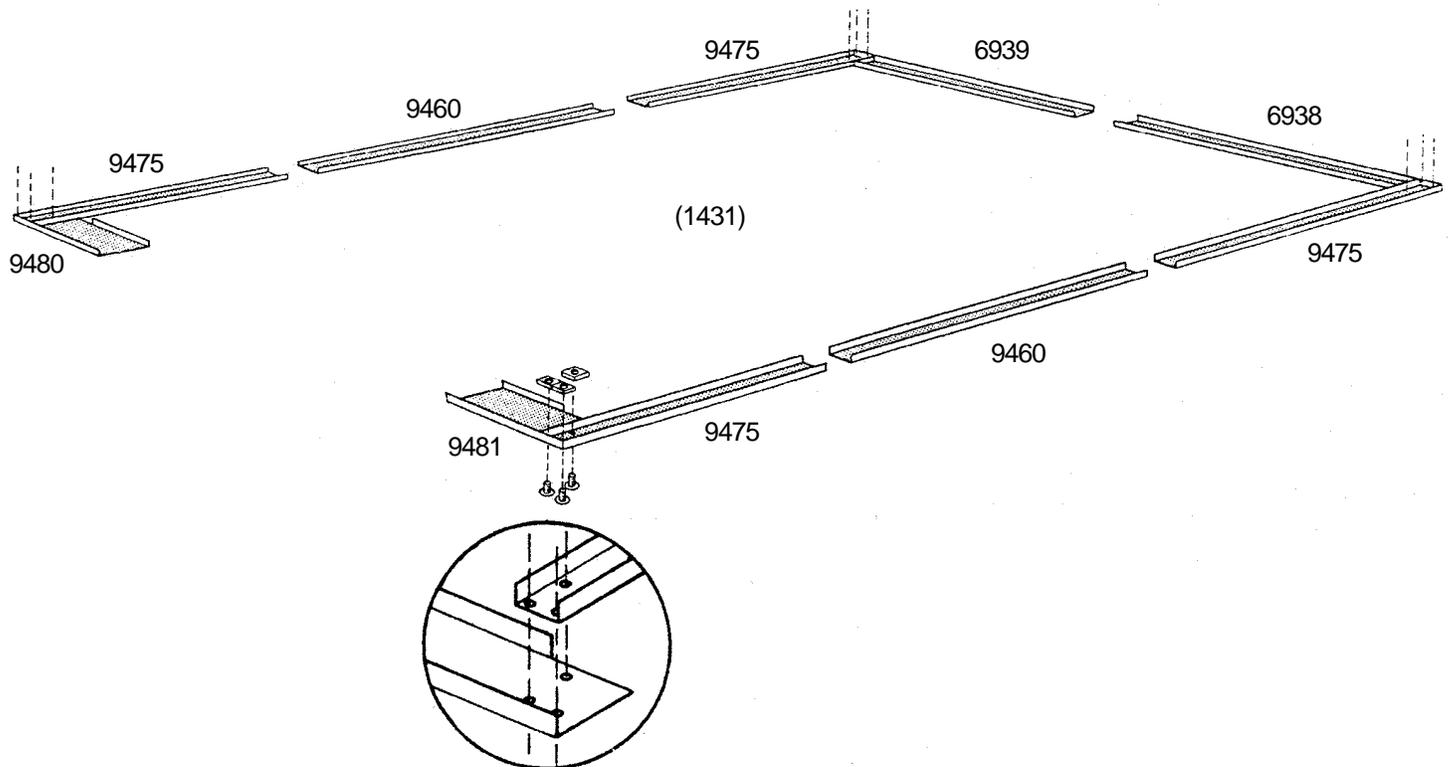
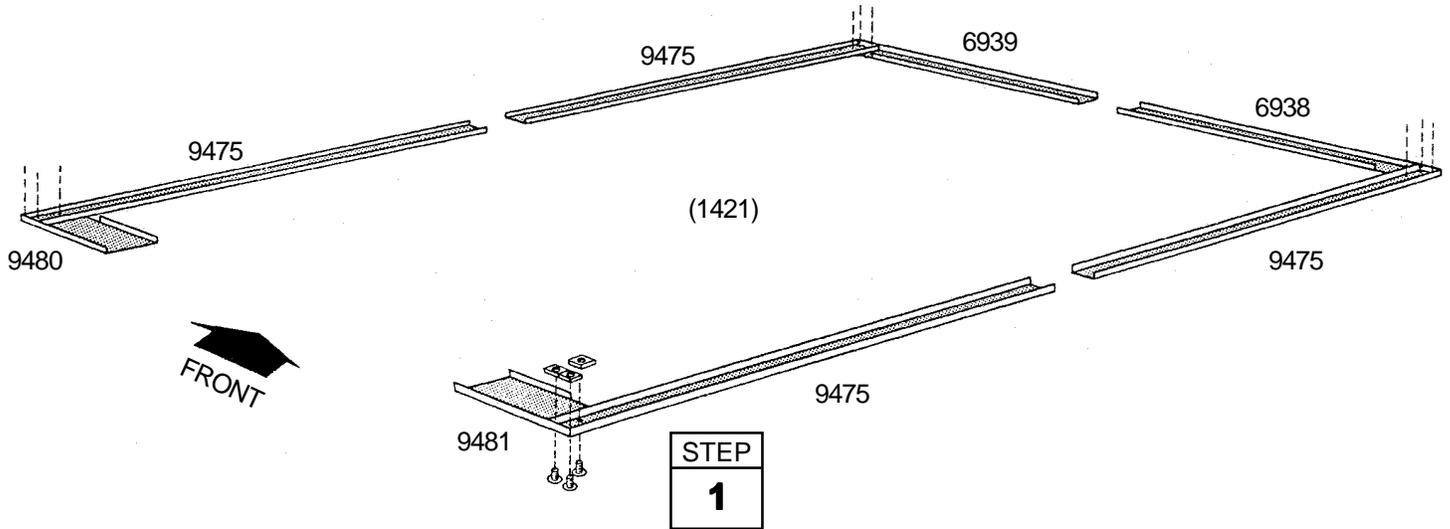
Step 4

BX20

● Parts Needed For ● Floor Frame Assembly

- 9481 Front Frame (1)
- 9480 Front Frame (1)
- 9475 Side Floor Frame (4)
- 6939 Rear Frame (1)
- 6938 Rear Frame (1)
- 9460 Side Floor Frame (2 14x31)

1 Place the floor frame pieces on the foundation. Assemble the 4 corners of the floor frame using 3 bolts from the bottom with nuts on top at each corner as shown.



Step 5

BX21

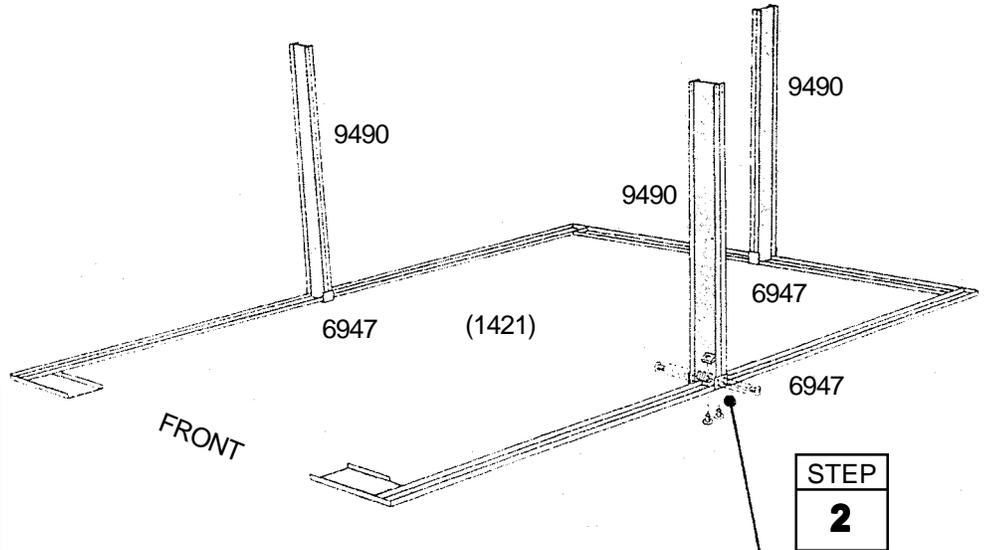
● Parts Needed For ● Gusset/Center Column

- 6947 Column Gusset (3 14x21) (5 14x31)
- Center Column Assembly (3 14x21)
- Center Column Assembly (5 14x31)

1 Fasten side floor frames together with a **column gusset** using 2 bolts from the bottom and nuts on top. At rear of building, repeat procedure.

2 Position center column assemblies where floor frames are joined and fasten to gusset with 8 bolts.

Repeat procedure on sides of building for the 14x31.

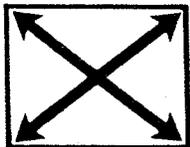


NOTE
Support center columns with stakes or other means until wall panels are attached.

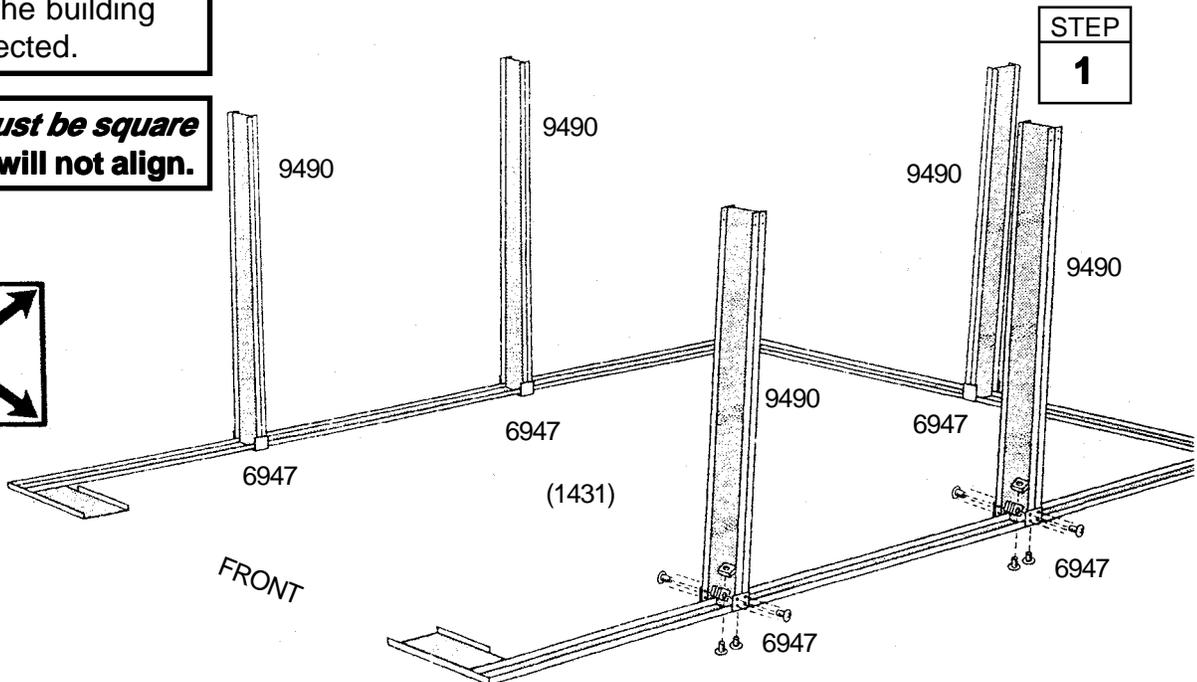
3 Measure the floor frame diagonally. When the diagonal measurements are equal, the floor frame is square.

NOTE
Do not fasten the floor frames to your foundation at this time. You will anchor the building after it is erected.

The floor frame *must be square and level* or holes will not align.



STEP
3



Step 6

BX22

● Parts Needed For ● Corners

- 9471 Wall Panel (2)
- 9473 Front Wall Panel (2)
- 9472 Corner Panel (4)

NOTE

The remainder of the building assembly requires many hours and more than one person. Tie down and support assembly before the end of the work day. A partially assembled building can be severely damaged by light winds.

Each screw and bolt in the wall requires a washer.

1 Position a **corner panel** at the corner of the floor frame as shown. The widest part of each corner panel must be placed along the side of the building for all 4 corners. Fasten the corner panel to the floor frame with 4 screws.

Support the corner panel with a step ladder until a wall panel is attached.

2 Attach the **front wall panels** to the front corner panels, as shown.

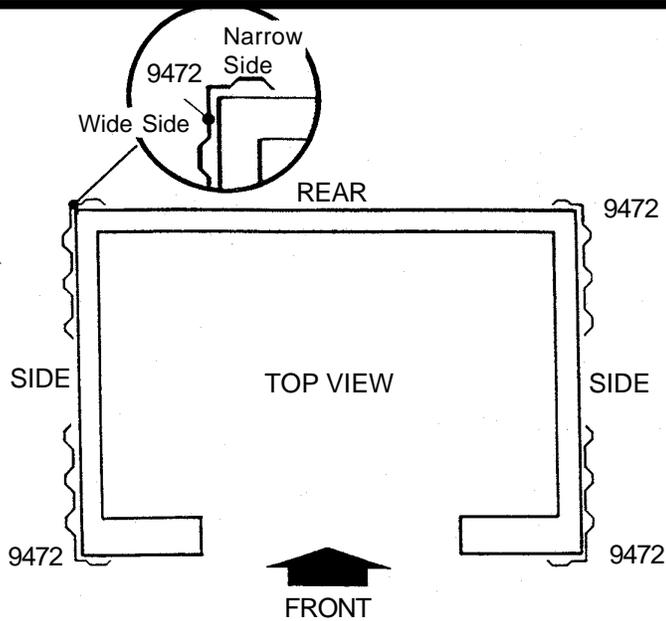
3 Attach the **wall panels** to the rear corner panels, as shown.

NOTE

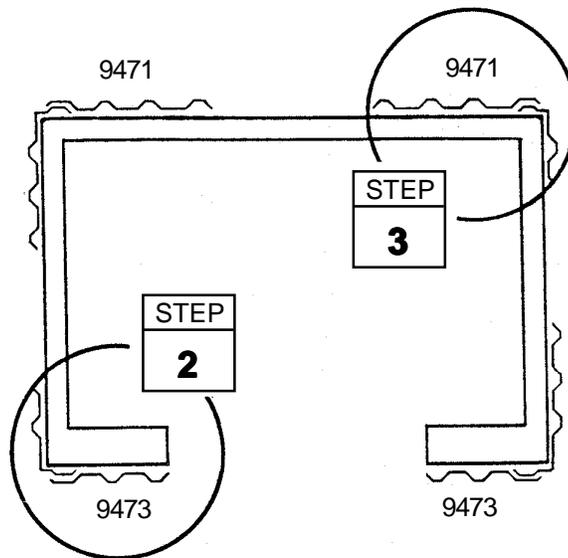
Be careful to install the correct panel in each position as shown.

4 Double-check the part numbers of the wall panels, before proceeding.

The floor frame *must be square and level* or holes will not align.



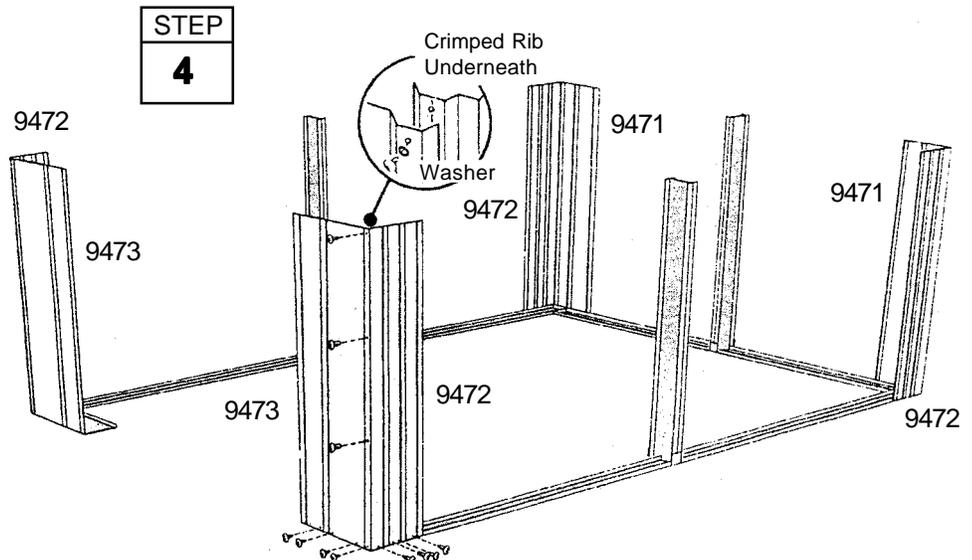
STEP
1



STEP
3

STEP
2

STEP
4



Step 7

BX23

● Parts Needed For ● Mid Frames

- 9482 Right Front Wall Channel (2)
- 9483 Left Front Wall Channel (2)
- 9476 Side Wall Channel (6)
- 6942 Right Rear Wall Channel (2)
- 6943 Left Rear Wall Channel (2)
- 9465 Support Column (2)
- 9469 Side Door Channel (2)
- 9468 Corner Door Channel (2)
- 9461 Side Wall Channel (4 14x31)

The mid frame pieces give rigidity to the sides and rear wall.

NOTE

Before installing side wall channels decide at which location you want the side entrance door. Do not install the 1x4 side wall channels at 1 of the 4 corner locations.

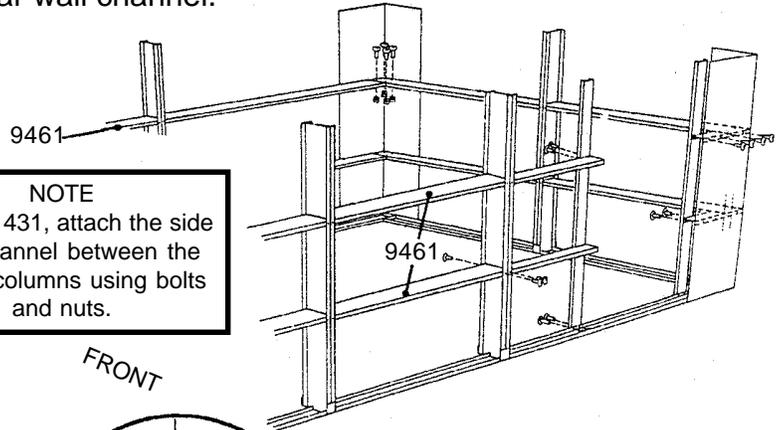
1 Fasten **side wall channels** to center columns using 2 bolts and to corner panels using 4 screws.

2 Overlap with the **right and left front wall channels** and fasten to front wall panel using 3 screws. Do not fasten hole nearest door opening.

3 Overlap with **right and left rear wall channels** and fasten to column and wall panel.

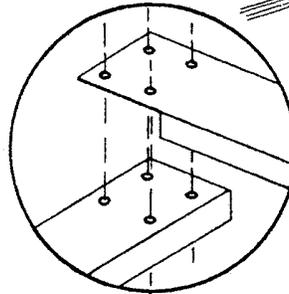
4 Fasten overlaps using 4 bolts and nuts in each corner assembly.

5 Install **support column** to side floor frame and **side door channel** fastening channel to center column. Install 2nd **support column** to side floor frame and **corner door channel**. Fasten channel to corner panel and left rear wall channel.

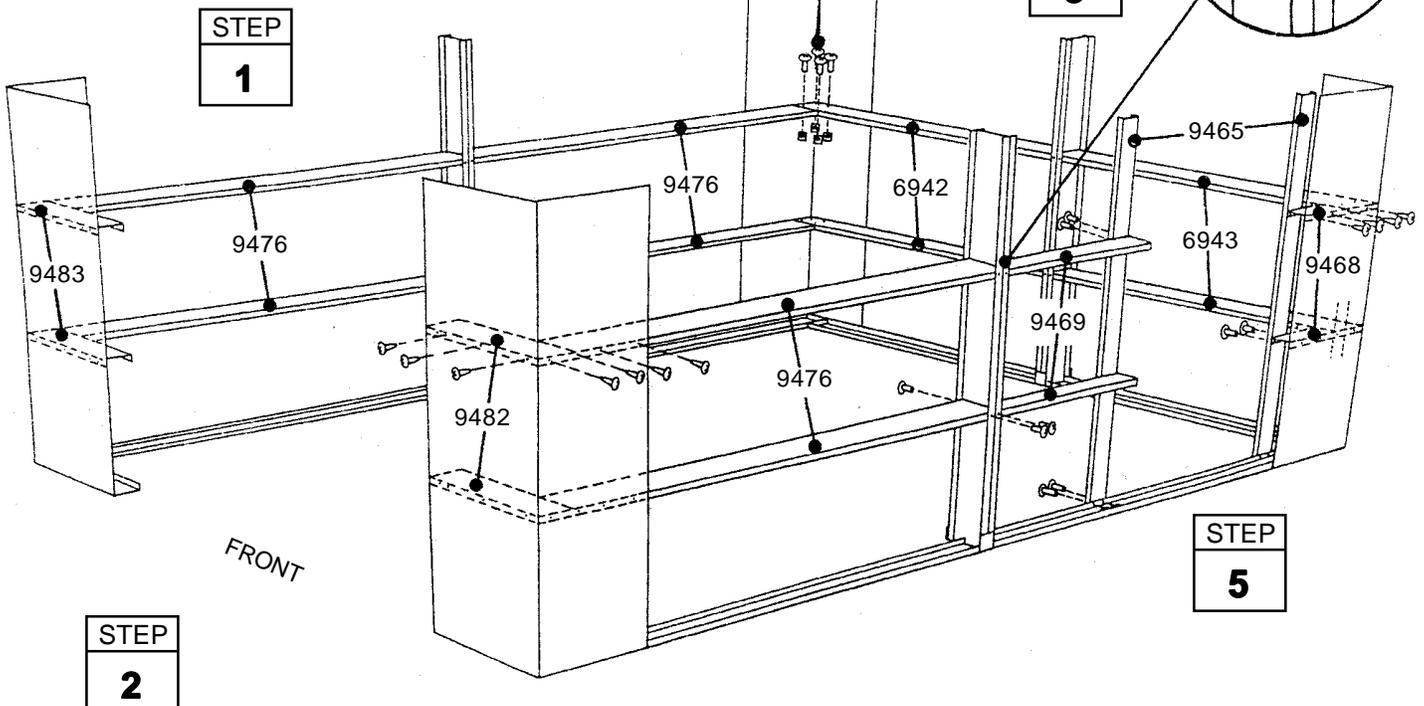
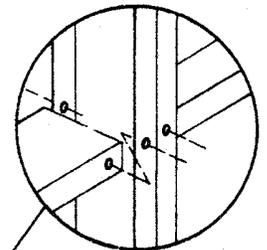


NOTE
On the 1431, attach the side wall channel between the center columns using bolts and nuts.

STEP
4



STEP
3



STEP
1

STEP
2

STEP
5

Step 8

BX24

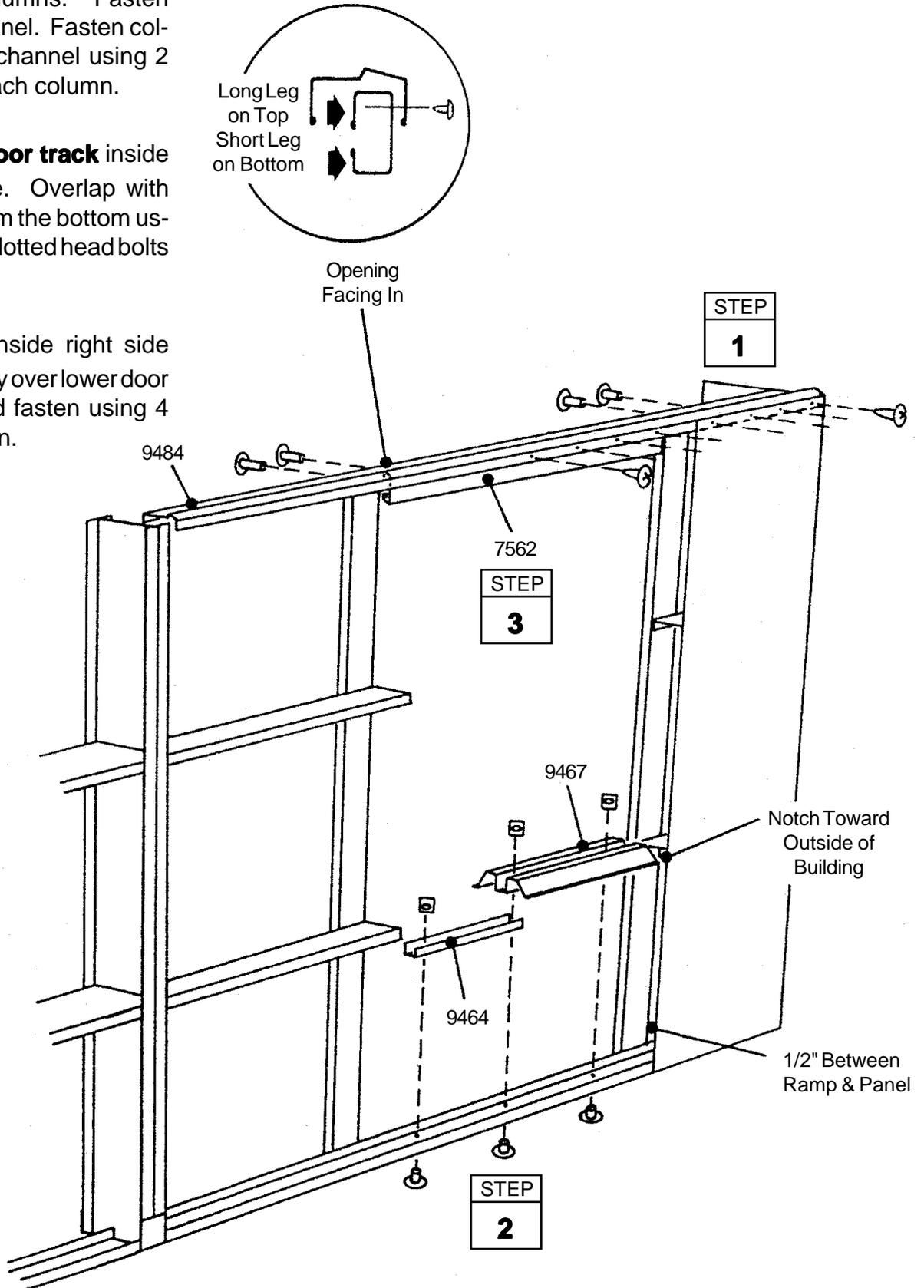
● Parts Needed For ● Side Door Frames

- 9484 Right Side Eave Channel (1)
- 7562 Track (1)
- 9467 Ramp (1)
- 9464 Lower Door Track (1)

1 Position **right side eave channel** against support columns. Fasten channel to corner panel. Fasten columns to side eave channel using 2 bolts and nuts on each column.

2 Position **lower door track** inside the side floor frame. Overlap with **ramp** and fasten from the bottom using (3) #10-32x1/4" slotted head bolts and square nuts.

3 Position **track** inside right side eave channel, directly over lower door track and ramp, and fasten using 4 screws where shown.



Step 9

BX25

● Parts Needed For ● Front/Rear Frames

- 9474 Lintel (1)
- 9481 Front Frame (1)
- 9480 Front Frame (1)
- 9478 Front Column (2)
- 6947 Column Gusset (1)
- 6938 Rear Frame (1)
- 6939 Rear Frame (1)

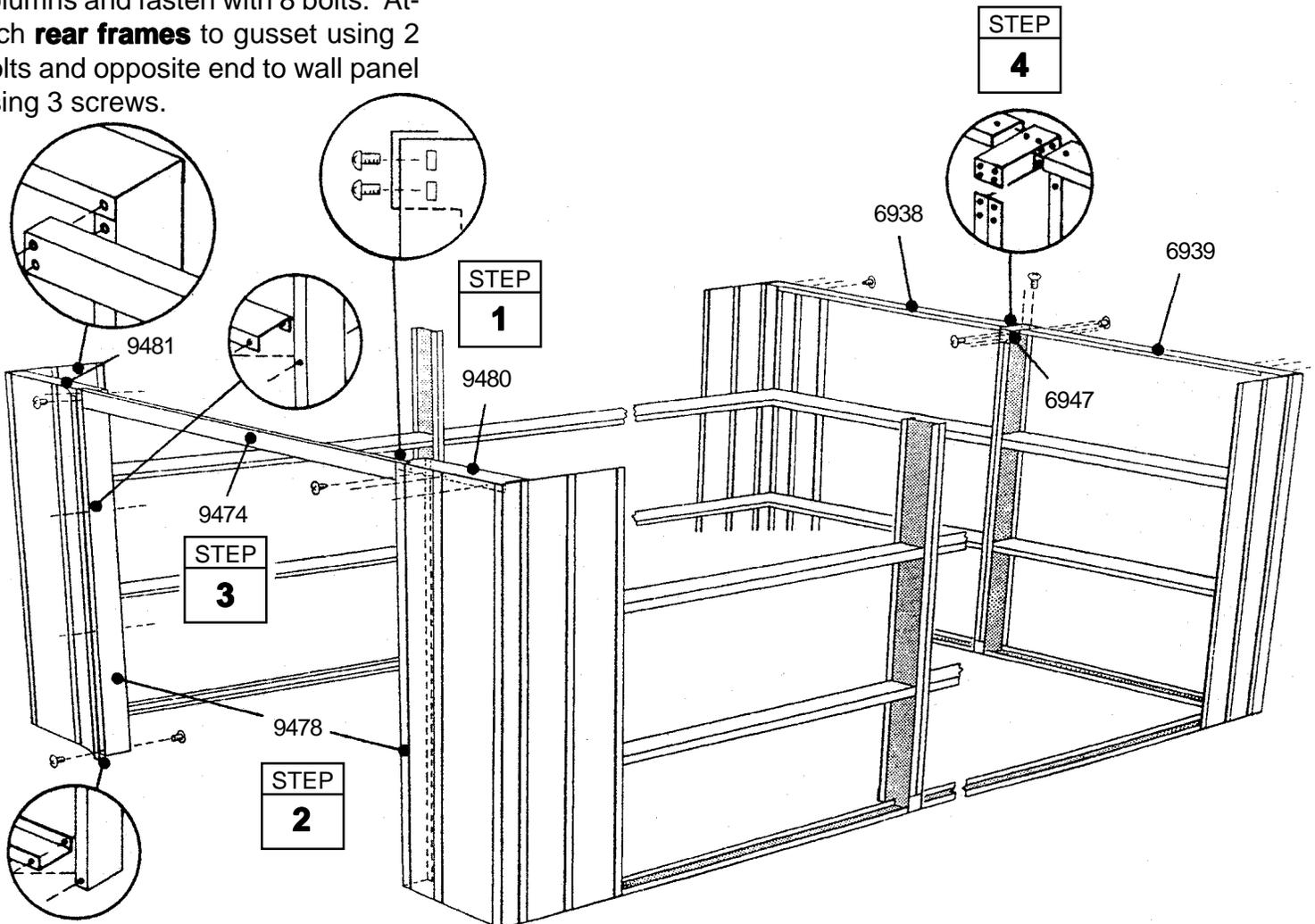
1 Fasten **front frames** at the top to front wall panels with 3 screws. Do not fasten hole nearest door opening at this time.

2 Fasten **front columns** to the frame at bottom and channel with 2 bolts.

Hint: Pull front wall panel slightly away to tighten bolts.

3 Position **lintel** across top of front frames and fasten with 2 bolts and nuts on both sides.

4 Position **column gusset** over rear columns and fasten with 8 bolts. Attach **rear frames** to gusset using 2 bolts and opposite end to wall panel using 3 screws.



Step 10

BX26

● Parts Needed For ● Truss/Top Frames

- Truss Assembly (1 14x21) (2 14x31)
- 9484 Right Side Eave Channel (2)
- 9485 Left Side Eave Channel (2)
- 9463 Side Eave Channel (2 14x31)

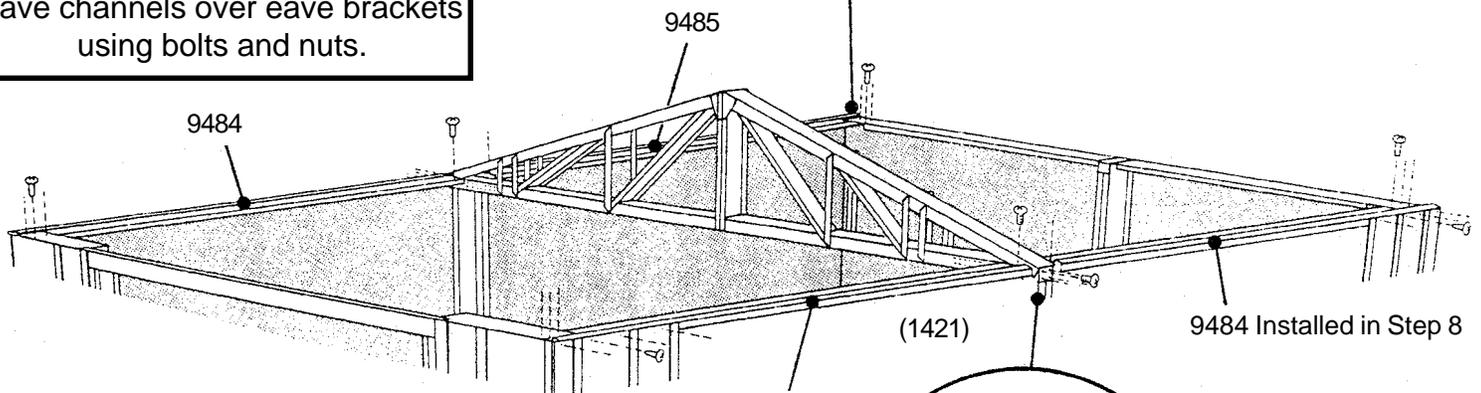
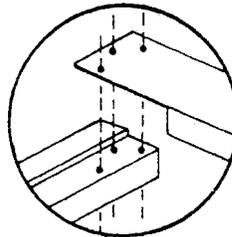
1 Position Truss Assembly on building by sliding column gussets over center columns and fasten with 8 bolts and nuts on each gusset.

2 Position **right and left side eave channels** over eave brackets and fasten with a bolt and nut. Front and rear frames overlap side eave channels. Fasten overlaps with 3 bolts and nuts. Fasten corner panels to channels using 4 screws.

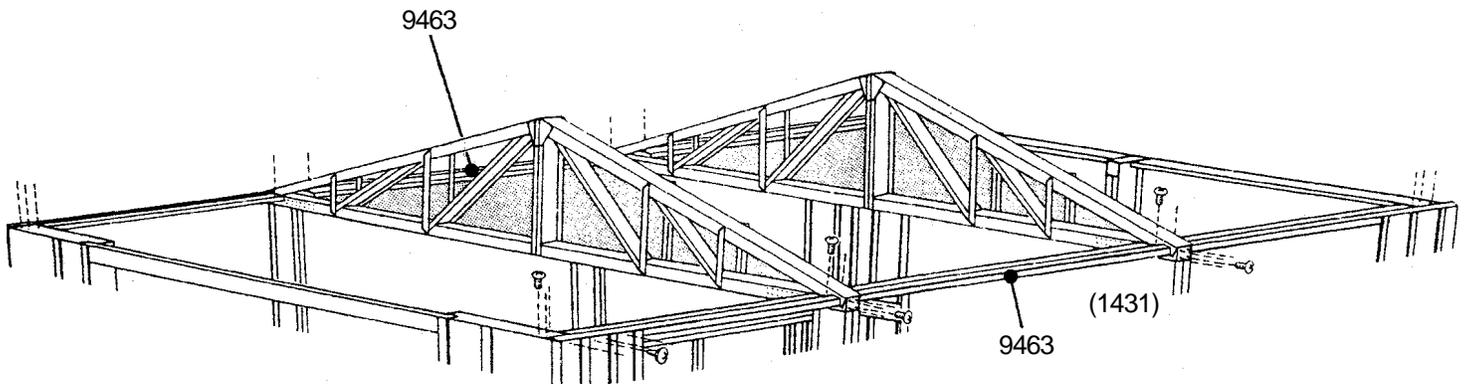
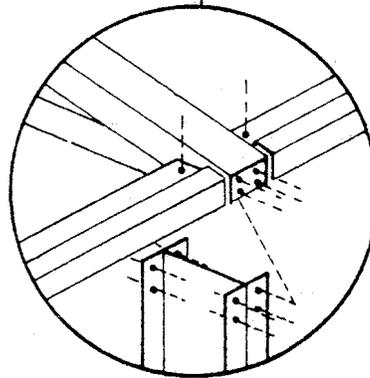
NOTE

On the 1431, fasten the side eave channels over eave brackets using bolts and nuts.

STEP
2



STEP
1



Step 11

BX27

● Parts Needed For ● Walls Panels/Track Supports

- 9470 Wall Panel (17 14x21) (8 14x31)
- 9486 Right Track Support (1)
- 9487 Left Track Support (1)

Each wall panel has a crimped rib on 1 side. The crimped rib should go under the rib of the panel that follows it.

1 Fasten the **wall panels** at the top and bottom with screws.

2 Fasten the center of each panel to the wall channel with screws. Fasten overlapping ribs using screws and bolts with nuts.

3 When you have attached all wall panels in the correct positions, the building will look like this.

4 Fasten **right** and **left track supports** to the front columns using 5 bolts from the inside and nuts outside.

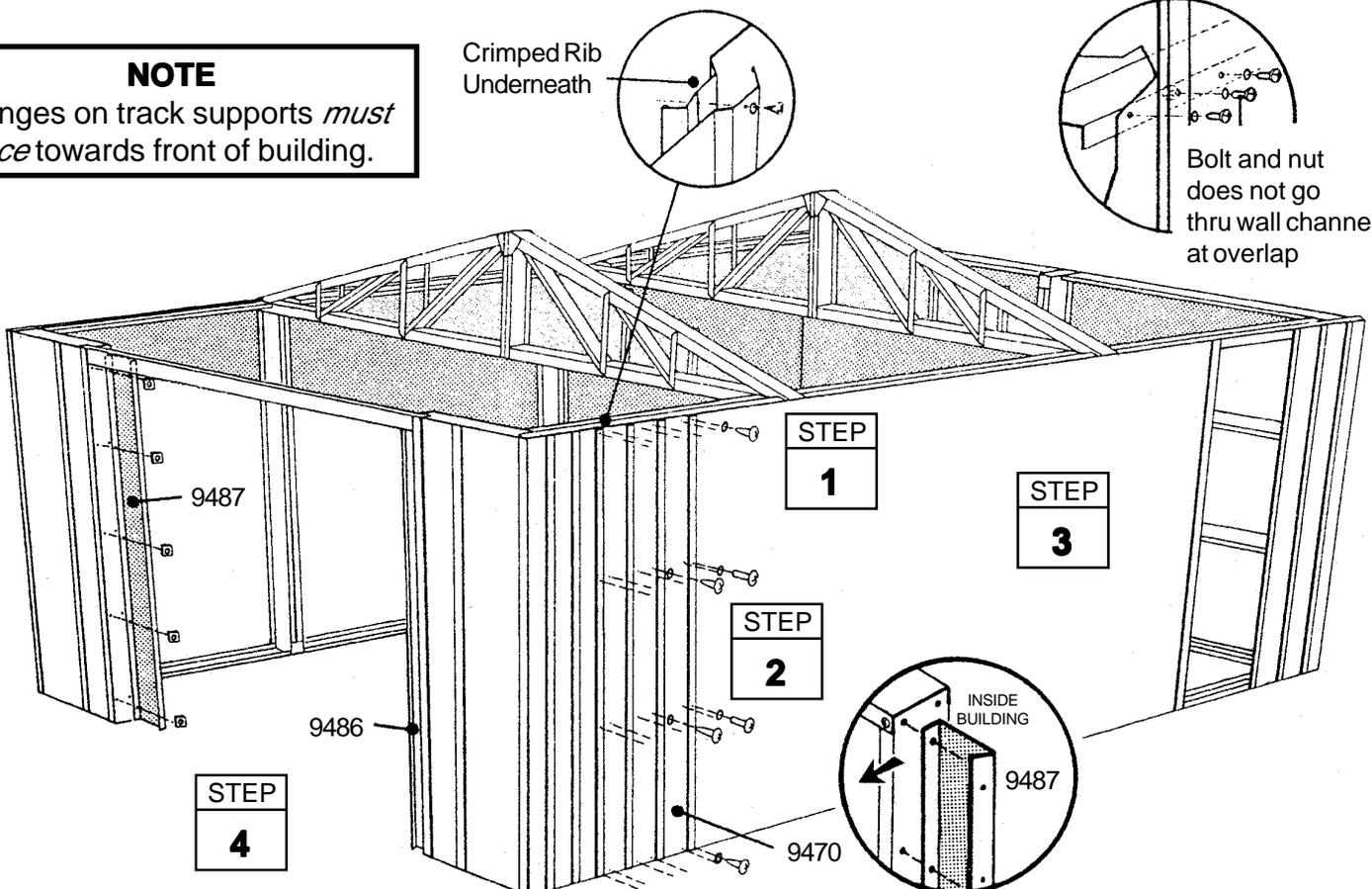
NOTE

Flanges on track supports *must* face towards front of building.

Detail Showing
Center of Panel Screwed
to Wall Channel

Crimped Rib
Underneath

Bolt and nut
does not go
thru wall channel
at overlap



Step 12

BX28

● Parts Needed For ● Wall Channel/Door Jamb

- 9477 Door Jamb (2)
- 9466 Wall Channel (2)

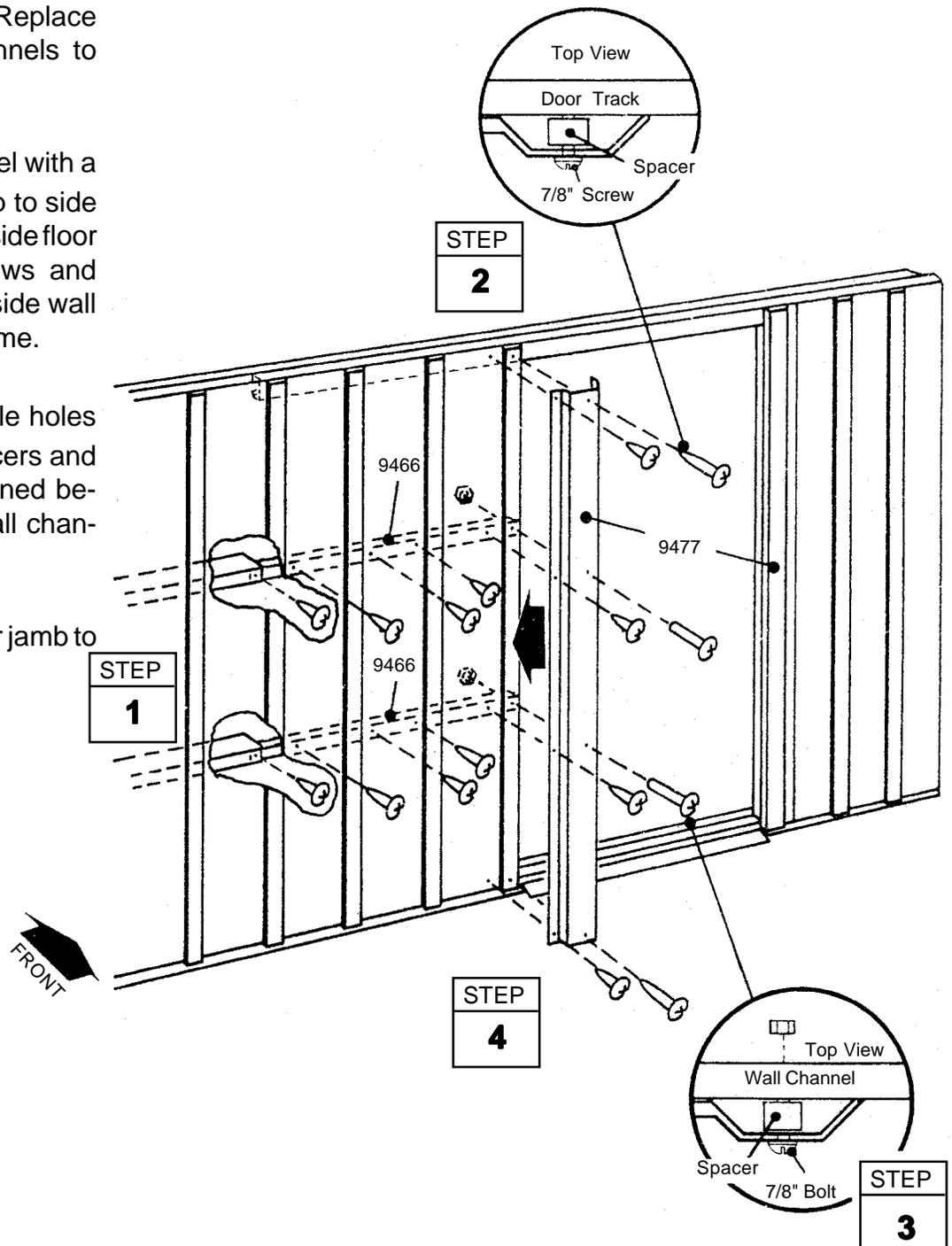
The door jambs reinforce the door opening and provide an attractive trim. Follow these steps for both door jambs.

1 Place **wall channels** behind wall panel, large hole towards door opening. Loosen wall panel and fasten wall channels to side wall channels using 1 screw, under panel. Replace panel and fasten wall channels to panel using 3 screws.

2 Overlap the rib of wall panel with a **door jamb** and fasten at top to side eave channel and bottom to side floor frame using #6A x 7/8" screws and spacers. Position spacer inside wall panel rib and channel or frame.

3 Fasten door jamb at middle holes using #8-32 x 7/8" bolts, spacers and hex nuts. Spacer is positioned between wall panel rib and wall channel.

4 Fasten outer flange of door jamb to wall panel using 4 screws.



Step 13

BX29

● Parts Needed For ● Gable/Roof Beams

- Right Gable Assembly (1)
- Roof Beam Assembly (2)

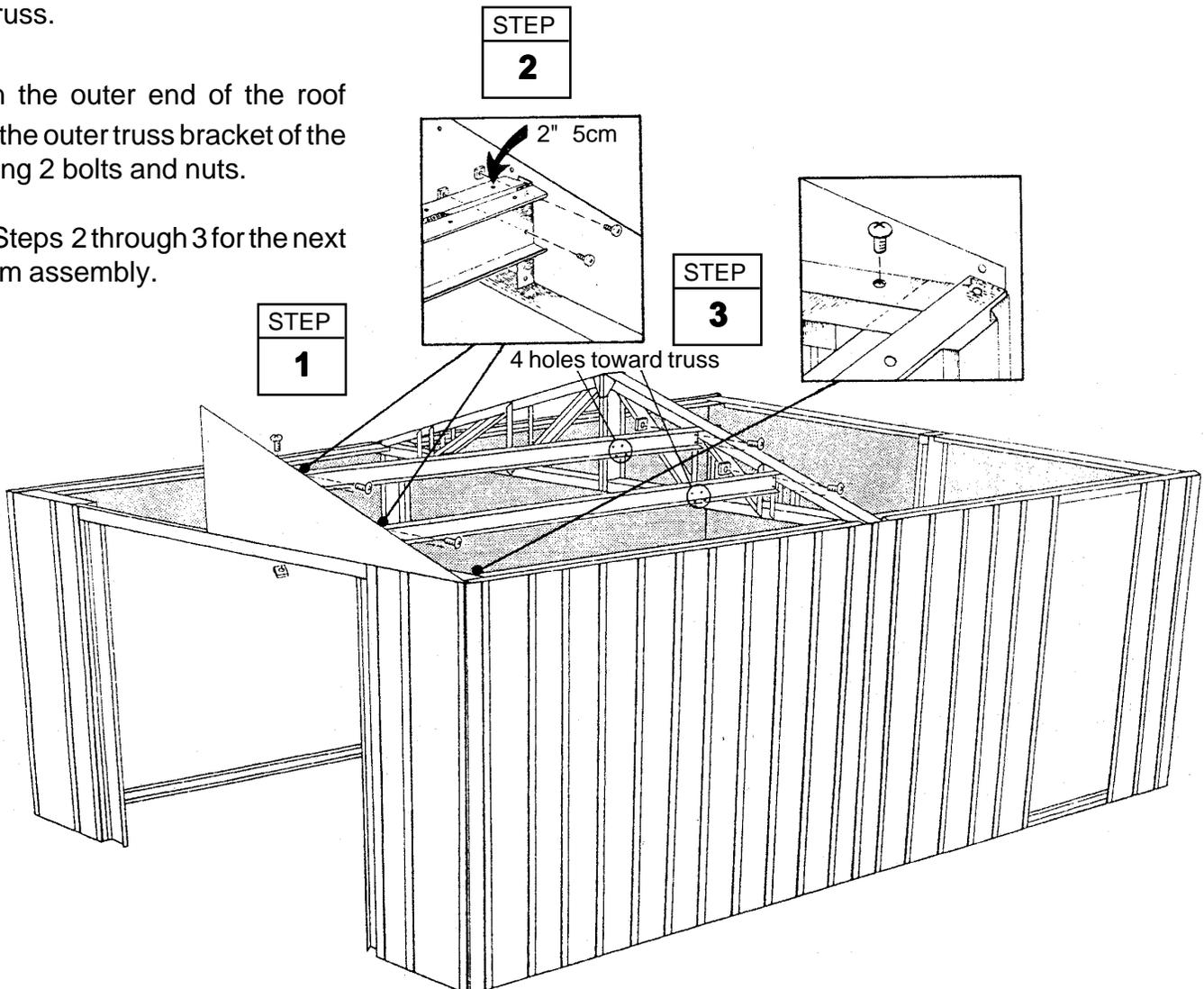
1 Lift and fasten a right gable assembly at top of lintel using bolts and nuts.

2 Spread the 2 halves of a roof beam assembly and fasten the roof beam to the outer gable bracket using 2 bolts and nuts.

Hint: The holes along the length of the beam must be on the top surface and 4 hole cluster must be fastened toward truss.

3 Fasten the outer end of the roof beam to the outer truss bracket of the truss using 2 bolts and nuts.

Repeat Steps 2 through 3 for the next roof beam assembly.



Step 14

● Parts Needed For ● Gables/Roof Beams

- Roof Beam Assembly (8)
- Left Gable Assembly (2)
- Right Gable Assembly (1)
- 9462 Roof Beam Assembly (5 14x31)

BX30

1 Lift and fasten a left gable assembly in the same manner.

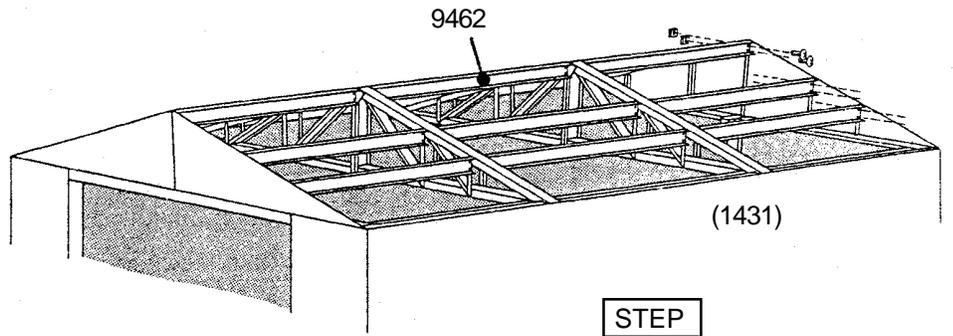
2 Join the left and right gables together using a bolt and nut in the third hole from the bottom *only*.

3 Apply the **weather stripping** along the mating edge of the left and right gables as shown. Cut the weather stripping to length.

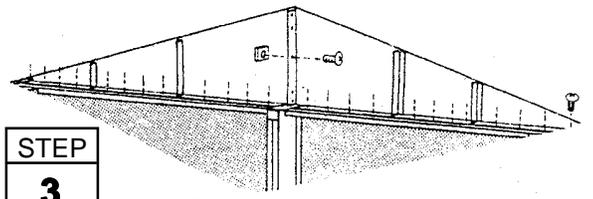
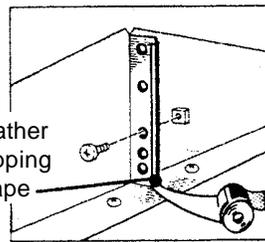
4 Install roof beam assemblies to the left side of building in the same manner. Slide a roof beam assembly over center gable flange and other end over shear plates on truss and fasten as before.

Repeat roof beam procedure for the opposite end of building. Note that 4 hole cluster in roof beam assembly, must be fastened toward truss.

NOTE
On the 1431, attach the roof beams between the truss assemblies as before

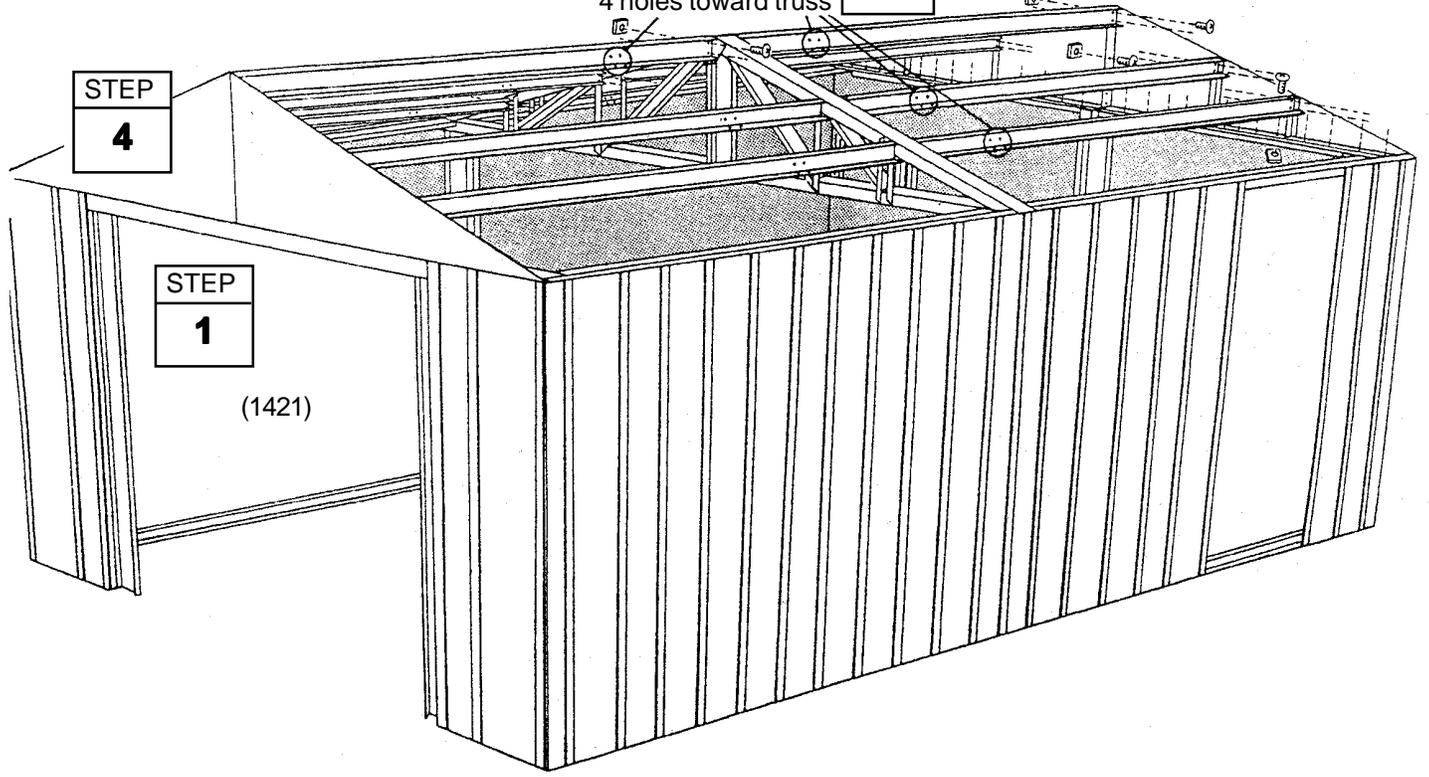


STEP
2



STEP
3

4 holes toward truss



Step 15

● Parts Needed For ● Gable-Truss Strut

● 6954 Gable-Truss Strut
(4 14x21) (2 14x31)

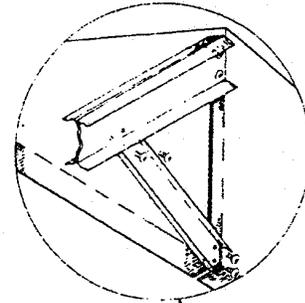
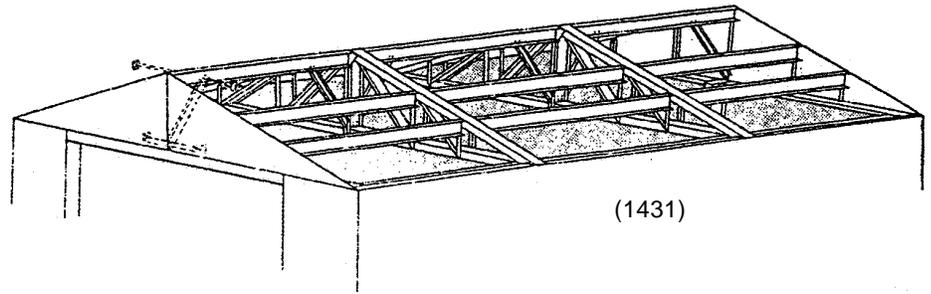
BX31

1 Fasten a **gable-truss strut** to the middle roof beam behind the front gable by placing tab on the end of the strut *between* the roof beams. Align the tab with the holes and fasten the strut with 2 bolts and nuts.

2 Fasten the lower end of the strut to the center gable flange with 2 bolts.

Repeat Steps 1 and 2 for the opposite end of building.

3 At the truss assembly the gable struts are attached between the middle roof beam and the vertical brace.

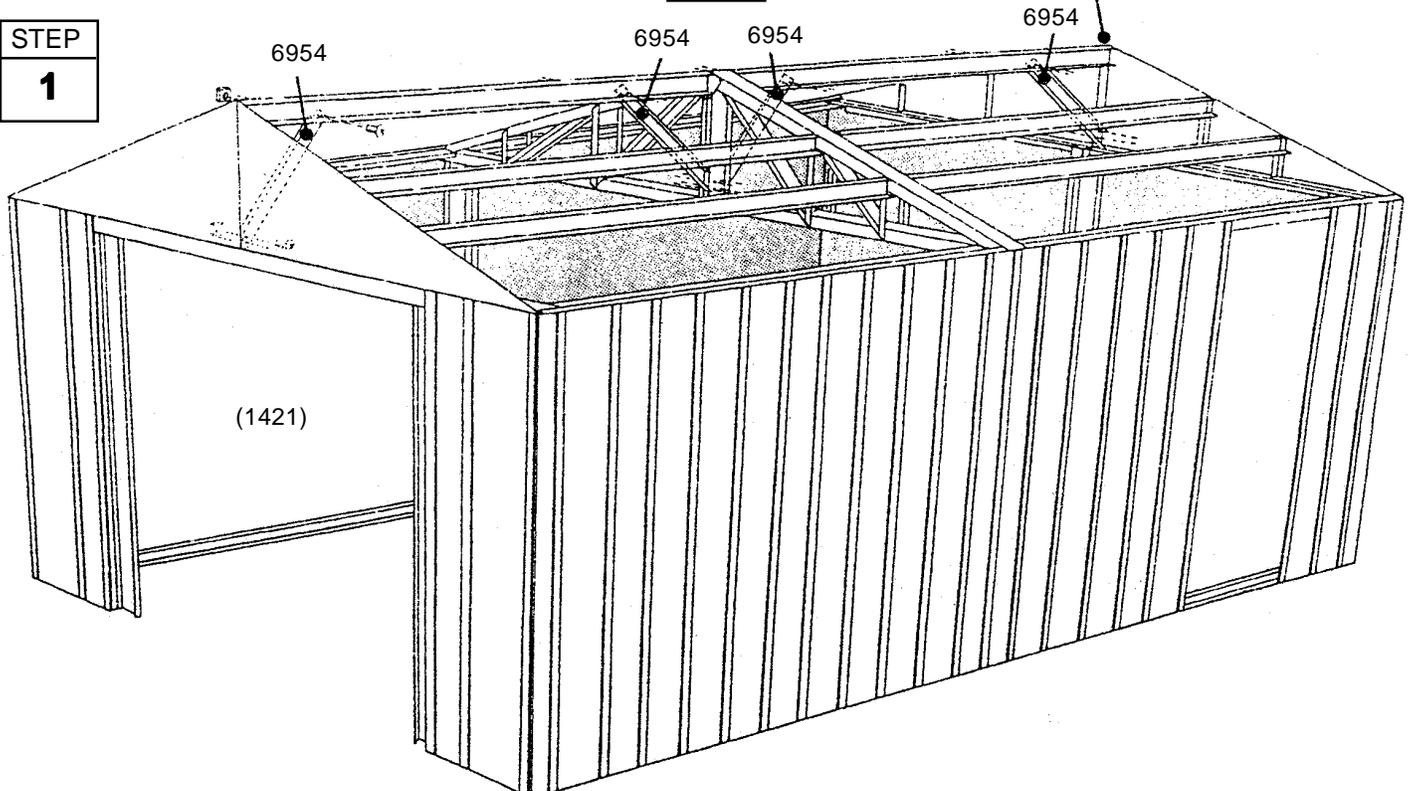


NOTE
Do not tighten bolts and nuts until all Struts are assembled

STEP
3

STEP
2

STEP
1



Step 16

Squaring the Building

BX32

1 Square the building on the foundation and at the top, by measuring diagonally from corner to corner as previously done.

2 Use string to check and see if the sides and rear of building are straight, not bowed inward or outward.

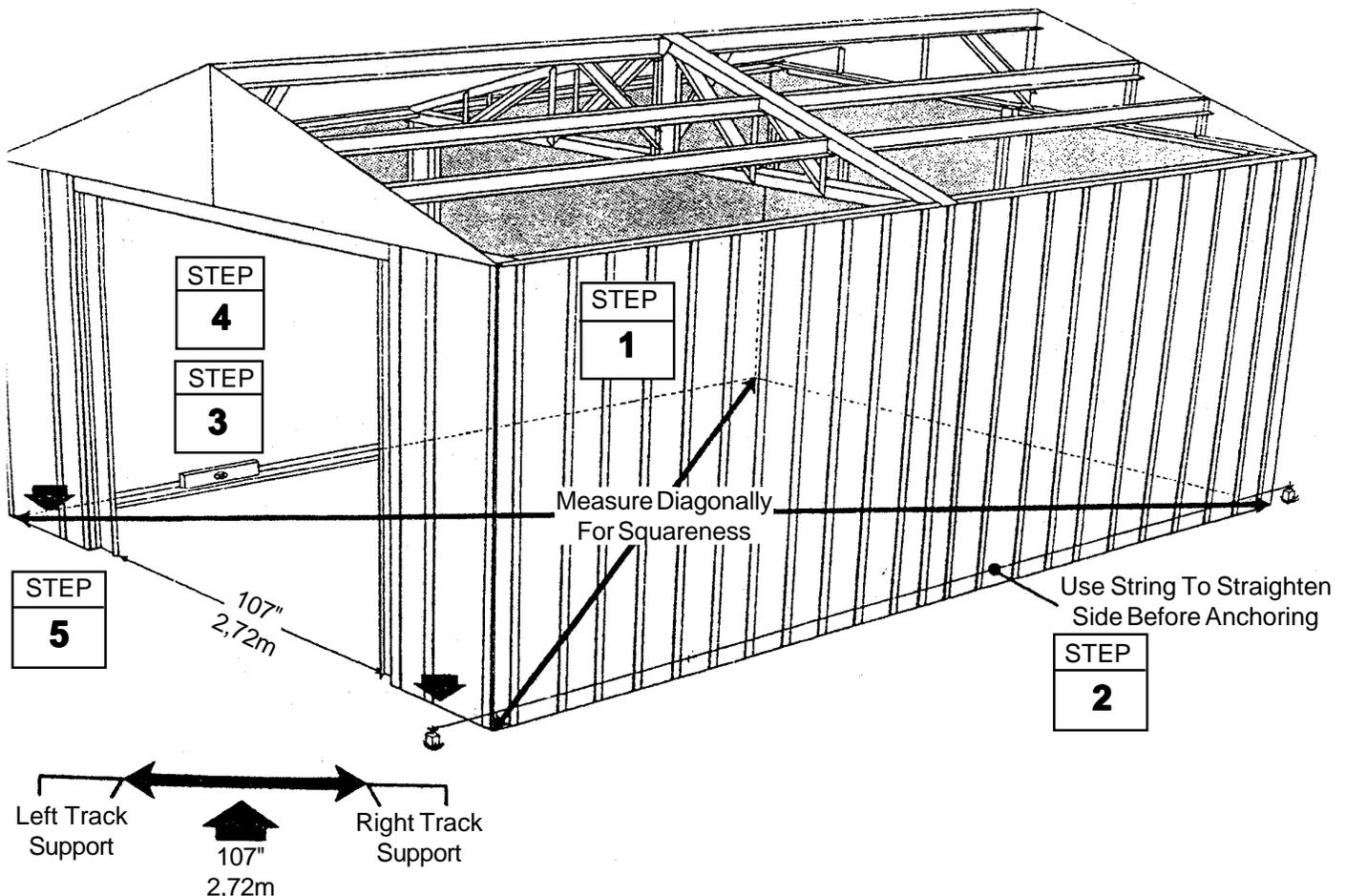
3 Level the full perimeter of the floor frame. Shim under with wood shingles if necessary.

4 Square the front of building as previously done for base.

5 Anchor front frame to concrete with 1/4" diameter expandable anchor bolts or other means, where shown.

NOTE

The 107" (2,72m) door opening must be held for proper door alignment. Measure between the left and right track support.



Step 17

BX33

● Parts Needed For ● Left/Right Roof Panels

- 9492 Right Roof Panel (2)
- 9493 Left Roof Panel (2)

Installing the roof panels is best done with an 8' step ladder. Each screw and bolt in the roof requires a washer.

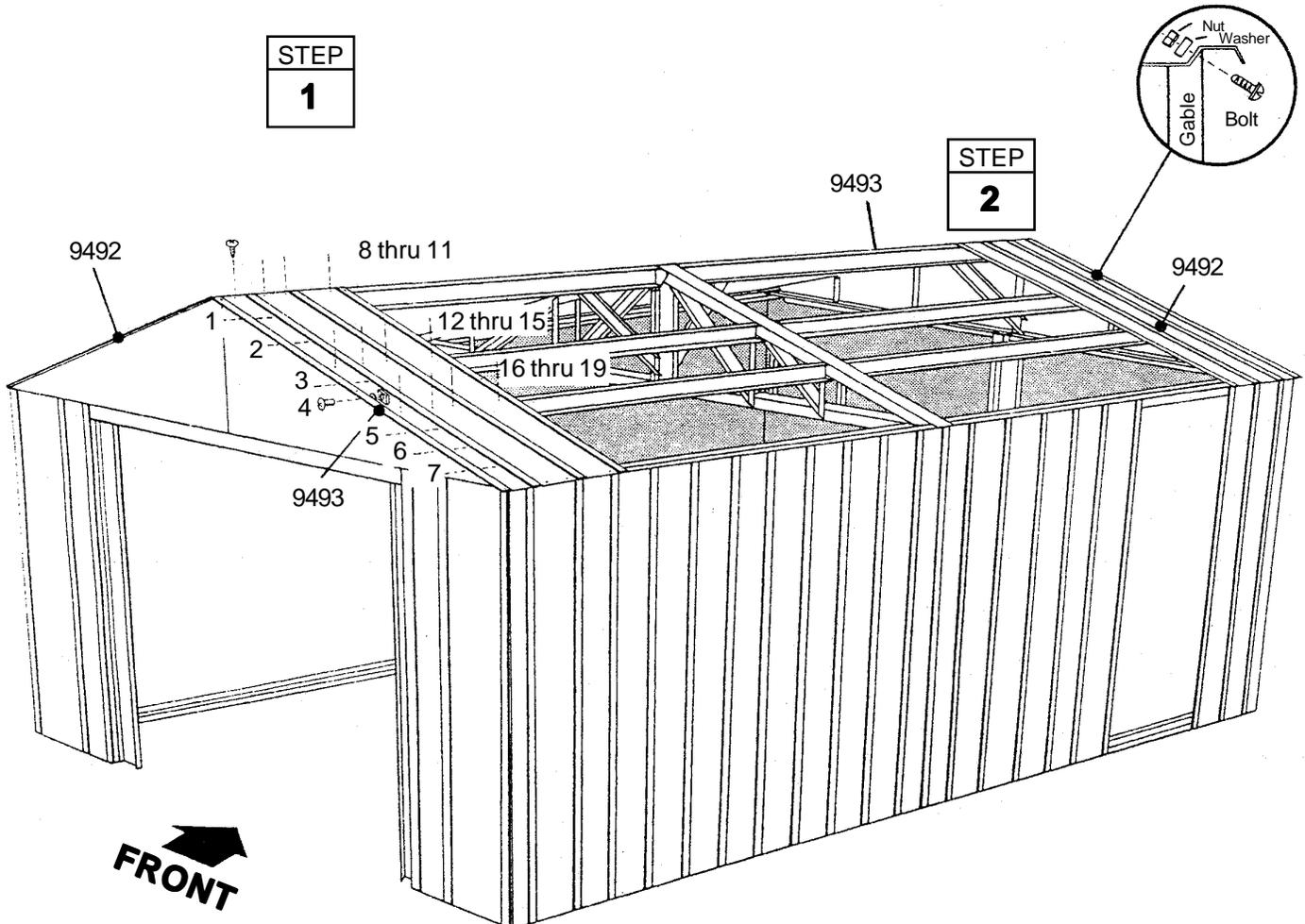
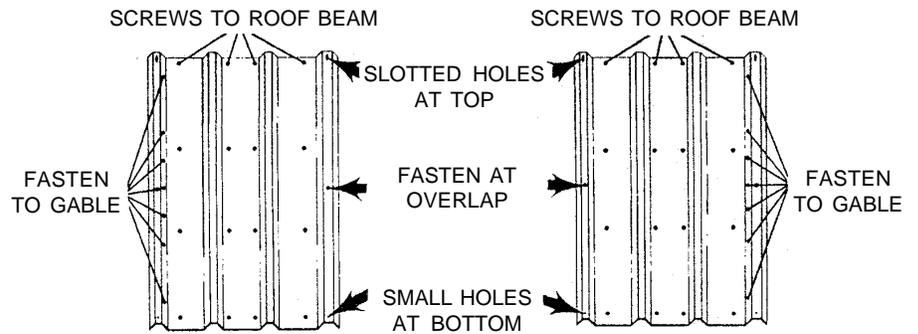
1 Position **right and left roof panels** at the front corners and fasten to the gable and roof beams using screws and bolts as shown. *Do not fasten the lower end of the panels to the side eave channel at this time.*

Hint: Follow the fastener sequence shown, for proper alignment.

2 Install the **right and left roof panels** for the rear corners in the position shown.

LEFT ROOF PANEL

RIGHT ROOF PANEL



Step 18

BX34

● Parts Needed For ● Roof Panels

● 9491 Roof Panel (4)

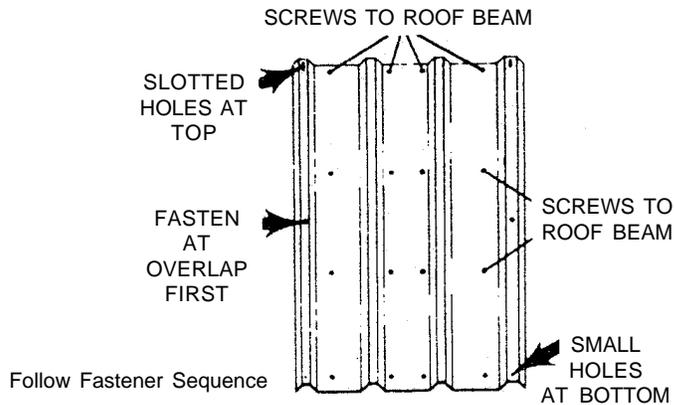
1 Position a **roof panel** overlapping rib of left corner roof panel. Fasten overlap at center of roof panel rib using a bolt and nut. Fasten to roof beams as done before using screws.

2 Install a **roof panel** on the left side of building. Repeat procedure with 2 more **roof panels** working side to side. At the top beam end of panels, fasten 2nd roof panel rib overlaps with a bolt and nut.

3 Cut the **weather stripping tape** into 6 strips, each strip about 2" (5cm) long. Press 2 strips over the bolt heads on overlaps at the top of panels. Save the other 4 strips for the rest of roof.

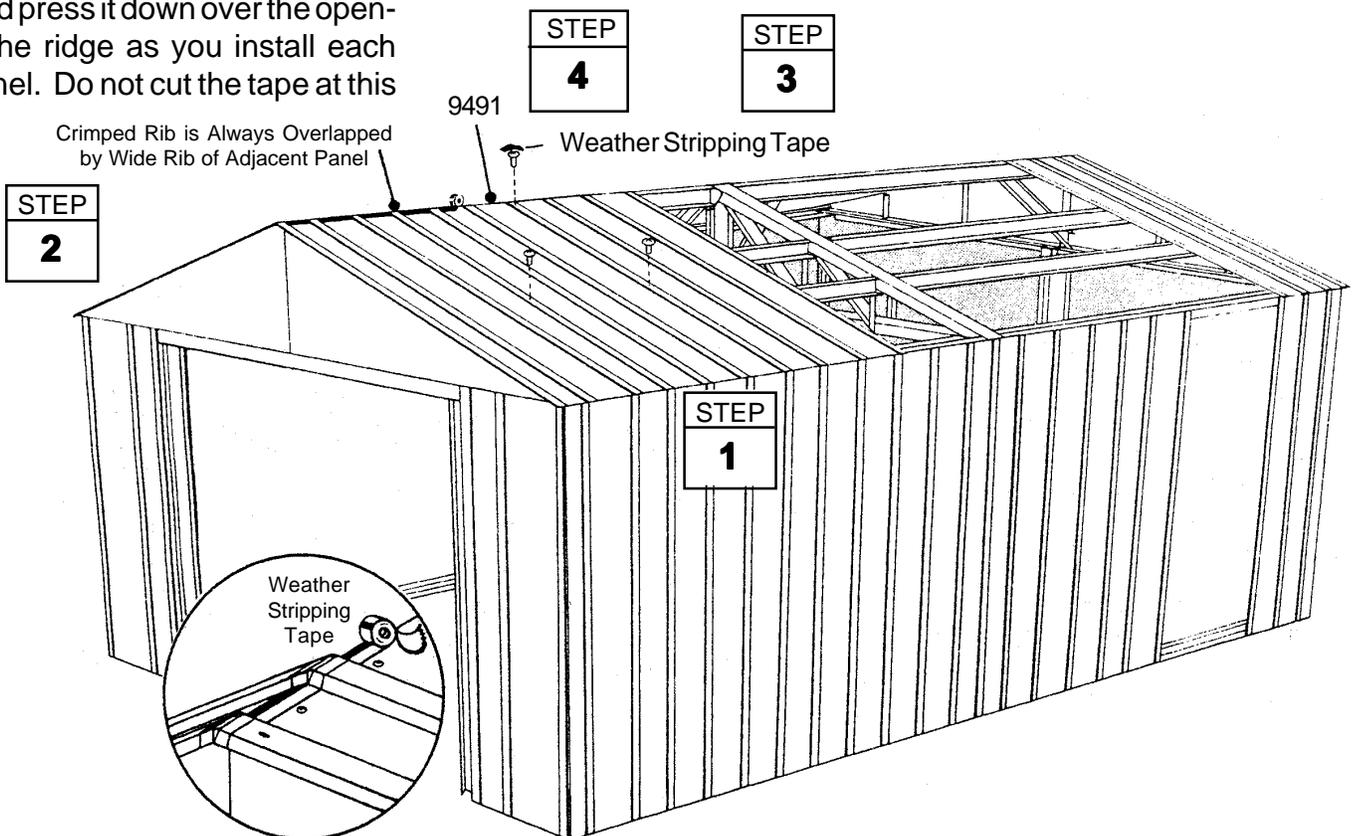
4 Cover the join at the peak with weather stripping tape. Unroll the tape and press it down over the opening at the ridge as you install each roof panel. Do not cut the tape at this time.

ROOF PANEL



NOTE

On the 1431, cut the weather stripping tape into 10 strips.



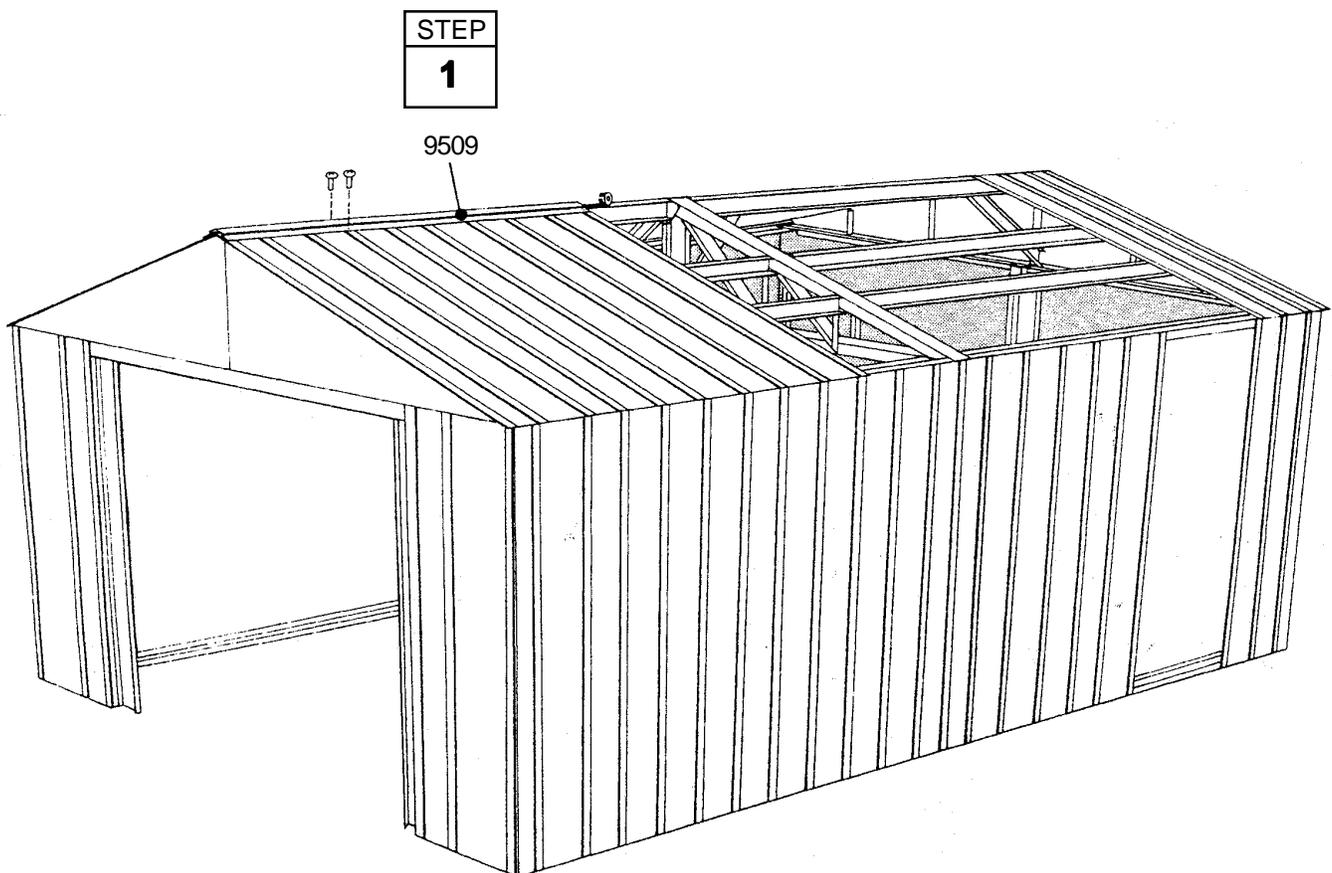
Step 19

● Parts Needed For ●
Ridge Cap

● 9509 Ridge Cap (1)

BX35

1 Install a **ridge cap** on the completed roof section using bolts and nuts. Do not fasten the ends of the ridge cap at this time.



Step 20

● Parts Needed For ● Roof Panels & Ridge Cap

- 9509 Ridge Cap (1)
- 9491 Roof Panel (6)

BX36

1 Install 4 **roof panels** working side to side.

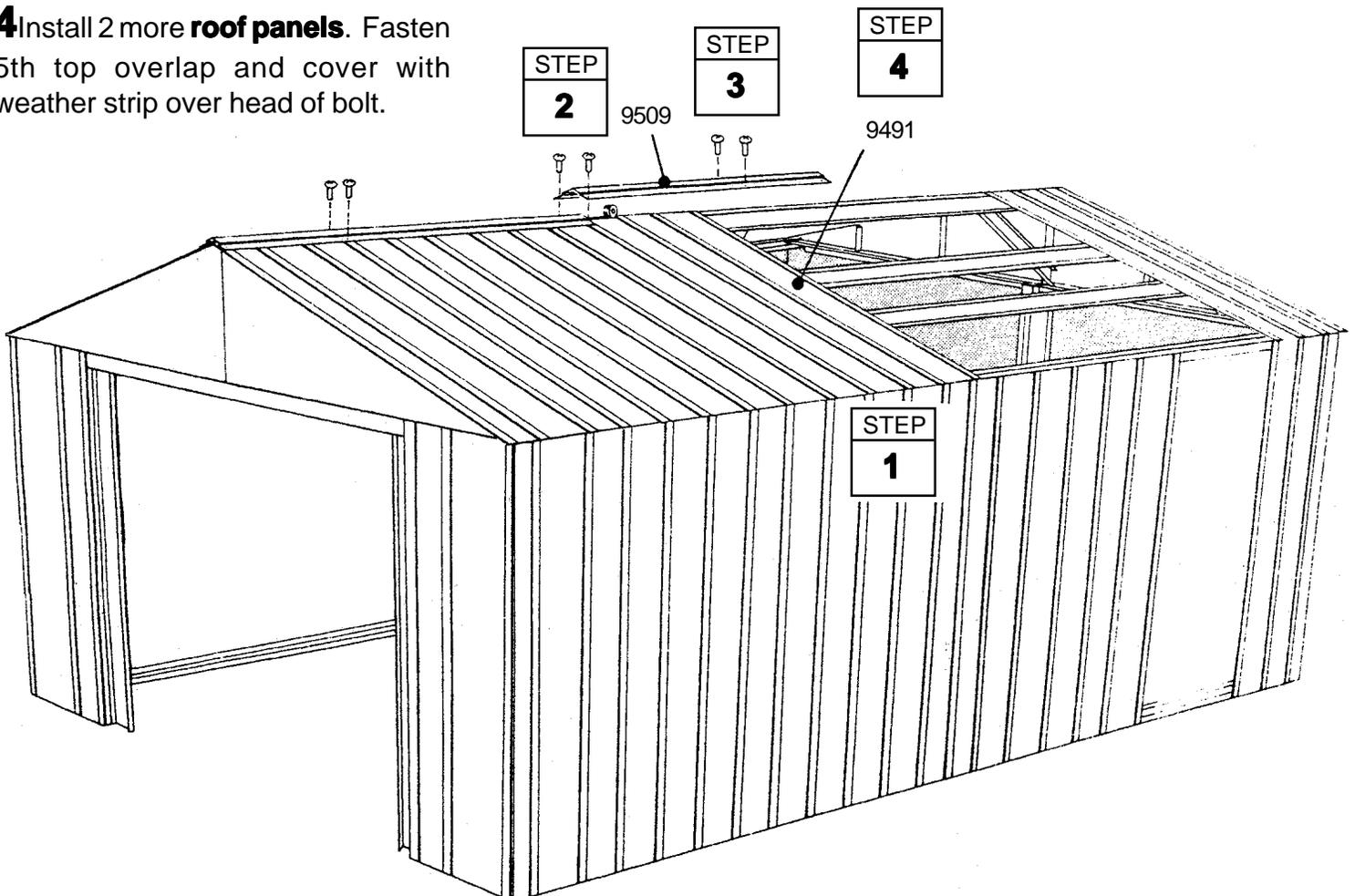
NOTE

If roof beam holes do not line up with the roof panel holes, shift the building from left to right. If this does not help, your building may not be level. Shim the corners until holes line up.

2 Unroll the weather stripping tape, press it down firmly, but do not cut.

3 Install the second **ridge cap** overlapping the first ridge cap. Align the holes and fasten using bolts.

4 Install 2 more **roof panels**. Fasten 5th top overlap and cover with weather strip over head of bolt.



Step 21

● Parts Needed For ● Roof Panels/Ridge Caps

- 9509 Ridge Cap (1)
- 9512 Ridge Cap (1 1431)
- 9491 Roof Panel (4 14x21) (12 14x31)

BX37

1 Install 2 more **roof panels**.

2 Install the third **ridge cap** overlapping the second ridge cap as before. Temporarily remove the rear corner roof panels, and install the remaining 2 **roof panels**. Fasten 7th top overlap and cover with weather strip over head of bolt.

3 Install the corner roof panels. Fasten ridge cap using bolts and nuts.

4 Fasten the lower end of the panels to the side eave channels using screws and black washers.

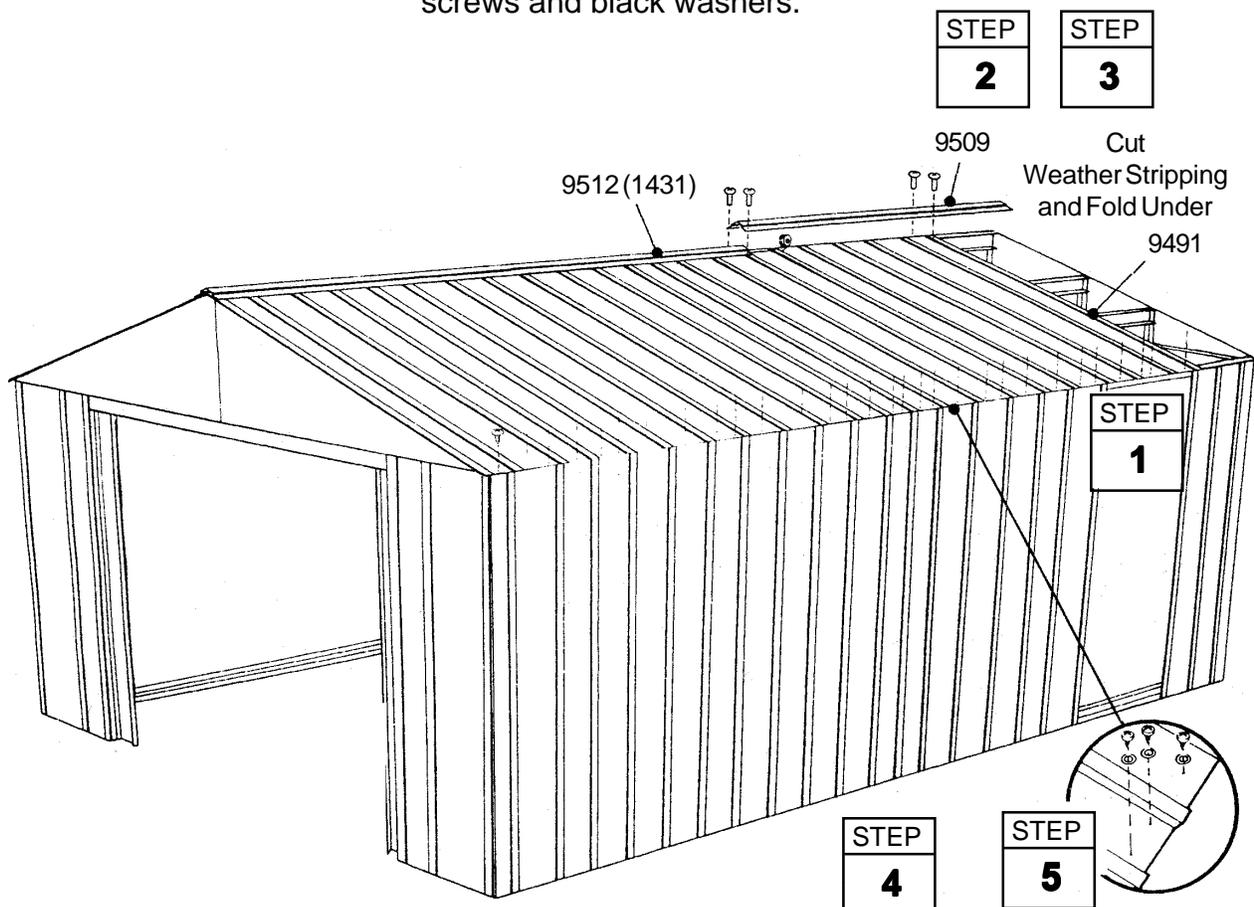
1 On the 1431 install 2 more **roof panels**.

2 Install the third **ridge cap** overlapping the second ridge cap as before. Install 6 more **roof panels**, while fastening 8th and 9th top overlap and cover with weather strip over head of bolt. Fasten ridge cap using bolts and nuts.

3 Install 2 **roof panels**, and the fourth **ridge cap**. Temporarily remove the rear corner roof panels, and install the remaining 2 **roof panels**. Fasten 11th top overlap and cover with weather strip over head of bolt.

4 Install the corner roof panels. Fasten ridge cap using bolts and nuts.

5 Fasten the lower end of the panels to the side eave channels using screws and black washers.



Step 22

BX38

● Parts Needed For ● Roof Trim

- 7023 Left Roof trim (2)
- 7024 Right Roof Trim (2)
- 9510 Side Roof Trim (6)
- 9513 Side Roof Trim (2 1431)

1 Attach the **side roof trim** to the lower end of the roof panels on each side of the building using screws at each panel overlap.

NOTE

A single screw fastens both trim pieces at the overlap.

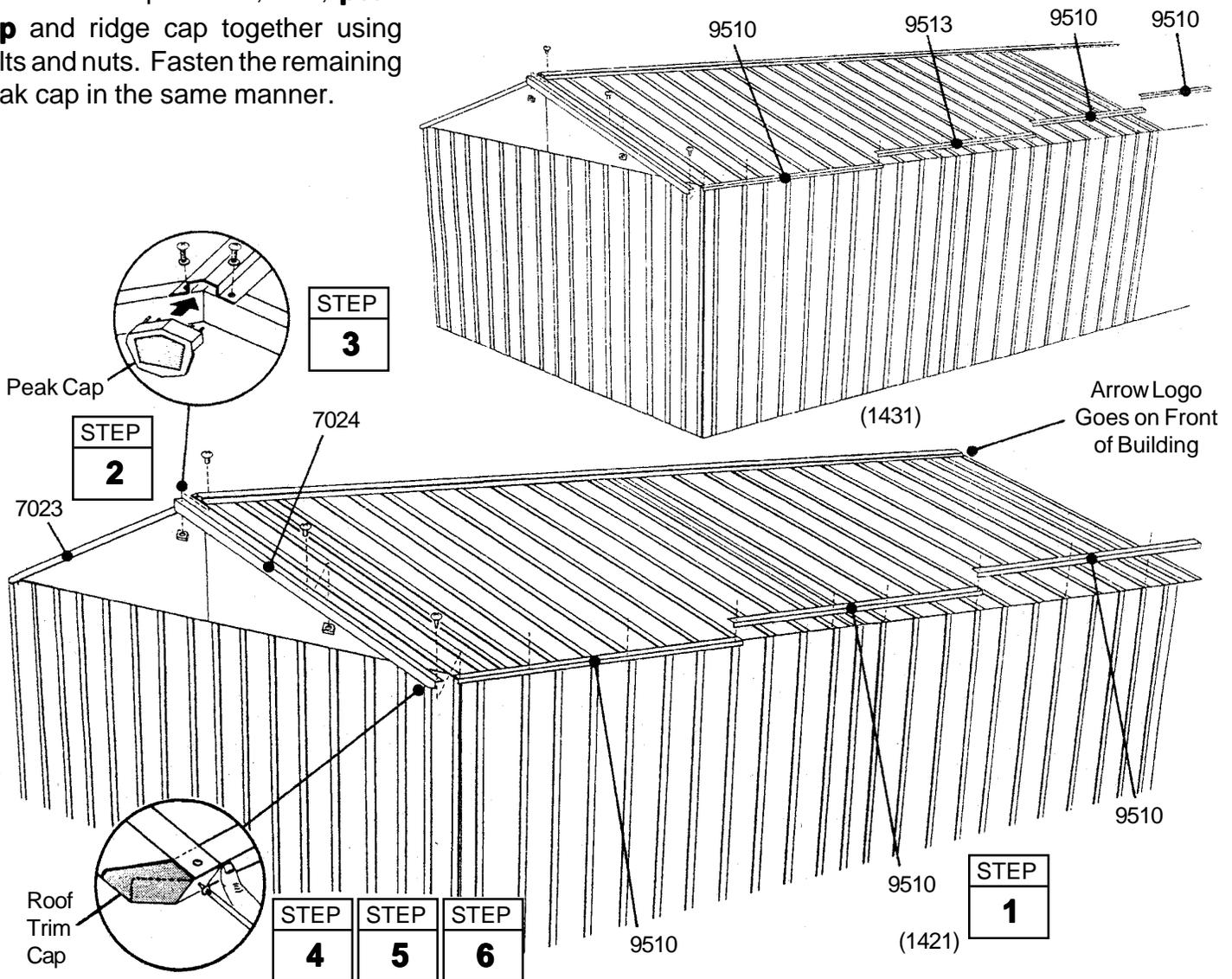
2 Position **left** and **right roof trim** to the ends of roof, noting that trim slips under ridge cap, but fits on top of side roof trim.

3 Fasten roof panel rib, trim, **peak cap** and ridge cap together using bolts and nuts. Fasten the remaining peak cap in the same manner.

4 Using your thumb and index finger, overbend the bottom flange of the side roof trim at the corner inward enough so the right and left roof trim caps fit onto right and left corners.

5 Fasten trim to side trim using a screw and washer into roof panel.

6 Fasten the roof trim caps to the side trim using a screw.



Step 23

● Parts Needed For ● Side Door Assembly

- 9498 Door (1)
- 9499 Horizontal Door Brace (2)
- 9500 Vertical Door Brace (2)

BX39

NOTE

To assemble door to slide from left to right (opening), position door with handle holes on left side of door. Position handle holes on right side if door is to slide from right to left (opening).

Each bolt and screw in the door requires a washer.

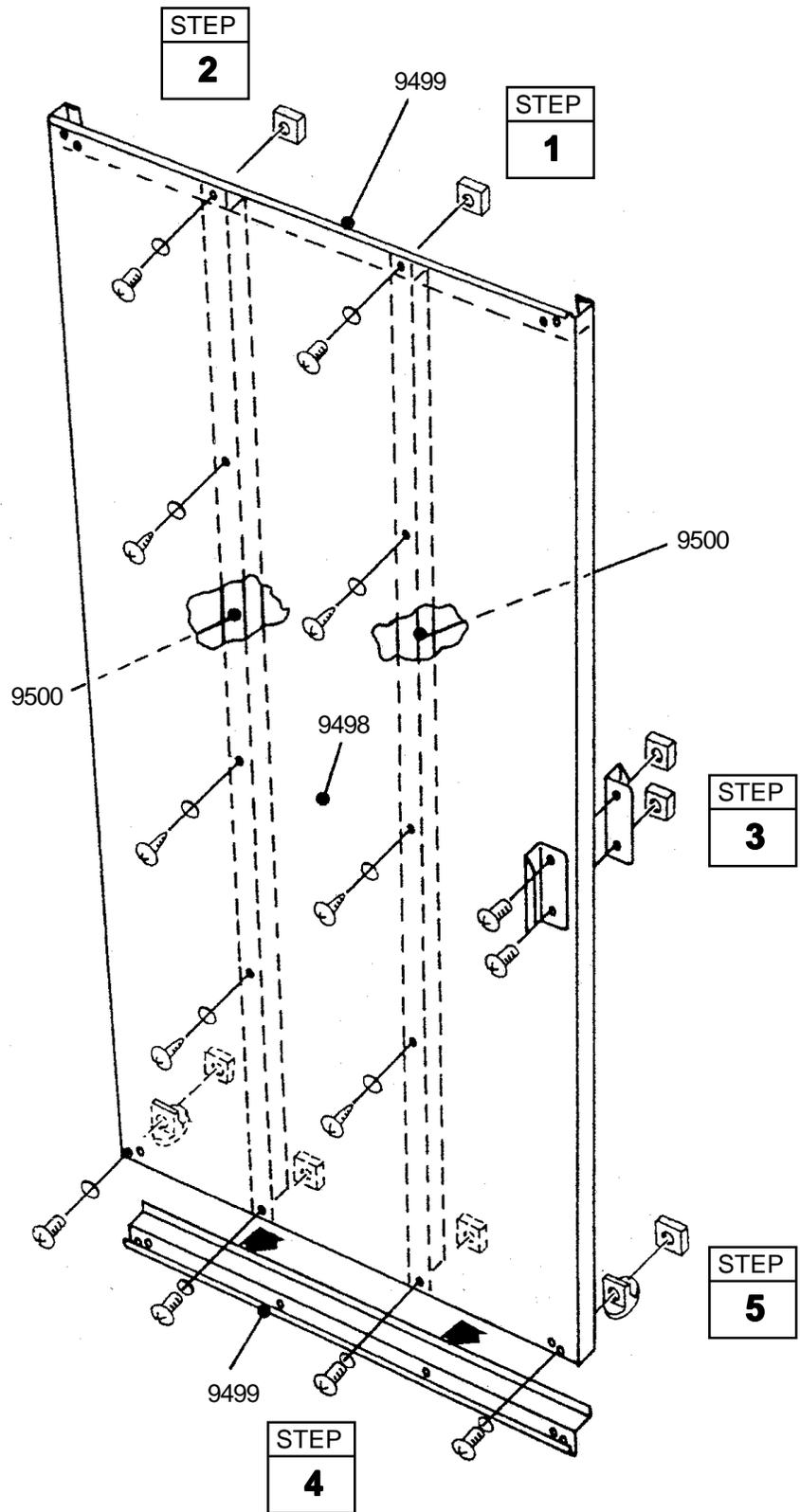
1 Hold the **vertical door brace** against the inside surface of **door**, align holes, and fasten with 3 screws.

2 Repeat Step 1 for remaining vertical door brace.

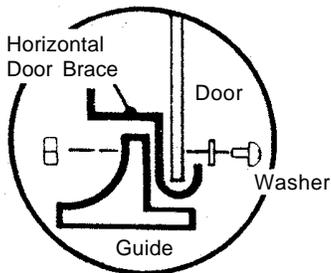
3 Attach the **handle** to the door with 2 bolts and nuts, as shown.

4 Put a **horizontal door brace** onto the top edge and bottom edge and fasten *with 2 bolts and nuts on each*.

5 Attach the **lower door guides** as shown.



END VIEW
SHOWING:



Step 24

● Parts Needed For ● Door Installation

Door Assembly (1)
● 7972 Door Handle Lock Bracket (1)

BX40

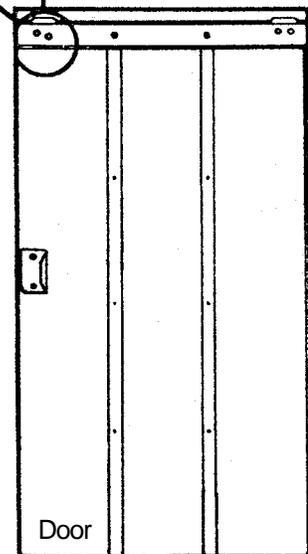
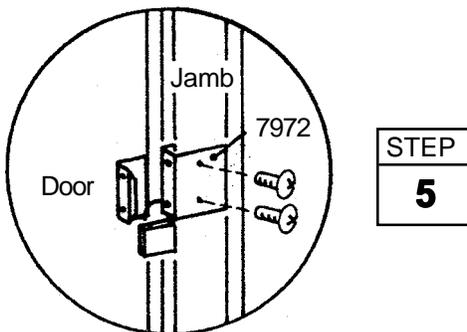
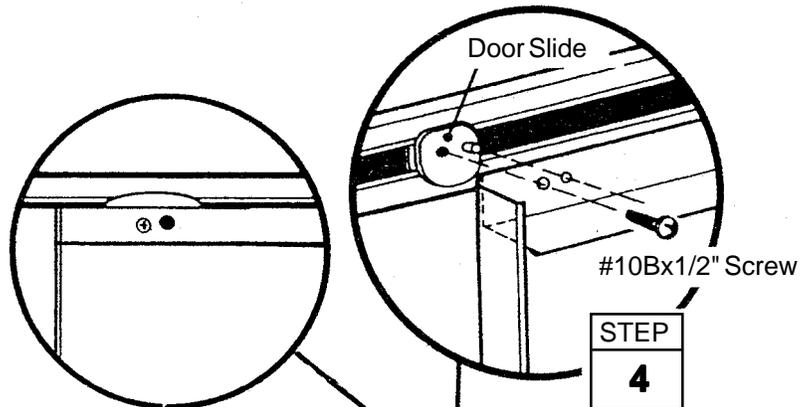
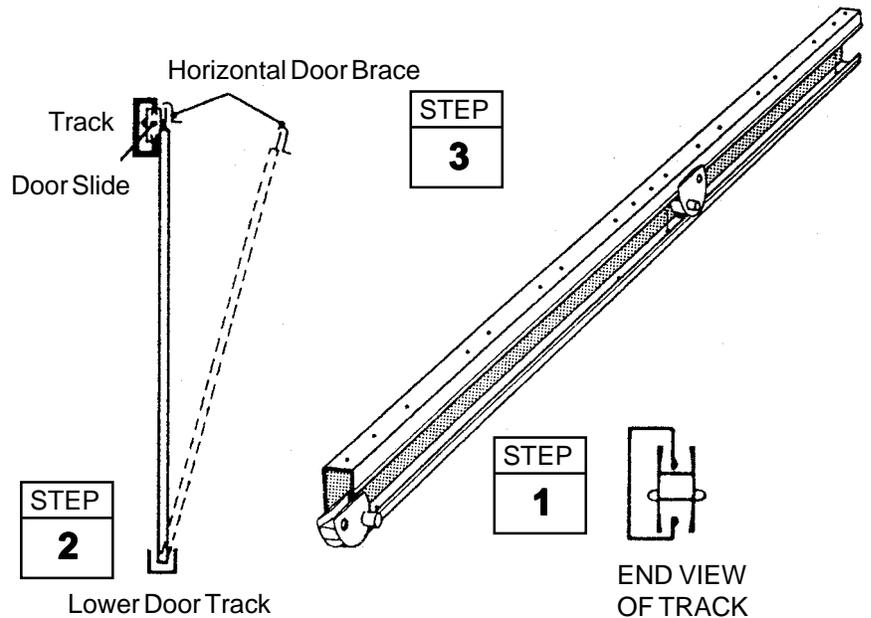
1 Position **door slides** onto the legs, from the end of door track, as shown in the end view.

2 From inside the building, put the bottom of the door behind door jamb into the lower door track.

3 Position the top of the door so that the holes in the door line up with the holes in the door slides.

4 Fasten the door to the door slides using a #10Bx1/2" screws.

5 Position **door handle lock bracket** aligned with handle holes, against door jamb. Using a pencil mark through holes onto jamb, remove bracket and drill (2) 1/4" diameter holes in jamb. Fasten bracket to door jamb using 2 bolts and nuts.



Step 25

● Parts Needed For ● Roll-Up-Door

- Door Panels (4)
- 9479 Bottom Angle (1)
- 9504 Weather Strip (1)

BX41

1 Layout the **door panels** on a flat surface, protecting the panels from being scratched.

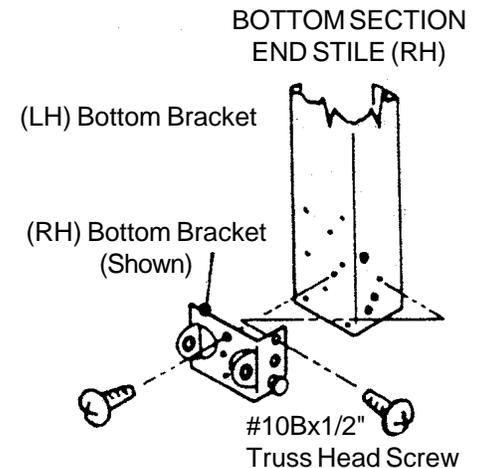
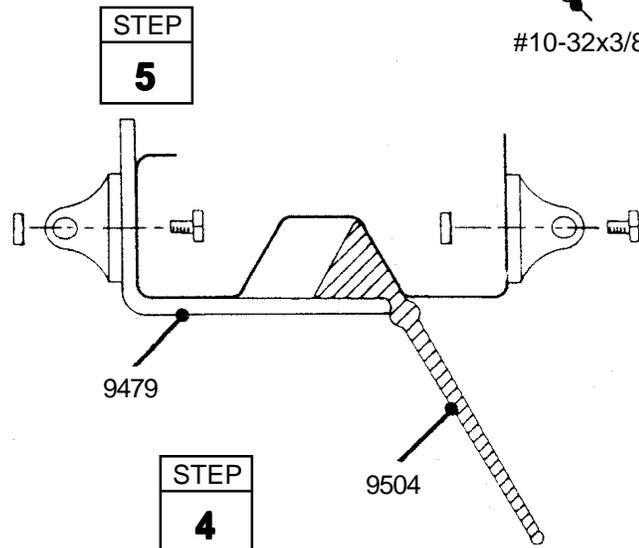
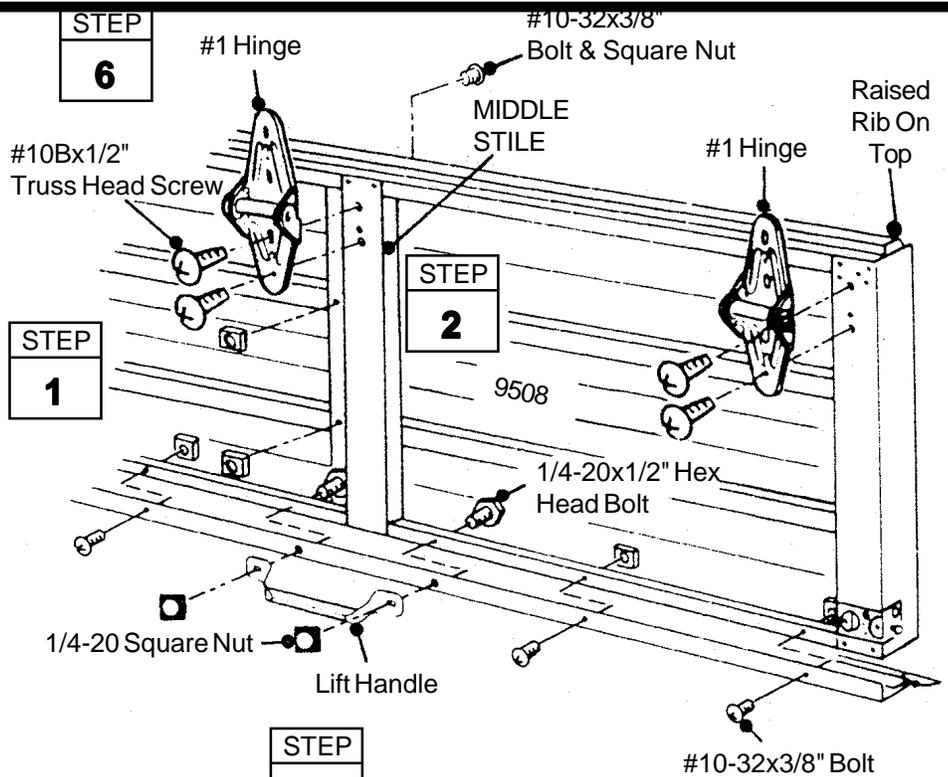
2 Bolt the middle stiles at the center of the 4 door panels where indicated with #10-32x3/8" bolts on the outside and square nuts inside.

3 On the **door panel bottom section**, attach the **right bottom bracket** to the lower right corner and the **left bottom bracket** to the left side using #10Bx1/2" truss head screws into end stiles.

4 Loosely install **bottom angle** to the bottom section using #10-32x3/8" bolts and square nuts. Insert vinyl **weather strip** between angle and bottom section and tighten bolts.

5 Fasten 2 **lift handles** to bottom section, just below the bottom of middle stile using 1/4-20x1/2" hex head bolts and 1/4-20 square nuts.

6 Install the **#1 hinges** at the upper corners and to the middle stile of the bottom section using #10Bx1/2" truss head screws.



NOTE

Be sure you fasten the lower part of hinge to the top of each stile. The top hinge leaf is marked.

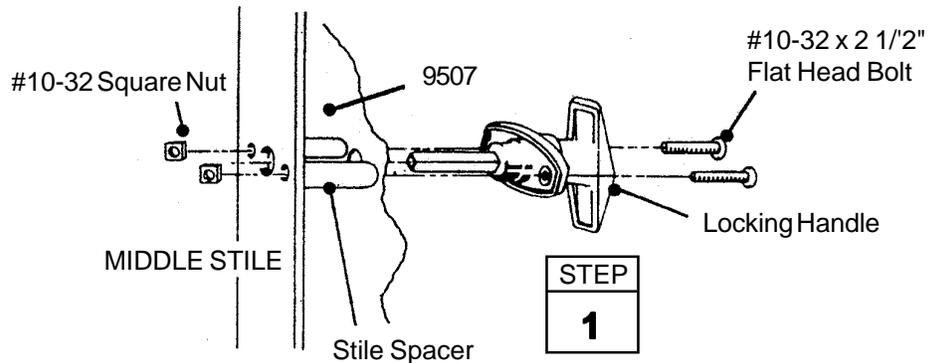
Step 26

● Parts Needed For ● Roll-Up-Door

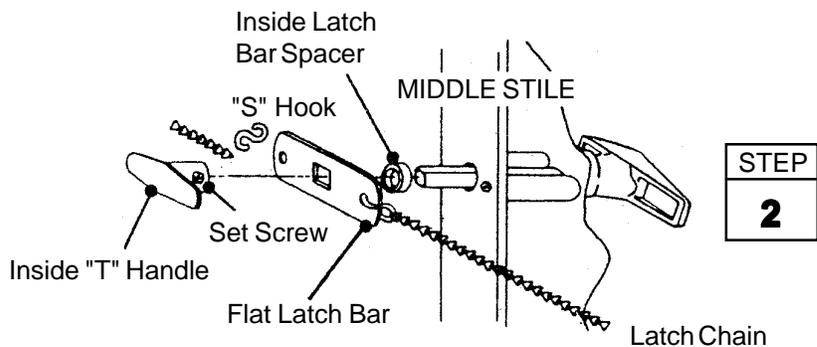
● 9507 Door Panel Lock Section (1)

BX42

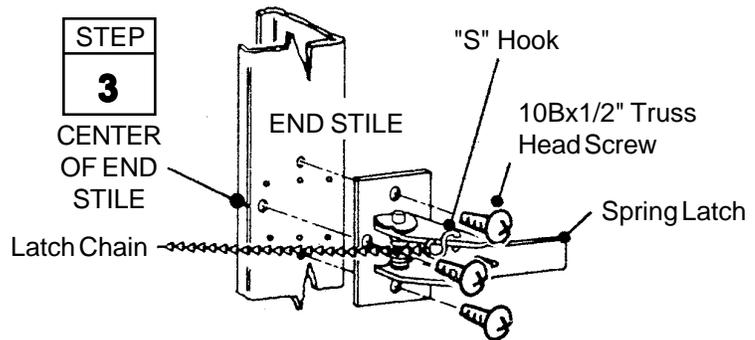
1 With the key, unlock the outside **locking handle** and rotate the handle to a vertical position. Insert the square shank through the hole located in the center of **door panel lock section**. Slide in the **stile spacers** and insert the #10-32x2 1/2" flat head bolts through handle, spacer and stile. Secure with square nuts and tighten.



2 Turn the locking handle to a horizontal position. Slide the **inside latch bar spacer** over the square shank of the lock handle and slip the **flat latch bar** over shank. Secure with the **inside "T" handle**. Tighten set screw in handle. Attach small **"S" hooks** to holes on the flat latch bar. Slip opposite end of "S" hooks through **latch chains**.



3 Attach the **spring latches** to the end stiles on the lock section. Attach "S" hooks to the holes on top of the latches. Attach the latch chains to the "S" hooks so that the chain is taut.

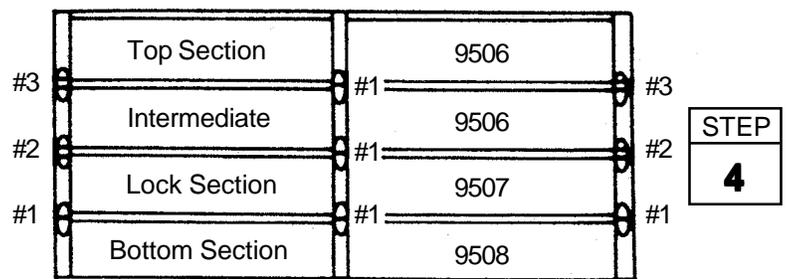


Hint: If chain is too tight, latches will not engage strikes (on track) properly. If chain is too loose, the lock handle will not retract latches. Adjust chains by changing the hole location of "S" hook through chain.

4 Attach **#2 hinges** to lock section at the upper corners of end stiles. Fasten **#1 hinge** to the middle stile.

Hint: When installing hinges, be sure the hinge number is always on the lower hinge leaf.

Hinge Location Schedule Only! Do Not Join Panels Together



Step 27

● Parts Needed For ● Roll-Up-Door

- 9506 Door Panel (1)
- 9507 Door Panel Lock section (1)
- 9508 Door Panel Bottom Section (1)
- 67667 Left Vertical Track (1)
- 67666 Right Vertical Door Track (1)

BX43

NOTE

When rib neck bolts are inserted in the track, use bolts with heads located on the inner side of the track to prevent interference with the movement of the rollers.

1 Repeat procedure for the third **door panel** using **#3 hinges** at end stiles and **#1 hinge** at middle stile.

2 Insert the **roller** shaft into the barrel holes on the hinges furthest out from the face of the end stiles on all 3 panels. Note that **#1 hinge** has only 1 barrel. Insert rollers through the tabs on the bottom brackets on bottom section.

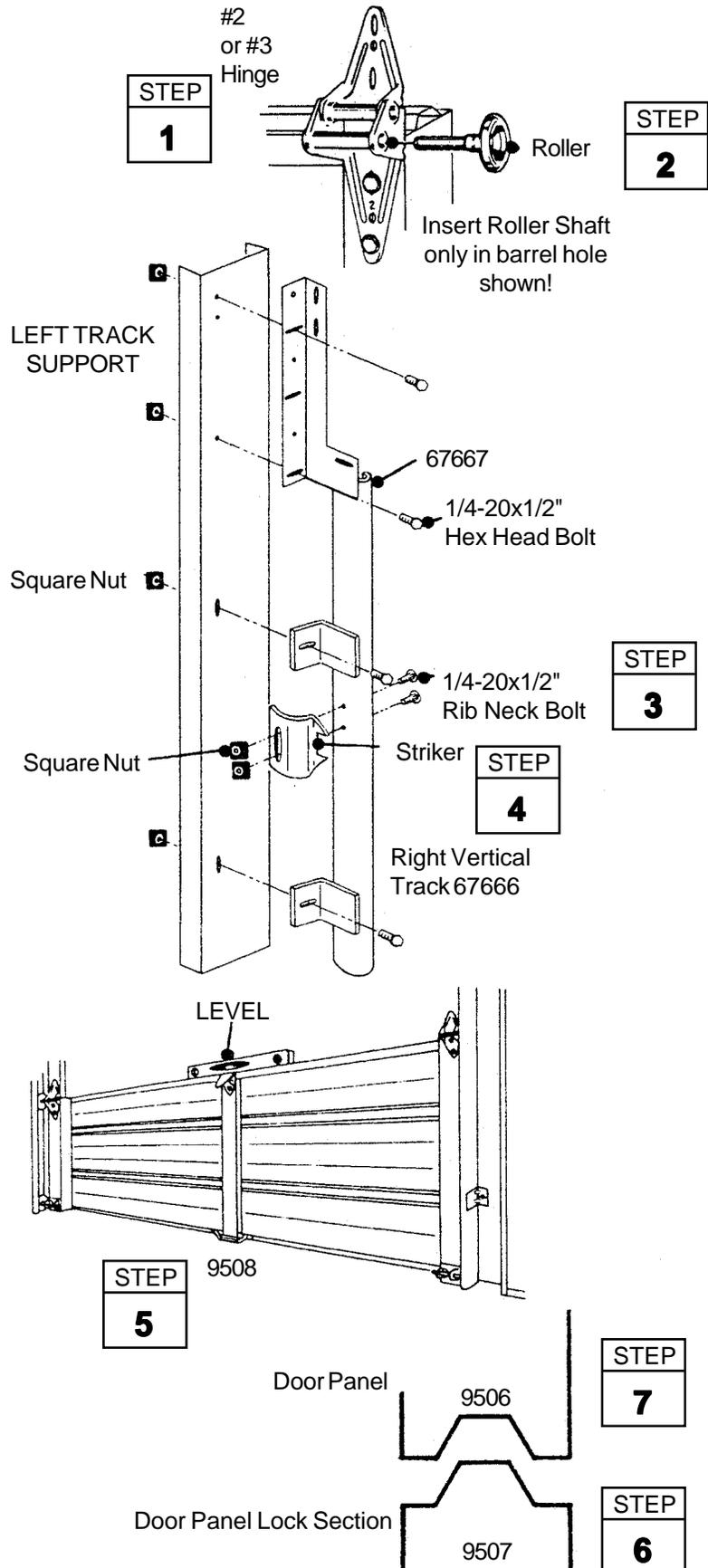
3 Attach **right and left vertical tracks** loosely to right and left track supports using **1/4-20x1/2" hex head bolts** and square nuts.

4 Attach spring latch **strikers** loosely to vertical tracks using **1/4-20x1/2" rib neck bolts** and square nuts.

5 Lift the bottom section and insert the rollers into the vertical tracks. Slide the panel down and level across top. Shim to level if necessary.

6 Insert lock section into vertical tracks. Attach hinges from **#1 to #2** panel by inserting **#10Bx1/2"** truss head screws at bottom edge of lock section.

7 Position third **door panel** and fasten in the same manner. Do not fasten the last door panel at this time.



Step 28

BX44

● Parts Needed For ● Roll-Up-Door

- 7817 Spring Support Bracket (2)
- 67476 Right Horizontal Track (1)
- 67475 Left Horizontal Track (1)
- 9511 Truss Strut (2)
- 9506 Door Panel (1)

1 Install **spring support brackets** to the roof beams using bolts shown.

2 Attach the **right and left horizontal track** to the right and left vertical track using bolts and nuts shown.

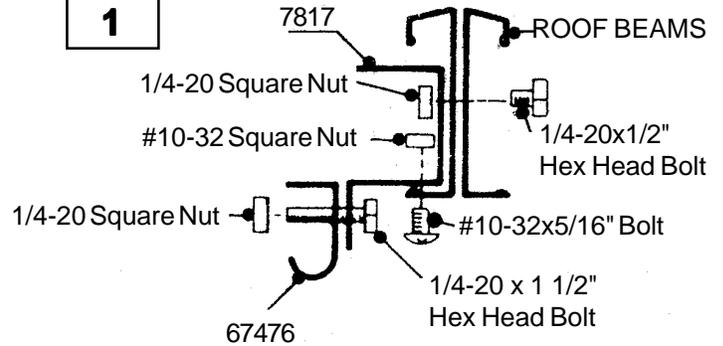
3 Fasten **track struts** to open hole on truss assembly using 1/4-20x1/2" hex head bolt and square nut. Fasten opposite end to spring support bracket and horizontal track using 1/4-20x1/2" rib neck bolt and square nut.

4 Attach the **sheave** (pulley wheel) to the 3rd hole on the support angle of the horizontal track using 3/8 - 16 x 1 1/2" hex head bolt and 3/8-16 hex nut.

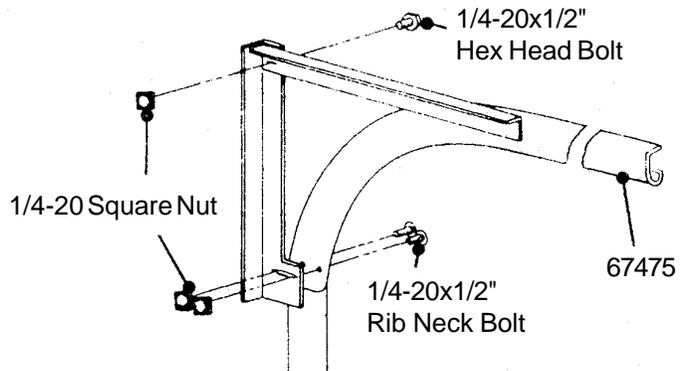
5 Position fourth **door panel** on third door panel. Fasten top of hinges to bottom of fourth door panel using #10Bx1/2" truss head screws.

6 Engage roller with **top adjustable fixture**, slide roller into horizontal track. Move assembly to line up with holes in end stile and fasten with #10Bx1/2" truss head screws.

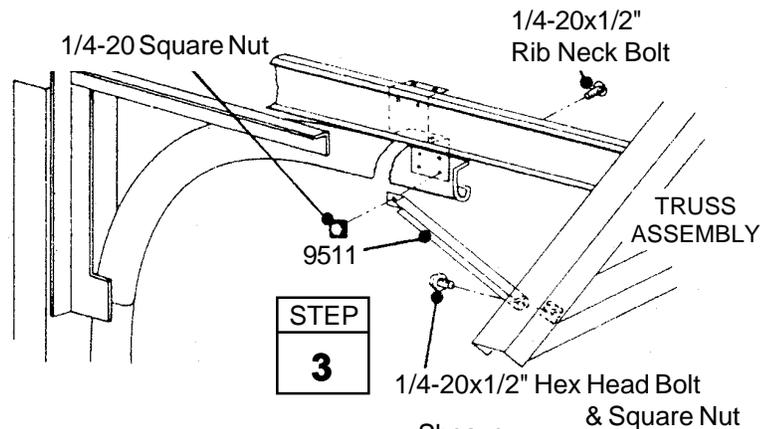
STEP
1



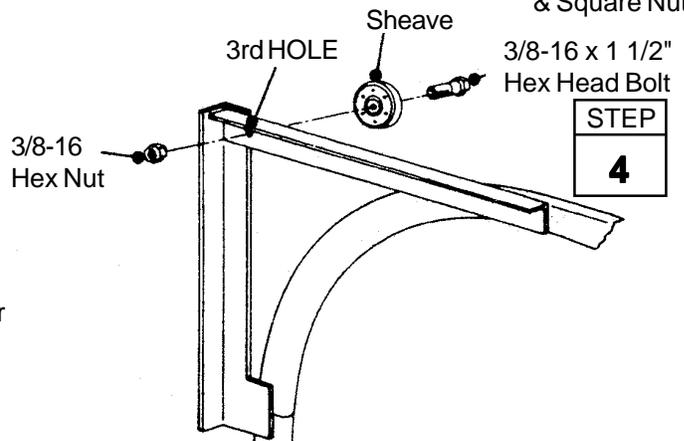
STEP
2



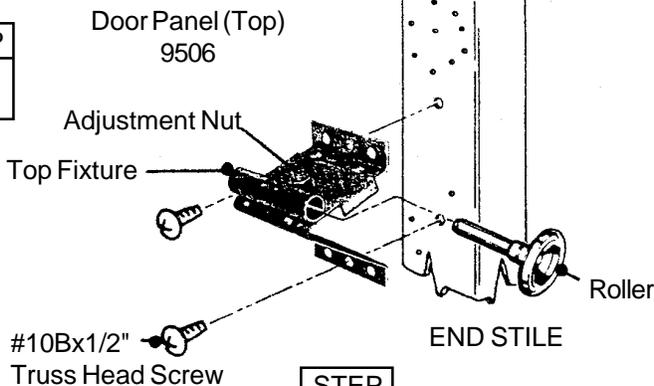
STEP
3



STEP
4



STEP
5



STEP
6

Step 29

Roll-Up-Door

BX45

CAUTION:

FROM THIS POINT ON, BE SURE TO USE EXTREME CAUTION UNTIL THE DOOR IS PROPERLY SPRUNG AND OPERATING

1 Attach "S" hooks to both springs.

Fasten **sheave** and **spring clevis** to opposite ends of springs using a 3/8-16x1 1/2" hex head bolt and 3/8 nut. Attach spring assemblies to spring support brackets.

2 Carefully raise the door to a fully open position and prop. Make sure the door is level in the opening. Slip the keyed end of the **keyed cable** over the studs of the bottom brackets. Thread cable over front sheave, around spring sheave and attach end to **cable lacer**. Attach cable lacer with "S" hook in a convenient hole in horizontal track angle, keeping equal tension on both springs, so that door hangs level. Once cable is installed, remove prop and lower door.

3 Adjust vertical tracks so rollers seat in "U" of track and bottom rollers fit snug against bottom brackets, but not too tight, so rollers will operate freely. When complete, tighten all track bolts.

4 Adjust striker plates for proper engagement with the latches. Adjust the top adjustable fixture in or out and tighten the nut and bolt to hold the fourth door panel against the lintel.

NOTE

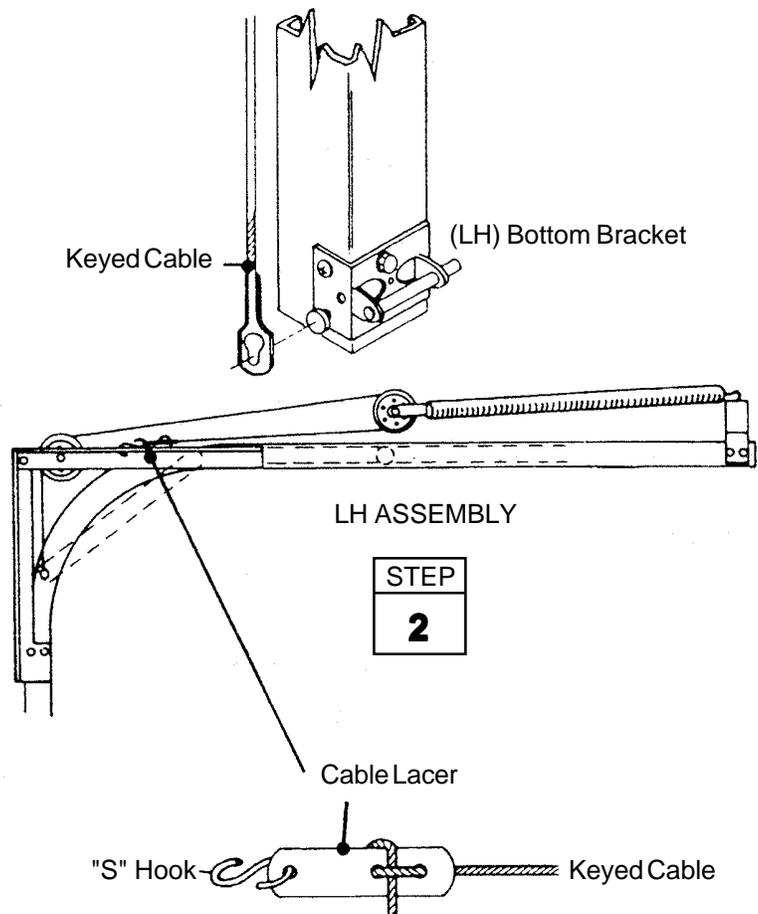
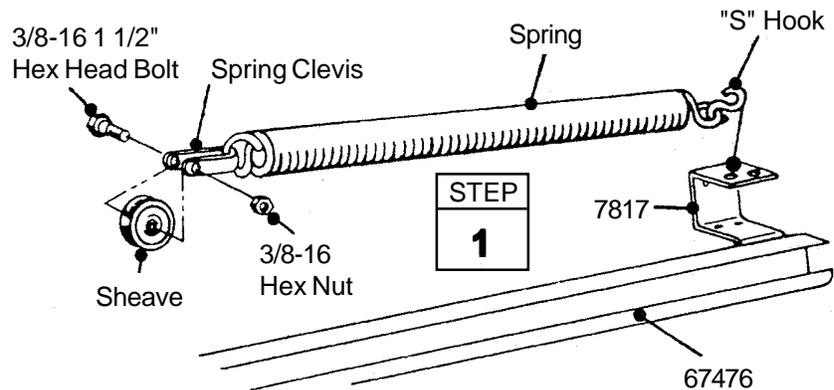
Recheck all door fasteners and hardware to be sure that each fastener is tight and secure.

CHECK

Be sure that the lift cables do not rub and/or the rollers do not bind in the track when door is opened or closed. Recheck the springs to be sure that there is equal tension on both springs. This is extremely important for proper door operation.

ADJUST

Springs by changing location of "S" hooks to another hole on support angle of the horizontal track.



Step 30

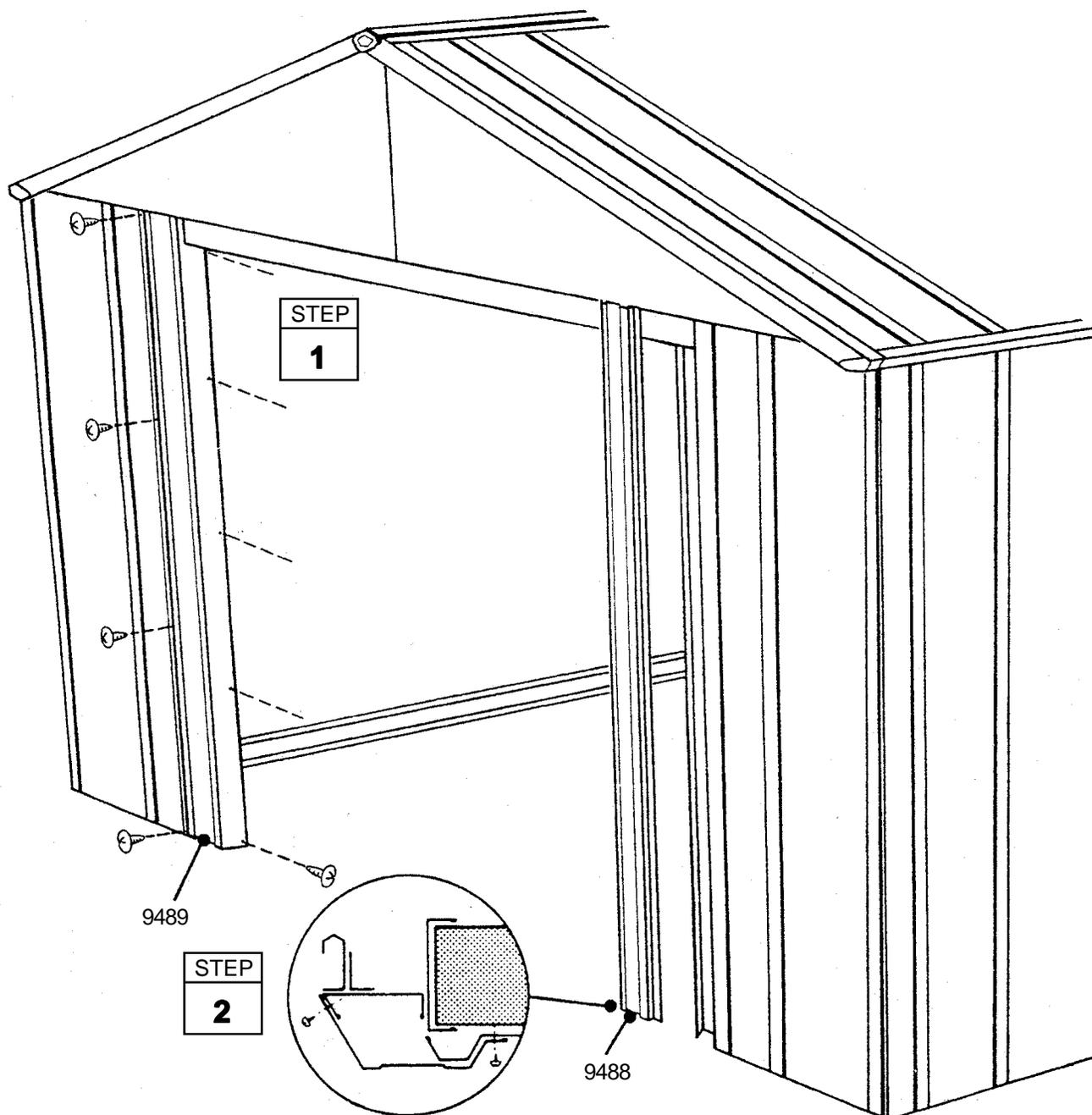
● Parts Needed For ● Right/Left Door Jambs

- 9488 Right Door Jamb (1)
- 9489 Left Door Jamb (1)

BX46

1 Position **right** and **left door jambs** to right and left track supports with notched end on top, facing inside building.

2 Fasten long flange to track support and short flange to front wall panel using screws and washers.



Step 31

Spring Restraint Cable

BX47

1 After door has been completely installed, raise door to a full open position. Remove nut from bolt holding the horizontal track to the spring support bracket, but do not remove bolt.

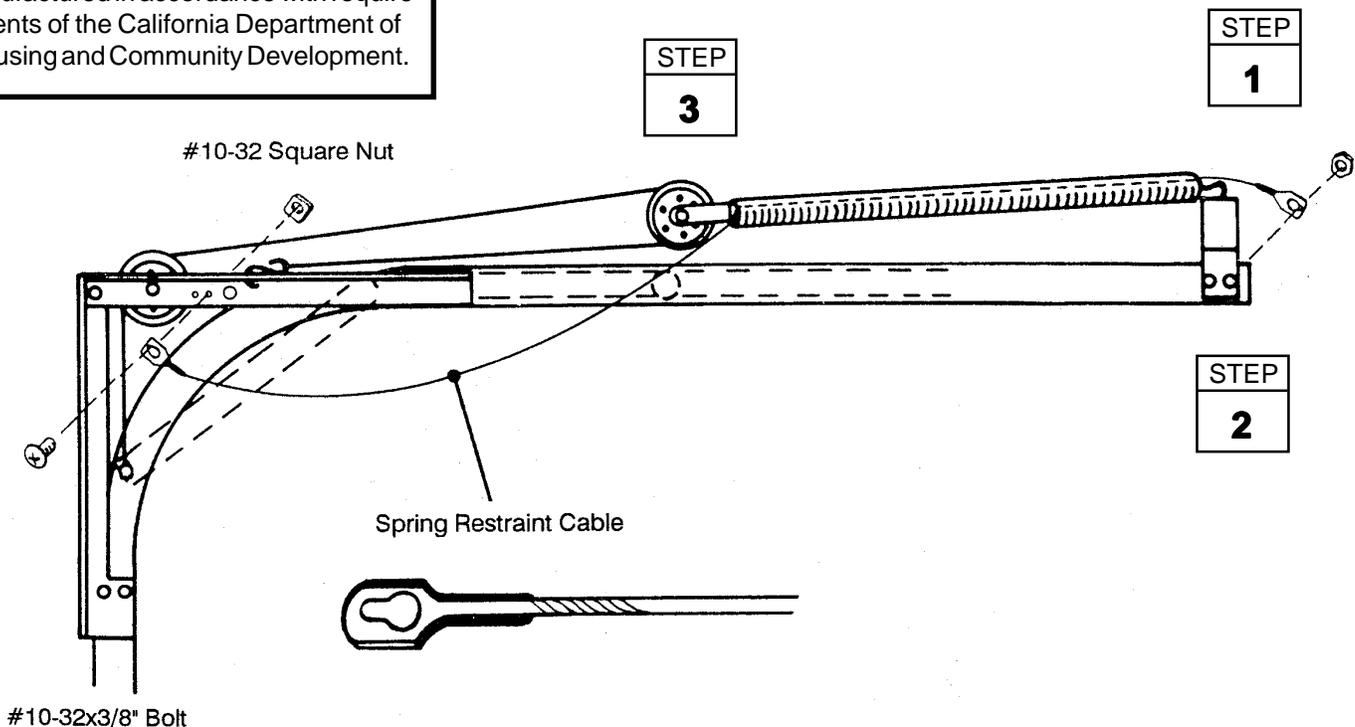
2 Slip keyed end of **spring restraint cable** over shaft of bolt. Replace nut and tighten securely.

3 Thread spring restraint cable through spring, making sure cable goes through spring loops on each end of spring. Fasten to hole shown on angle of the horizontal track using a #10-32x3/8" bolt and square nut through keyed end of cable.

4 Repeat above installation procedure for the other spring.

NOTE

This spring restraint cable has been manufactured in accordance with requirements of the California Department of Housing and Community Development.



VT1421**VT1431****697.68889****697.68890**

BX48

SOME FACTS ABOUT RUST

Rusting is a natural oxidizing process that occurs when bare metal is exposed to moisture. Problem areas include screw holes, unfinished edges, or where scrapes and nicks occur in the protective coating through normal assembly, handling and use. Identifying these natural rusting problem areas and taking some simple rust protection precautions can help to stop rust from developing, or stop it quickly as soon as it appears.

1. Avoid nicking or scraping the coating surface, inside and out.
2. Use all the washers supplied. In addition to protecting against weather infiltration, the washers protect the metal from being scraped by the screws.
3. Keep roof, base perimeter and door tracks free of debris and leaves which may accumulate and retain moisture. These can do double damage since they give off acid as they decay.
4. Touch up scrapes or nicks and any area of visible rust as soon as possible. Make sure the surface is free of moisture, oils, dirt or grime and then apply an even film of high quality touch-up paint.