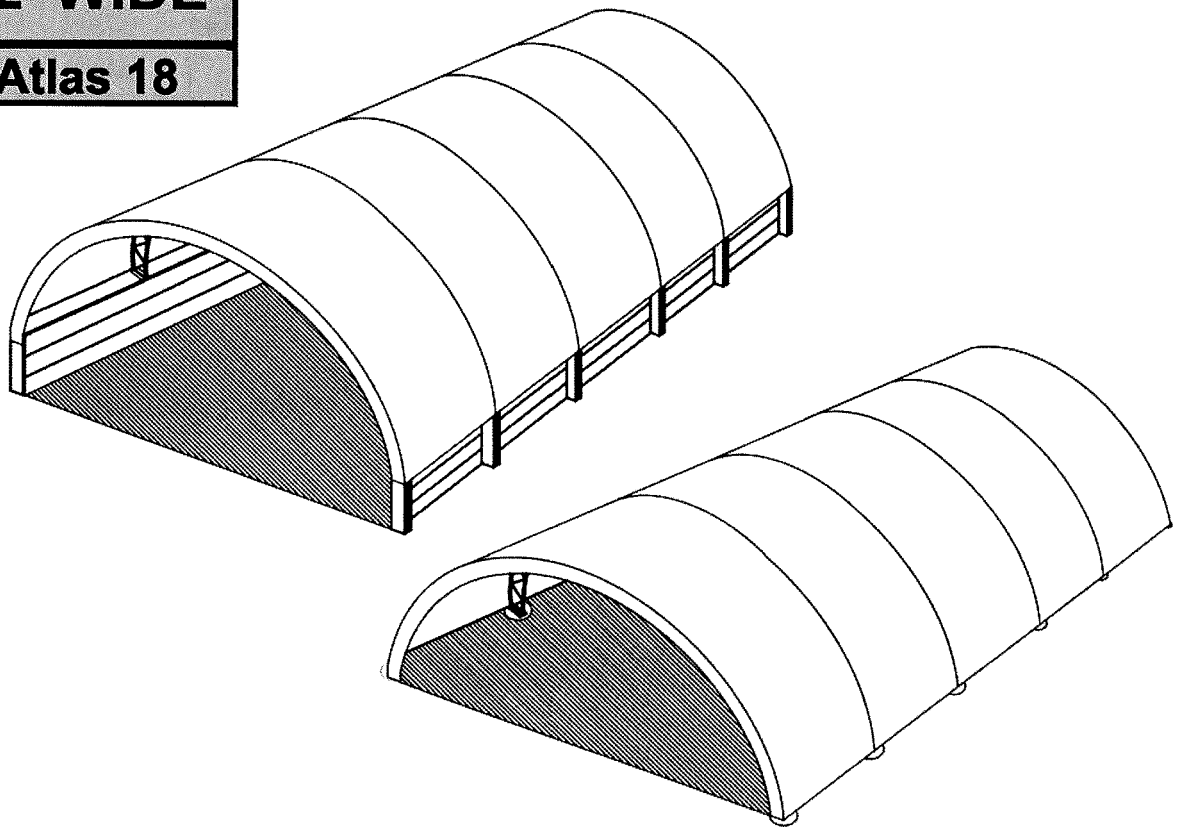
Owner / Installation Manual

Includes Warranty and Registration

42' WIDE

Atlas 18

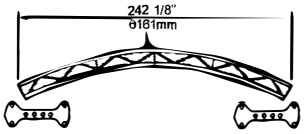


SEPARATE MANUALS
Are Supplied for
END ENCLOSURES

Atlas18 – 42 Manual Rev – 4

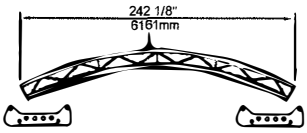
Building Components

115.21 #
52.26 kg

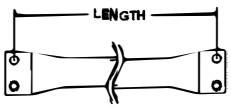


TRUSS-A18 32'/42'
COMMON / CENTRE **30003011**

114.31 #
51.85 kg



TRUSS-A18 32'/42' END / CENTRE **30003016**



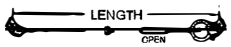
PURLIN - 14 GA

DIA.	LENGTH	WEIGHT
PA2.875 - 14S	14'0"/ 4267mm	35.25 # / 15.99kg
PA2.875 - 12S	12'0"/ 3658mm	30.19 # / 13.69kg
PA2.875 - 10S	10'0"/ 3048mm	25.34 # / 11.49kg
PA2.875 - 8S	8'0"/ 2438mm	20.28 # / 9.20kg
PA2.875 - 6S	6'0"/ 1829mm	15.43 # / 7.00kg
PA2.875 - 5S	5'0"/ 1524mm	12.95 # / 5.87kg

NOTE: Length = Arch Spacing

ARCH SPACING	LENGTH	WEIGHT
16-861230-9	230"/ 5842mm	
14-861210-9	120"/ 3048mm	
12-861190-9	190"/ 4826mm	

ARCH SPACING	LENGTH	WEIGHT
10-861173-9	173"/ 4394mm	
8-861157-9	157"/ 3988mm	



CROSS CABLE Ø 5/16" [8mm]

3.77 #
1.71 kg

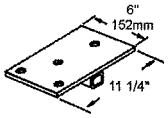


PLATE - SWIVEL COMMON A18
3/8" [8mm] PLATE **30003356**

3.77 #
1.71 kg

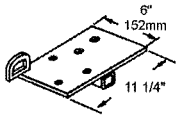


PLATE - SWIVEL LEFT END A18
3/8" [8mm] PLATE **30003366**

3.64 #
1.65 kg

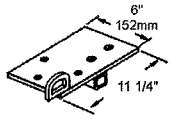
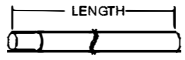


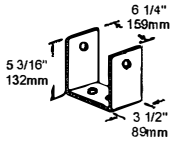
PLATE - SWIVEL RIGHT END A18
3/8" [8mm] PLATE **30003361**

41.52 #
18.83 kg



FASTENING TUBE
Ø 2.375 [80mm] -14 GA **FT2.375-245S**

5.81 #
2.64 kg
Ø 7/8"



BOOT COMMON GROUND MOUNT
3/8" [10mm] PLATE **30003350**

4.02 #
1.82 kg

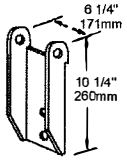
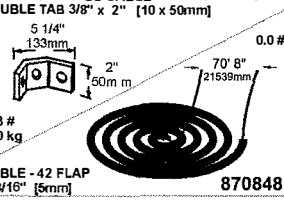


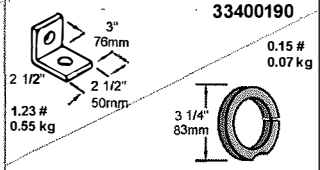
PLATE - WALL BRACKET
1/4" [6mm] PLATE **30003430**

BRACKET - CROSS CABLE **30012350**
DOUBLE TAB 3/8" x 2" [10 x 50mm]



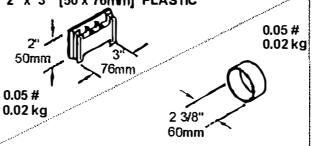
CABLE - 42 FLAP
Ø 3/16" [5mm] **870848**

BRACKET - WINCH MOUNT **33400190**



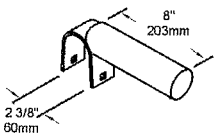
RUBBER FLAP PROTECTOR **890375**

FASTENING TUBE END PLUG **804191**
2" x 3" [50 x 76mm] PLASTIC

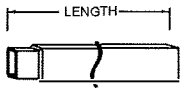


FASTENING TUBE END PLUG
Ø 2 3/8" [60mm] PLASTIC **804190**

2.50 #
1.13 kg



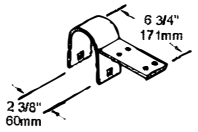
BRACKET- ROUND FT END SADDLE
2 3/8" (60 mm) TUBE **30011238**
2 7/8" (73 mm) TUBE **30022278**



TUBE - 2" x 3" HSS FASTENING (SWAGED) 14 GA
50 x 76mm

172" [4369mm]	39.13 # [17.75 kg]	**960125**
196" [4978mm]	44.59 # [20.22 kg]	**960128**

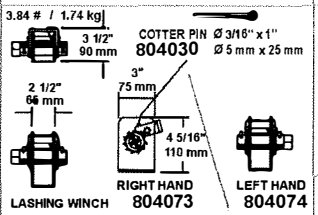
1.40 #
0.63 kg



BRACKET - RECT FT END SADDLE

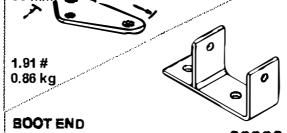
2 " (51 mm) TUBE	**30010200**
2 3/8" (60 mm) TUBE	**30010238**
2 7/8" (73 mm) TUBE	**30010278**

3.84 # / 1.74 kg



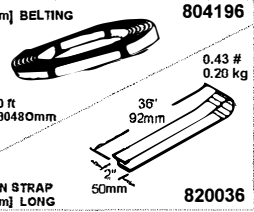
LASHING WINCH **804073** **804074**

BRACKET-WINCH MOUNT 320 END **30012340**



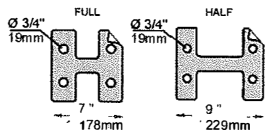
BOOT END
5/8 (10mm) PLATE **30003450**

1" [25mm] BELTING **804196**



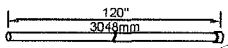
TIE DOWN STRAP
6' [183mm] LONG **820036**

0.01 #
0.01 kg



FULL COUPLER PROTECTOR **830700**
HALF COUPLER PROTECTOR **830900**

PVC TUBE Ø 1" [25mm] WHITE **810120**



2.80 #
1.27 kg

COVER

HEX BOLT 5/8" x 2" M16 x 50mm	**800218**
5/8" x 2 1/2" M16 x 65mm	**800055**
5/8" x 8" M16 x 200mm	**800901**
WASHER - FLAT - 5/8" [M16]	**802010**
NUT - 5/8" [M16]	**801050**
CARR BOLT 1/2" x 4" M12 x 100mm	**800920**

REDI-ROD 5/8" x 12" 0.83 # M16" x 300mm 0.38 kg	**800400**
HEX BOLT 1/2" x 2" M12 x 100mm	**800913**
WASHER - FLAT - 1/2" [M12]	**803154**
NUT - 1/2" [M12]	**803153**
1/4" - 14 x 3/4" (Tek 3) M6-14 x 19mm	**800020**
#12-24 x 1 1/4" (Tek 5) #12-24 x 32mm	**803020**

1/4" FENDER WASHER 6mm	**802000**
5/16" PIPE CLIP 8mm	**802005**
3/8" MAG CHUCK DRIVER 10mm	**804100**
PVC GLUE	**804520**

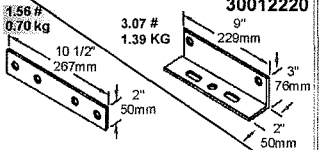
Buildings Over 144' / 44M

22.71 #
10.3 kg

EXTRUSION 336" [853mm] **850336**

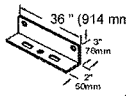
COVER JOINER - EXTRUSION-220 **30012220**

1.56 #
0.70 kg
3.07 #
1.39 KG



COVER JOINER - EXTRUSION-320 **30012320**

COVER JOINER - END FLAP



30012325

Norseal Butyl Tape
100FT Roll

804510

#12-14 x 1 1/4" (Tek 3) #12-14 x 32mm	**803040**
5/16" MAG CHUCK DRIVER 8mm	**800005**
RTV SILICONE	**804509**
LUBRICANT .95 L GREENLEE WINTERGEL	**804508**

IMPORTANT – READ MANUAL FIRST

Improper Site Preparation, Assembly and Maintenance may invalidate warranty and cause unnecessary and costly mistakes. If you have any questions contact your local dealer.

MAINTENANCE SCHEDULE

Failure to comply with this maintenance schedule will invalidate the warranty.

A. INSTALLATION ADJUSTMENT

1. The cover of your Atlas building may relax after installation. The fabric is designed to be under tension at all times to prevent wear and ensure a long life. Adjust the cover over the entire building to remove as many wrinkles and creases and bagging as possible. For most buildings 35 - 45 ft. lbs [48 - 60 N.m] of torque provides adequate cover tension. Adjust the end winches until the fastening pipe is level. Re-tension end flaps.

NOTE: ***Building covers installed during cooler weather tend to relax more than covers installed during warmer weather. If your cover was installed in cooler weather recheck its tightness on the first available warm sunny day.***

B. INSTALLATION INSPECTION - 1 WEEK MAINTENANCE

1. Cover - ensure the cover straps are secure and the cover is tensioned. For most buildings 35 - 45 ft. lbs [48 - 60N.m] of torque provides adequate cover tension. Adjust cover tension as required..
2. Belting - check for premature belting wear and ensure tightness.
3. End Flaps - ensure the flaps remain tight and securely fastened.
4. Aprons - ensure the aprons are securely fastened.
5. Cables - ensure the cables are tensioned according to the installation instructions.
6. Steel - Seal all surface penetration marks with a sealant or high zinc content paint.

C. QUARTERLY MAINTENANCE

1. Repeat above "INSTALLATION INSPECTION - 1 WEEK" a minimum of 4 times per year.

D. GENERAL MAINTENANCE

1. **Cover** - Clean with water and non-abrasive soap. Do not use solvents or chemicals. Use caution when using high pressure washers.
2. **Snowfall** - Snow accumulating on the cover could indicate that the cover needs re-tensioning. Remove snow and check tension.
3. Use caution when using heavy equipment or manually clearing away avalanched snow.

E. ACCIDENTAL DAMAGE

Cover: Sharp objects can puncture and damage the cover. Do not attempt to seal or repair with conventional materials. Call your local BRITESPAN representative. They will be able to assess the damage and facilitate replacement or provide a heat-weld service if the cover is repairable.

Structure: Report and document any damage to the steel structure, components or foundation immediately. Have your local BRITESPAN representative inspect the damage and provide a comprehensive evaluation. Perform any temporary or emergency repairs as determined. Replace or repair damanaged components as determined.

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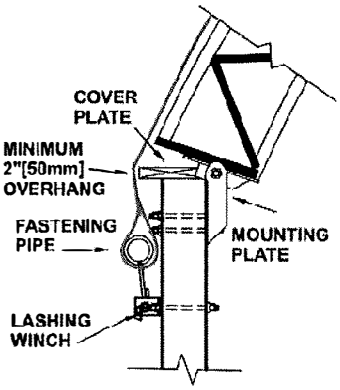
END WALLS ..... BACK COVER

STEP 1 DETERMINE INSTALLATION TYPE

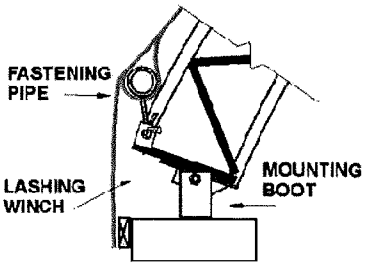
TYPE 220 INSTALLATION

- The mounting plate is attached to the inside of the foundation and secured through the foundation.
- The cover fastening pipe is located below the mounting plate, outside the foundation, and the cover lashing winches attach to the foundation.
- A **minimum 2" [50mm]** cover plate overhang **is required** to keep the fastening pipe and lashing straps from contacting mounting plate hardware.
- Typically, the cover does not have a finish/seal apron.



TYPE 320 INSTALLATION

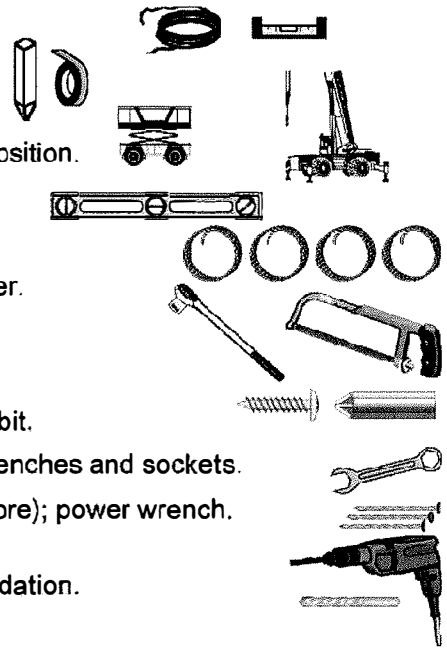
- The mounting boot attaches to the top surface of the foundation.
- The cover fastening pipe is located on the arch steel and the cover lashing winches attach to plates attached to the arch coupler plate.
- Typically the cover has an attached finish/seal apron.



Custom buildings may have variations of the these two installation types. Check with your Dealer or agent for details.

STEP 2 REQUIRED EQUIPMENT

1. String and string level for alignment.
2. Stakes and tape to mark the post/pile locations.
3. Movable scaffolding or a platform lift.
4. Crane or equivalent to lift arches into the vertical position.
5. Temporary bracing - dimensional lumber or rope.
6. Square level.
7. 2 to 4 lengths of cover pull rope 100' [31M] or longer.
8. Torque wrench.
9. Hacksaw.
10. 3/4" [#10 x 20mm] round head Philips screws and bit.
11. 13/16" [21mm] - 15/16"[24mm] - 1 1/8" [29mm] wrenches and sockets.
12. **Optional** -A transit (available from a local rental store); power wrench.



TYPE 220 Installation

13. Drill and Ø 5/8" [16mm] drill bit to drill through foundation.
14. 3 1/2" [90mm] spiral nails (galvanized) - 6 per post.

REQUIRED FOR BUILDINGS OVER 144'[44M] IN LENGTH

1. Drill - Appendix A
2. Rubber mallet - Appendix A
3. Caulking gun - Appendix B

BUILDINGS OVER 144' [44M] IN LENGTH See STEP 37, Page 25

STEP 3 SITE PREPARATION

BRITESPAN IS NOT RESPONSIBLE FOR FOUNDATION DESIGN OR INSTALLATION.

1 Start with a level site.

2. Measure and stake out the location of the corner posts/ piles A, B, C and D. Use an accepted method to make the foundation straight and square.
See Squaring A Foundation on Page 33 for assistance.

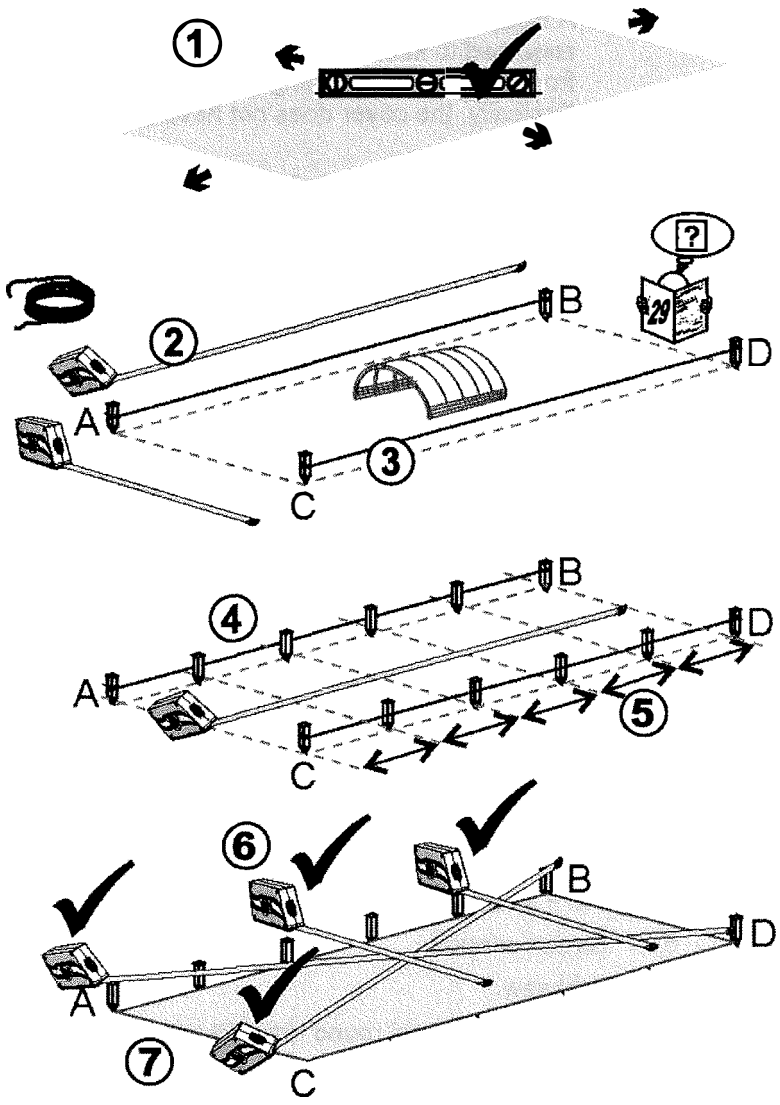
3. String lines from A to B and from C to D.

4. Measure and stake the arch on-center intervals along the length of the building using a **running measurement.**

5. Check linear measurements by measuring the distance between each stake. Distance should be equal.

6. Check the width measurements the entire length of the building.

7. Check the square of the foundation by measuring diagonally. Diagonal measurements should be equal.



NOTE: ***Buildings over 144' [44M] in length have more than one cover. Even with this feature, the foundation continues as a running measurement for the entire length of the building.***

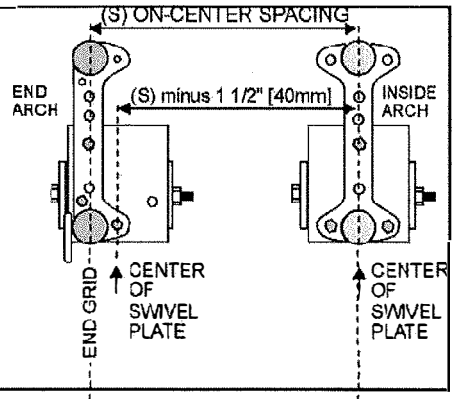
STEP 4 CRITICAL FOUNDATION PLANNING

In order to maintain the correct on-center arch spacing YOU MUST INSTALL the foundation so that the end mounting brackets and boots can be safely attached 1 1/2" [40mm] inside the end grid line.

TYPE 220 and TYPE 320
End arches have half coupler plates that bolt 11/2" [40mm] off-center on a 5 hole end swivel plate.

The inside arches have full coupler plates and bolt to the center of the 4 hole swivel plates.

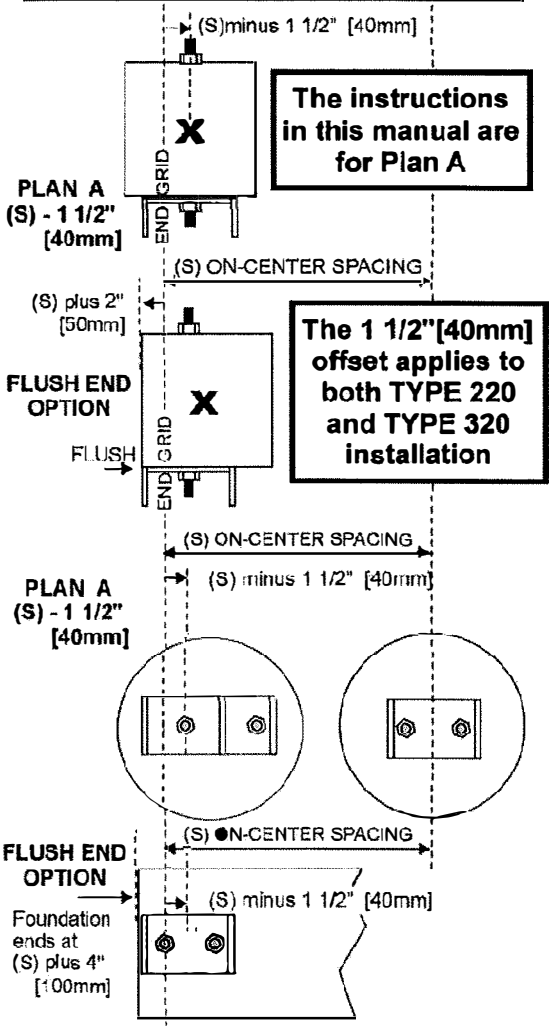
On-center arch spacing must be maintained when planning the foundation.



TYPE 220 INSTALLATION

PLAN A - RECOMMENDED
When you install the end posts with their centers aligned 1 1/2" [40mm] inside the end grid line the mounting bracket and swivel plate center will be positioned in the center of the post and the correct on-center arch spacing is maintained.

FLUSH END OPTION
To finish the end of the building steel flush to the outside edge of the end post INSTALL THE EDGE OF THE POST PLUS 2" [50mm] OUTSIDE the end grid line. The mounting bracket will be positioned flush to the edge of the post regardless of post size and the correct on-center arch spacing is maintained.



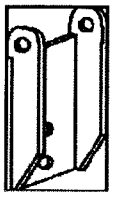
TYPE 320 INSTALLATION

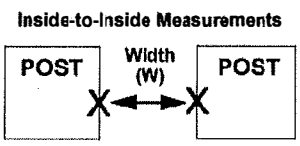
PLAN A - RECOMMENDED
When you install the end piles with their centers aligned 1 1/2" [40mm] inside the end grid line the mounting boot and swivel plate center will be positioned in the center of the pile and the correct on-center arch spacing is maintained.

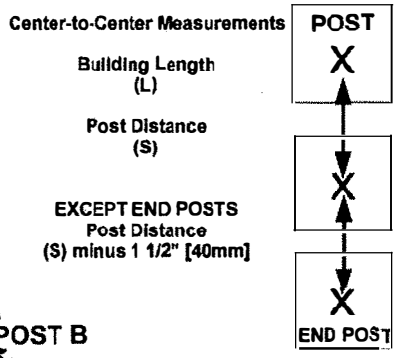
FLUSH END OPTION
To reduce the corner foundation protrusion, design the foundation so that the mounting boot can be installed as close to the edge of the foundation as allowable by the foundation's construction.
Example - Depending on anchor type - terminate the foundation at minimum (S) PLUS 4" [100mm] OUTSIDE the end grid line. Always check with a foundation engineer for appropriate anchor types and their installation requirements.
ALWAYS MAINTAIN the correct on-center arch spacing.

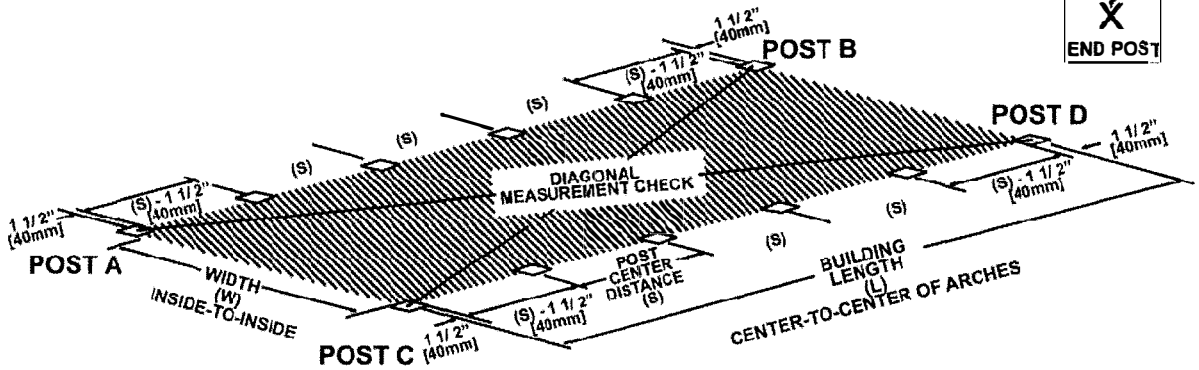
TYPE 320 INSTALLATION - Go to Page 11

TYPE 220 INSTALLATION









42' WIDE - Atlas 18

IN TO IN OF POST
(W) WIDTH = 40' 3 3/16"
[12324mm]

IMPORTANT

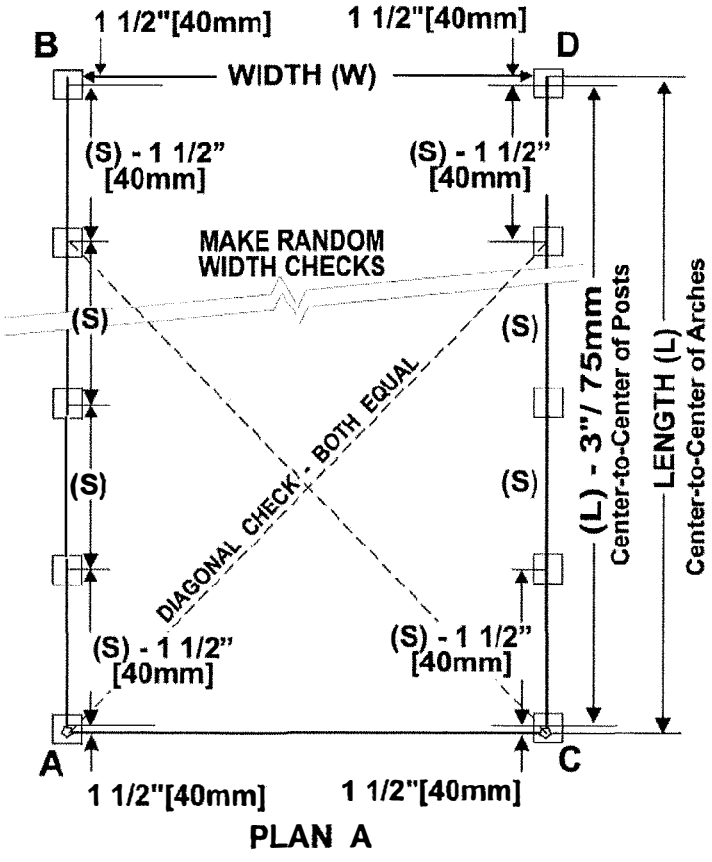
END ARCHES MOUNT 1 1/2" [40mm] OFFSET ON THE SWIVEL PLATE.

PLAN A

MEASURE AND INSTALL THE END POST CENTERS AT (S) MINUS 1 1/2" [40mm]. THIS WILL ALLOW THE END ARCH MOUNTING BRACKETS TO BE MOUNTED IN THE CENTER OF THE POST

OPTION

MEASURE AND INSTALL THE OUTSIDE EDGE OF THE END POST AT (S) PLUS 2" [50mm]. THIS WILL ALLOW FLUSH END FABRIC TERMINATION AT THE CORNERS.



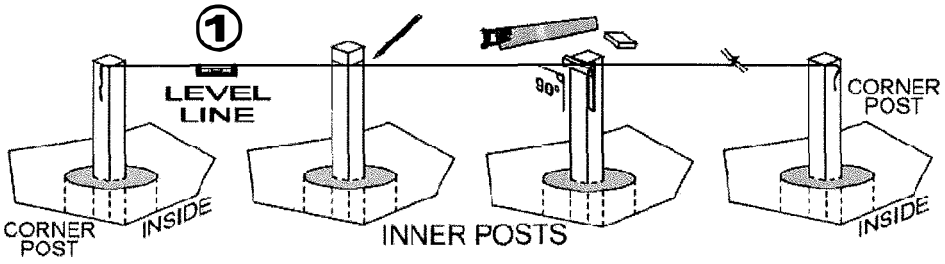
PLAN A

BUILDING ON-CENTER MEASUREMENT (S) IS AS ORDERED

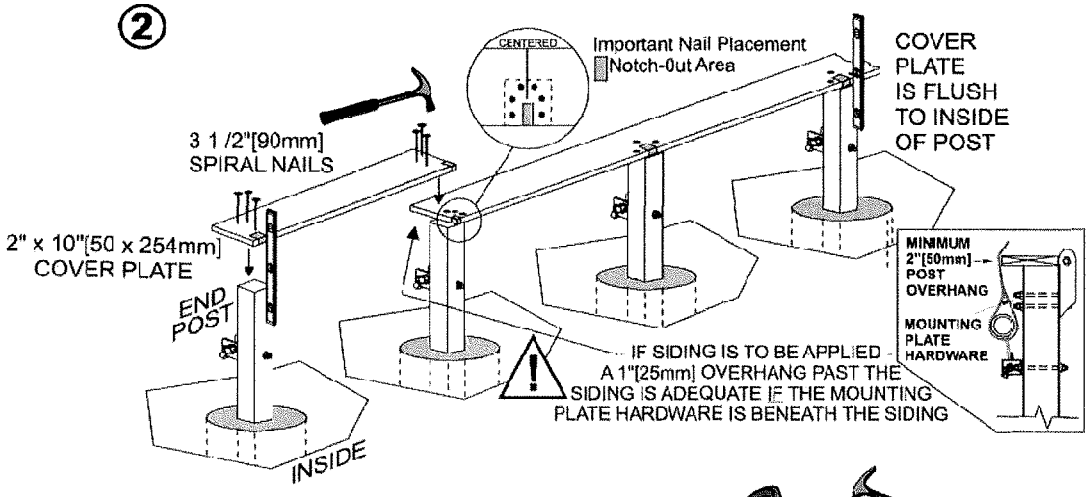
STEP 5 TYPE 220 - INSTALL THE SILL PLATE

THE 220 COVER CANNOT BE TENSIONED WITHOUT THE SILL PLATE

1. **CUT POSTS TO DESIRED FINISHED HEIGHT**
   Tie a string line to the corner posts and mark the cut lines on the inner posts. Cut off the tops of each post along the line.

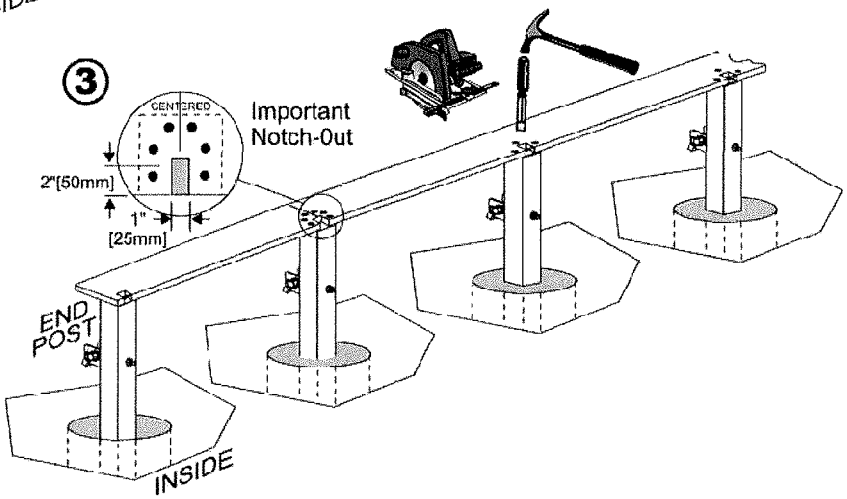


2. **INSTALL THE SILL PLATE**
   Using 3 1/2" [90mm] spiral nails (not supplied), securely fasten a minimum 2" x 10" [50 x 254 mm] dimensional lumber cover plate to the top of the posts.
   The inside edge of the sill plate is flush to the inside of the post. A 2" [50mm] post overhang is required to keep the cover clear of the mounting plate hardware.



3. Cut out 2" x 1" [50 x 25mm] notches in the cover plate at the posts where the mounting plate and boot swivel will be attached.

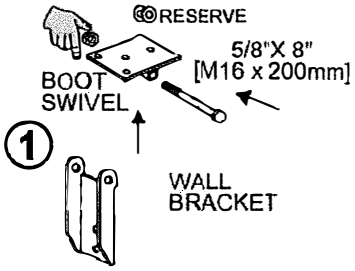
IMPORTANT: Mounting brackets and swivels will not install properly without notch outs.



STEP 6 TYPE 220 - INSTALL MOUNTING BRACKETS

1. Temporarily assemble one TYPE 220 mounting bracket and a **4**-hole INSIDE boot swivel using a 5/8" x 8" [M16 x 200mm] bolt/washers/nut.

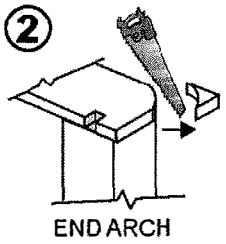
   Use this drill guide assembly for drilling the mounting holes in all the posts including the end posts.

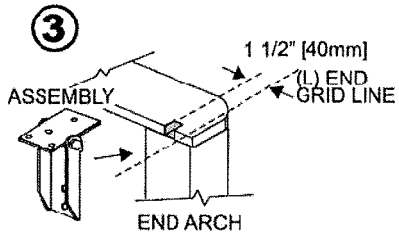


2. **END POSTS - Trim cover plate corners to eliminate a pressure point on the corner fabric.**

3. **END POSTS - The center of the bracket assembly mounts 1 1/2" [40mm] inside the end grid line.**

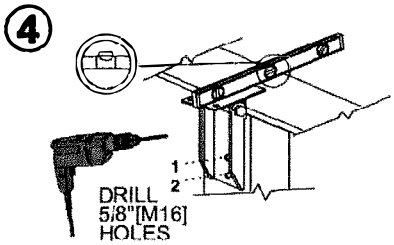
   Remember - If you have **not** installed the end posts at (S) minus 1 1/2" [40mm], the bracket will not be centered on the post.





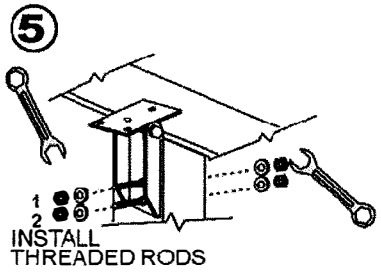
4. **INSIDE POSTS and END POSTS**
   Set the drill guide assembly on the post so that the swivel plate is level and drill 2 of Ø 5/8" [16mm] holes through the post.

   Use the drill guide assembly to drill 2 of Ø 5/8" [16mm] holes through every post.

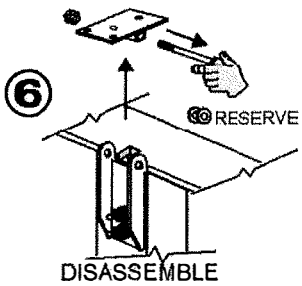


5. **ALL POSTS**
   Attach brackets - **not the drill guide assembly** - to the posts using 2 of Ø 5/8" [M16] threaded rod/washers/nuts.

   Install 2 of Ø 5/8" [M16] threaded rods every post.



6. Attach the drill guide assembly bracket on the last post and remove the boot swivel. The swivel attaches to an arch to allow a single pin assembly. See next Step 7.

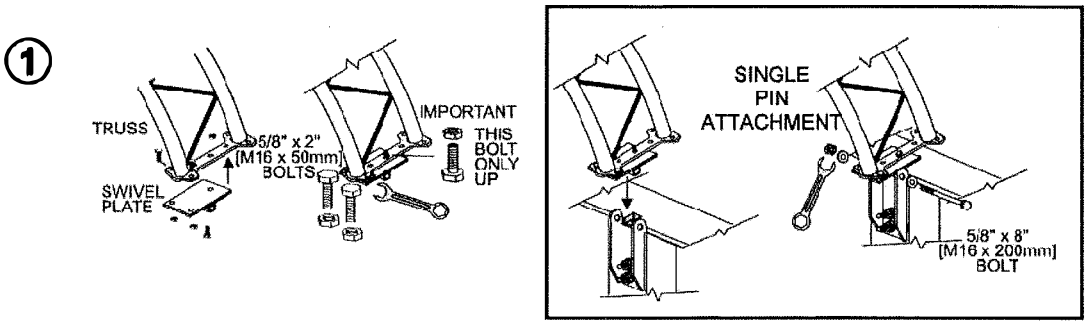


IMPORTANT
TWO threaded rods MUST BE INSTALLED every post.

Tighten all bolts/nuts to assembly torque value- See Page 32

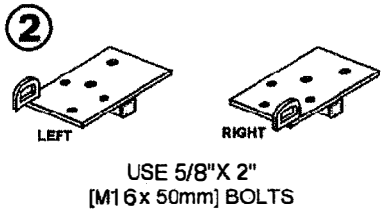
STEP 7 TYPE 220 - INSTALL SWIVEL PLATES

1. **INSIDE ARCHES** - Attach the **4** hole boot swivel plates to the base of the inside arches using 5/8" x 2" [M16 x 50mm] bolts/nuts. This will permit single pin attachment when installing the arches.



2. **END ARCHES** - Attach the **5** hole boot swivel plates with the welded on D-rings to the end arches using 5/8" x 2" [M16 x 50mm] bolts/nuts.

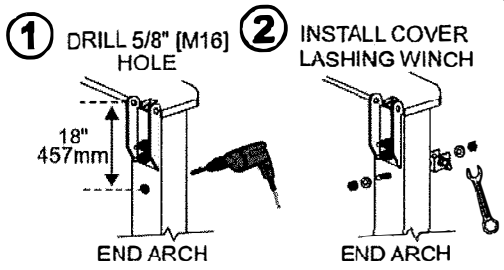
   The welded D-rings are always on the OUTSIDE of the end of the building.



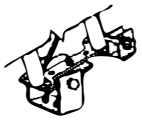
STEP 8 TYPE 220 - INSTALL COVER WINCHES

ALL POSTS

1. Drill a Ø 5/8" [16mm] hole through the center of each post 18" [457mm] below the top of the post.
2. Fasten a lashing winch to the outside of each post using 5/8" [M16] threaded rod, nuts, and washers. Tighten securely. *Mount lashing winches with the safety bar facing down.*



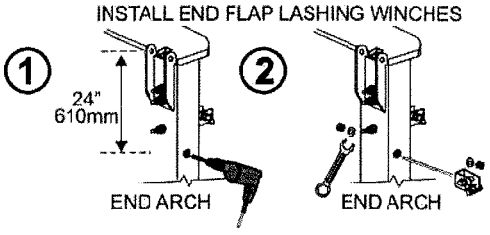
NOTE: If you are installing an eave on your building the cover lashing winches are not mounted on the posts. Cover winches are installed on the base coupler using a winch mount bracket. See *STEP 23* for details.



STEP 9 TYPE 220 - INSTALL END FLAP WINCHES

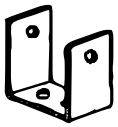
ALL CORNERS

1. Drill a Ø 5/8" [16mm] hole through the center of each corner post 24" [610mm] below the top of the post.
2. Fasten a lashing winch to the outside (end) of each corner post using 5/8" [M16] threaded rod, nuts, and washers. Tighten securely. *Mount lashing winches with the safety bar facing down.*

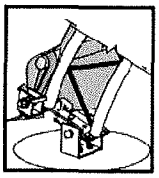


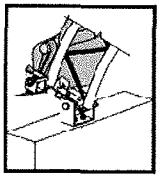
Tighten all bolts/nuts to assembly torque value- See Page 32

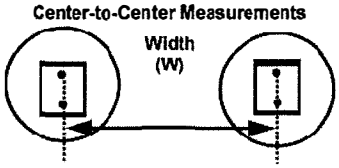
TYPE 220 INSTALLATION - Go directly to *STEP 12* on Page 13

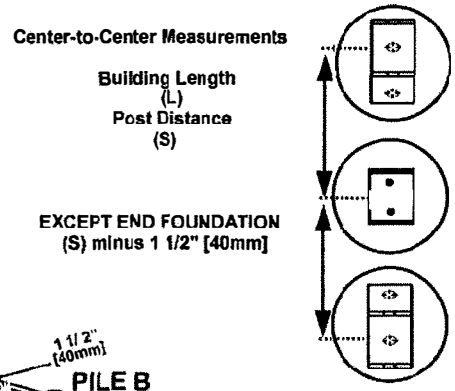


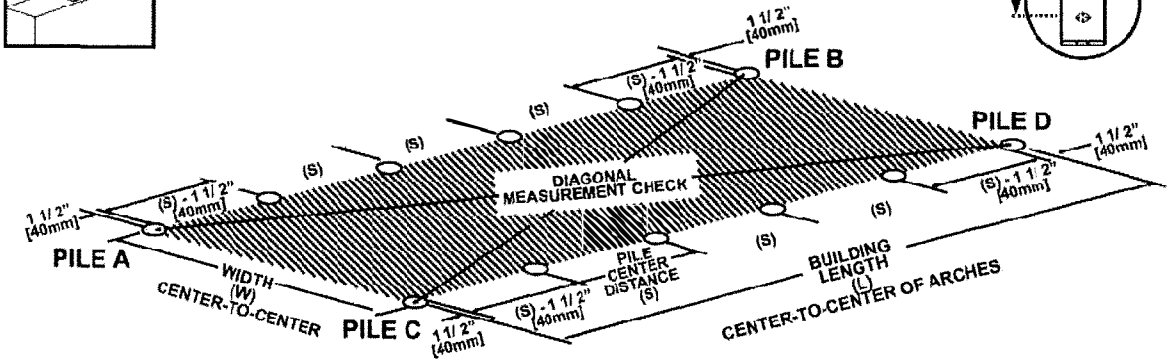
TYPE 320 INSTALLATION











42' WIDE - Atlas 18

C/C ANCHOR BOLT
(W) WIDTH = 40' 2 11/16"

IMPORTANT

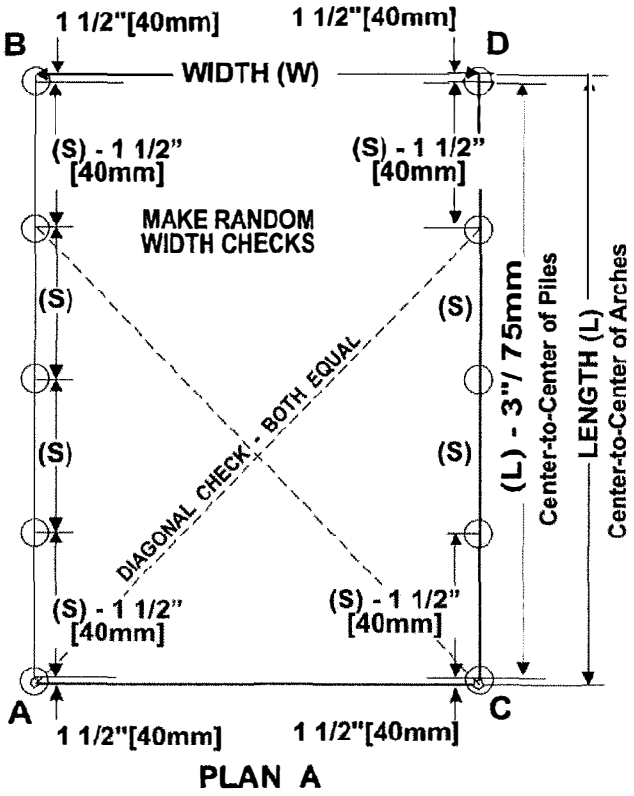
END ARCHES MOUNT 1 1/2" [40mm] OFFSET ON THE SWIVEL PLATE.

PLAN A

MEASURE AND INSTALL THE END PILE CENTERS AT (S) MINUS 1 1/2" [40mm]. THIS WILL ALLOW THE END ARCH MOUNTING BOOTS TO BE MOUNTED IN THE CENTER OF THE PILE.

OPTION

MEASURE AND INSTALL THE OUTSIDE EDGE OF THE FOUNDATION AT (S) PLUS 4" [100m]. TO REDUCE FOUNDATION PROTRUSION AT THE CORNERS.



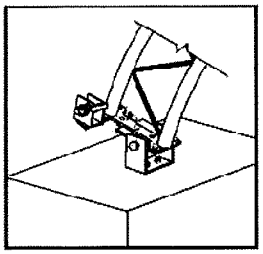
PLAN A

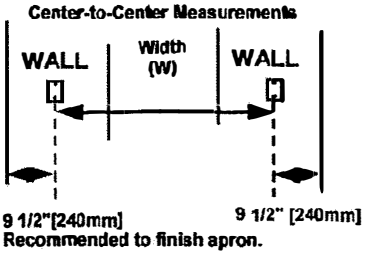
BUILDING ON-CENTER MEASUREMENT (S) IS AS ORDERED

TYPE 320 - INSTALLATION continued

WIDE FOUNDATIONS

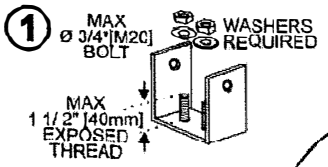
Planning the foundation so that the boot mounts 9 1/2" [240mm] from the outside edge will permit the apron to finish straight down from the cover's tensioning point.





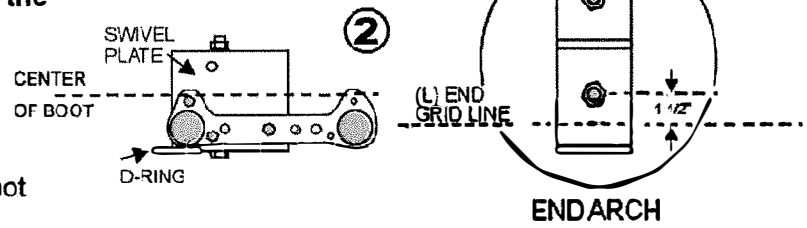
STEP 10 TYPE 320 - INSTALL MOUNTING BOOTS

1. ANCHOR BOLTS - Maximum Ø 3/4" [M20] bolts. Maximum 1 1/2" [40mm] exposed thread. Washers required
Tighten all anchor bolts securely.



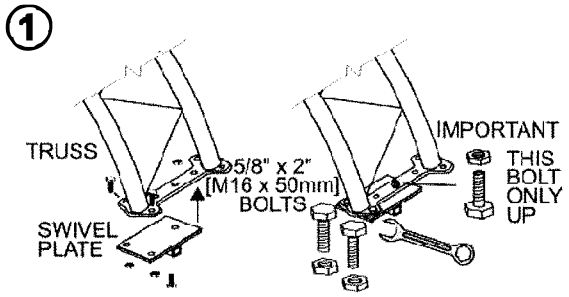
2. **END ARCHES - The center of the mounting boot mounts 1 1/2" [40mm] inside the end grid line.**

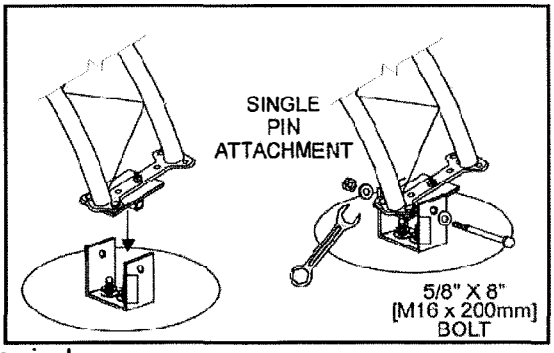
Remember - If you have not installed the end piles at (S) minus 11/2" [40mm], the bracket will not be centered on the pile.



STEP 11 TYPE 320 - INSTALL SWIVEL PLATES

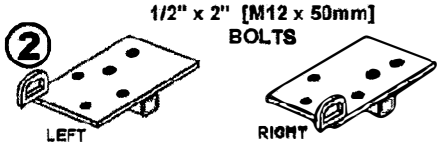
1. **INSIDE ARCHES** - Attach the 4 hole boot swivel plates to the base of the inside arches using 5/8" x 2" [M16 x 50mm] bolts/nuts. This will permit single pin attachment of the arches.





2. **END ARCHES** - Attach the 5 hole boot swivel plates with the welded on D-rings to the end arches using 5/8" X 2" [16mm x 50mm] bolts/nuts.

The welded D-rings are always on the OUTSIDE of the end of the building.

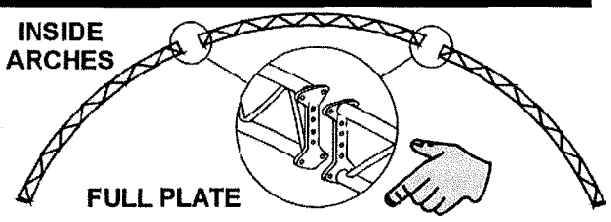


Tighten all bolts/nuts to assembly torque value- See Page 32

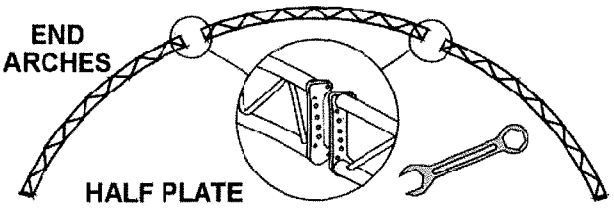
STEP 12 ASSEMBLE THE ARCHES

IDENTIFY AND LAYOUT ARCH TRUSSES.

1. Identify and separate the inside trusses from the end trusses. Inside trusses have full coupler plates. End trusses have half coupler plates.



42' WIDE - Atlas 18
Each completed arch requires 3 truss pieces



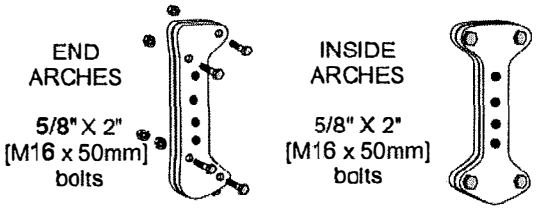
ASSEMBLE ARCHES

2. **END ARCHES**

   4 of 5/8" x 2" [M16 x 50mm] bolts/nuts

3. **INSIDE ARCHES**

   4 of 5/8" x 2" [M16 x 50mm] bolts/nuts



LEAVE THE 4 HOLES IN THE CENTER OF THE COUPLER EMPTY

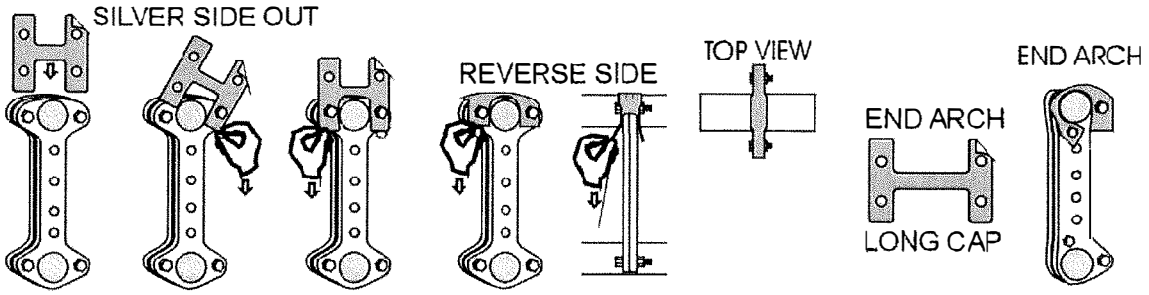
Tighten all bolts/nuts to assembly torque value- See Page 32

STEP 13 INSTALL COUPLER PROTECTORS

The coupler protectors fit OVER the bolt head and nuts of the TOP of the ASSEMBLED arches.

The coupler protectors ARE REQUIRED to protect the fabric cover.

WARNING: *FABRIC DAMAGE WILL OCCUR IF NOT INSTALLED.* Remove or smooth any burs or irregularities before installing.



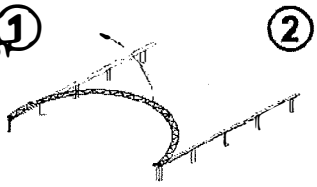
IMPORTANT - Do not attempt to install the coupler protectors UNDER the bolts or nuts. The fabric will deform, twist and tear off.

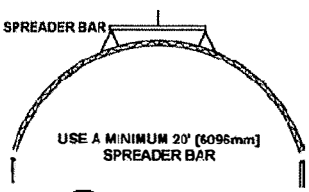
WARNING: ***TRUSS WILL FAIL AND WARRANTY IS VOID IF A SPREADER BAR IS NOT USED.***

STEP 14 ERECT END ARCH

TYPE 220

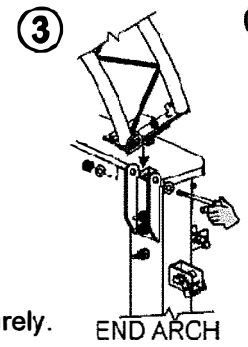
MOUNTING BRACKETS AND SWIVELS MUST BE ATTACHED BEFORE ERECTION.

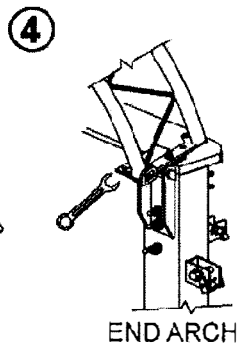


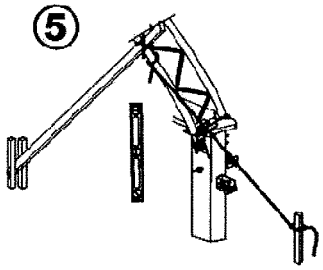


MOVE *END* ARCH INTO POSITION

1. Position an end arch so that the arch can be tilted upright.
2. Attach a spreader bar to the arch and elevate the truss into its upright position, and center it on top of the end posts. Use extreme caution when lifting arches.
3. Lower the arch into position and install a 5/8" x 8" [M16 x 200mm] bolt/nut.
4. Tighten the 5/8" x 8" [M16 x 200mm] bolt/nut securely.
5. Plumb and brace the arch securely using rope or dimensional lumber.





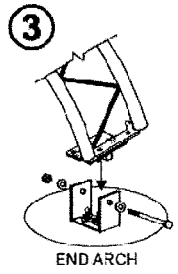


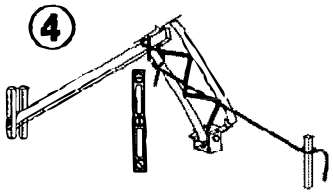
TYPE 320

MOUNTING BOOTS AND SWIVELS MUST BE ATTACHED BEFORE ERECTION.

MOVE *END* ARCH INTO POSITION

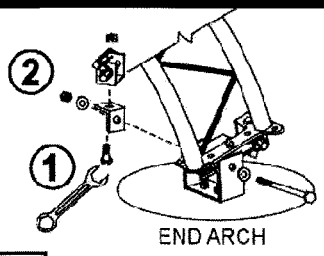
1. Position an end arch so that the arch can be tilted upright. (See ① TYPE 220 illustration above)
2. Attach a spreader bar to the arch and elevate the truss into its upright position, and center it on top of the end piles. Use extreme caution when lifting arches. (See ② TYPE 220 illustration above)
3. Lower the arch into position and install a 5/8" x 8" [M16 x 200mm] bolt/nut.
4. Plumb and brace the arch securely using rope or dimensional lumber.





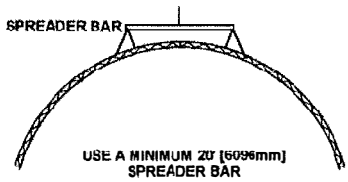
STEP 15 TYPE 320 - INSTALL END FLAP WINCHES

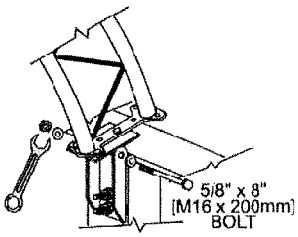
1. **End Arches Only** - Attach an end flap lashing winch to a winch mount bracket using a 5/8" x 2" [M16 x 50mm] bolt/nut.
2. Attach the bracket/winch assembly to the inside of arch boot 5/8" x 8" [M16 x 200mm] bolt. Tighten securely.

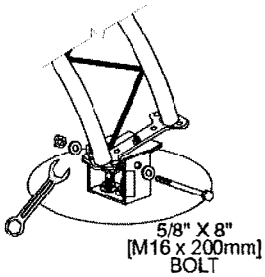


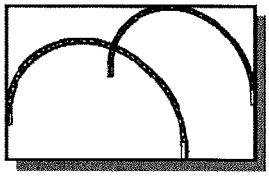
Tighten all bolts/nuts to assembly torque value- See Page 32

STEP 16 ERECT THE NEXT ARCH



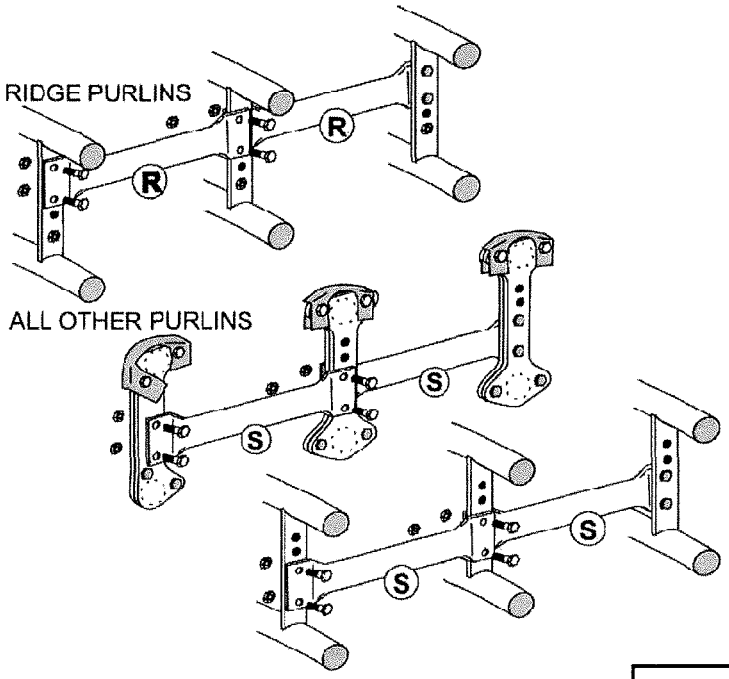


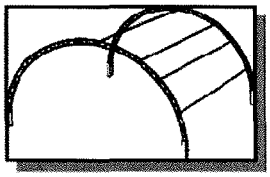




WASHERS ARE REQUIRED

STEP 17 INSTALL PURLINS





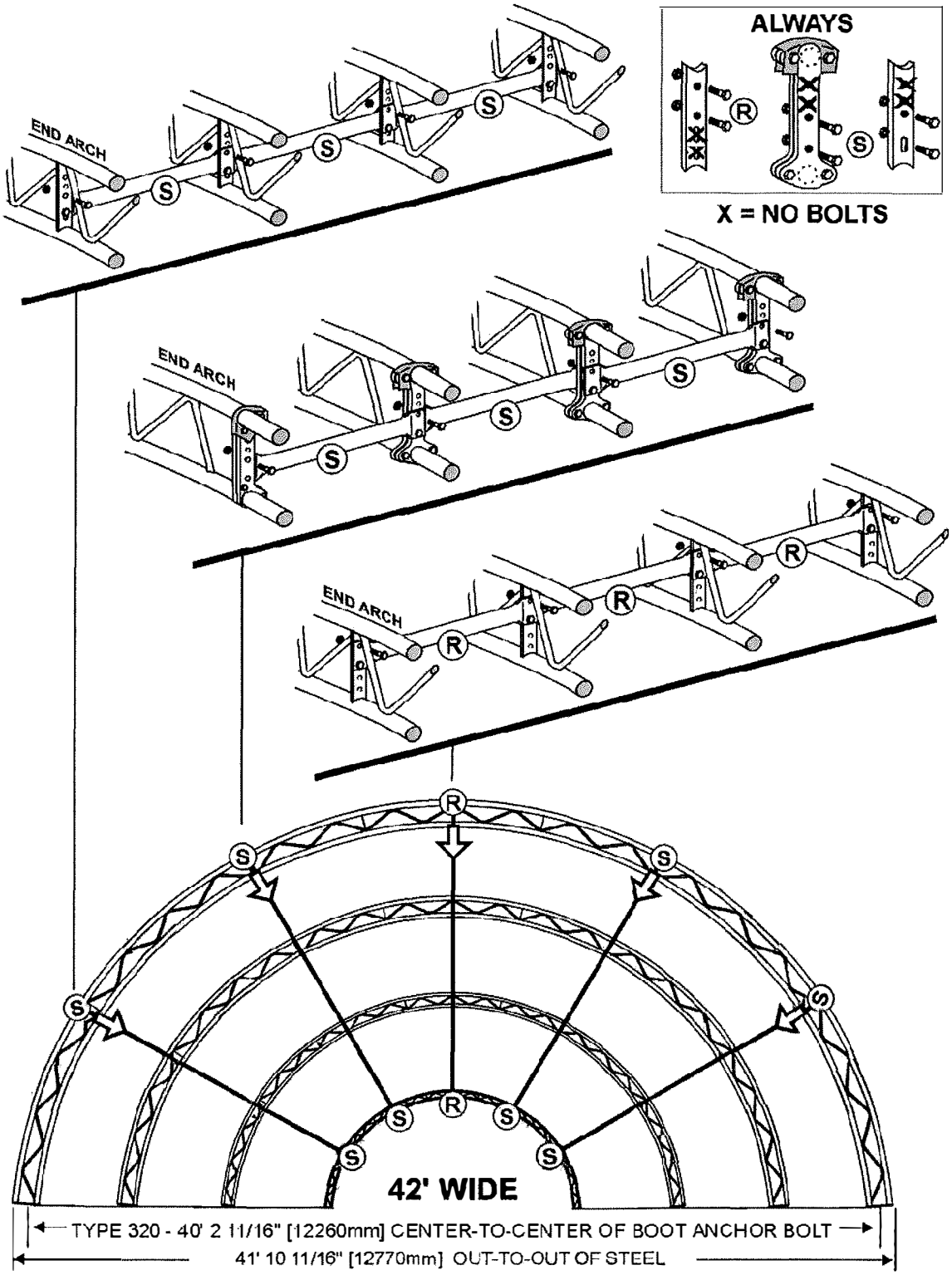
ATTACH PURLINS
USING
5/8" x 2" [M16 x 50mm]
BOLTS

LABOUR SAVING HINT
ARCHES WITH CROSS CABLES
Do not install CENTER HOLE bolts.
See Step 18 next page.

IMPORTANT

INSTALL ALL PURLINS BETWEEN THESE FIRST TWO ARCHES BEFORE PROCEEDING

Tighten all bolts/nuts to assembly torque value- See Page 32

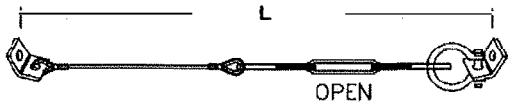


Tighten all bolts/nuts to assembly torque value- See Page 32

STEP 18 INSTALL CROSS CABLES

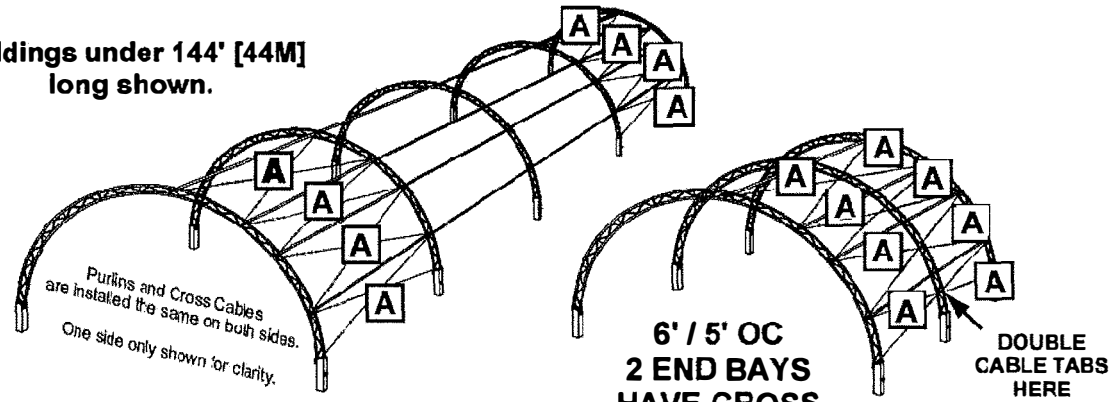
Cross cabled end arch (or arches) create a structural frame for the rest of the building.

This Atlas 42 building uses three cable lengths.



NOTE: Arch spacing determines cable length. More than one cable length is supplied when any portion of the building has a different arch spacing. See Building Components, Page 1, of this manual for cable lengths for specific arch spacings.

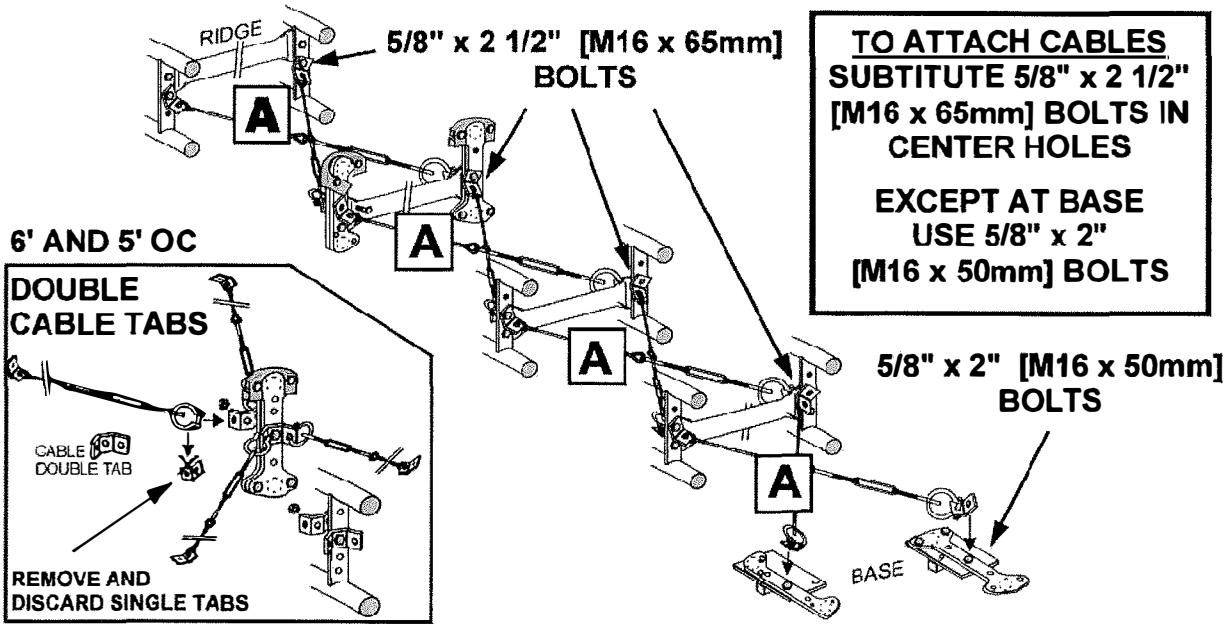
Buildings under 144' [44M] long shown.



16' / 14' / 12' / 10' / 8' OC ONE END BAY HAS CROSS CABLES

6' / 5' OC 2 END BAYS HAVE CROSS CABLES

CABLES ALWAYS ATTACH AT THE CENTER HOLE

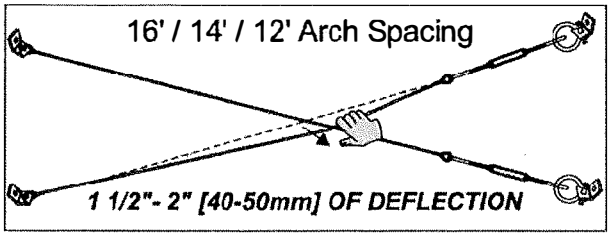


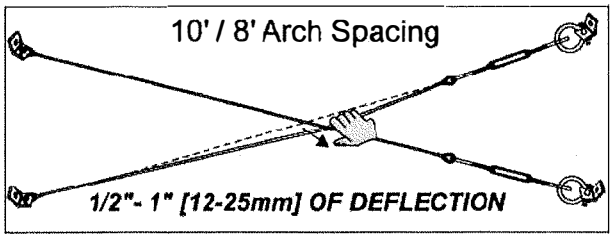
TO ATTACH CABLES SUBTITUTE 5/8" x 2 1/2" [M16 x 65mm] BOLTS IN CENTER HOLES

EXCEPT AT BASE USE 5/8" x 2" [M16 x 50mm] BOLTS

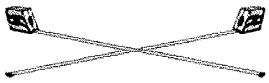
Tighten all bolts/nuts to assembly torque value- See Page 32

STEP 19 TENSION CROSS CABLES

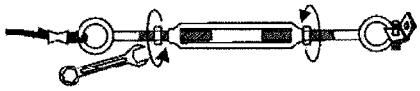




MAKE CROSSED CABLE LENGTHS EQUAL TO SQUARE



STEP 20 TIGHTEN CABLE TURNBUCKLE LOCKNUTS



STEP 21 ERECT ALL REMAINING ARCHES

ERECT ALL REMAINING ARCHES. AND INSTALL ALL PURLINS AND ALL CROSS CABLES

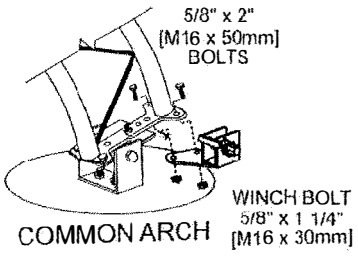
STEP 22 BUILDINGS OVER 144' [44M] - SEE APPENDIX A

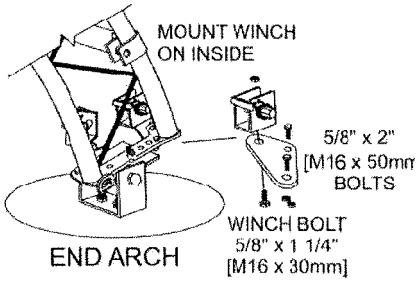
If you are erecting a building that is over 144' [44M] long go to APPENDIX A, Item 1, on Page 26 of this manual for cross cable placement and cross cable double tab placement.

STEP 23 TYPE 320 - INSTALL COVER LASHING WINCHES

1. Install lashing winch mounting brackets on the underside of each arch base EXCEPT 5' [1524mm] oc and 6' [1830mm] oc buildings - install every other arch - match placement to notches in cover.

Inside Common Arches -
1 bracket required
5/8" x 2" [M16 x 50mm] bolts/nuts
End Arch -
1 bracket only
5/8" x 2" [M16 x 50mm] bolts/nuts



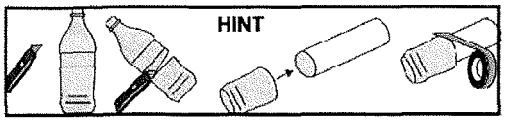


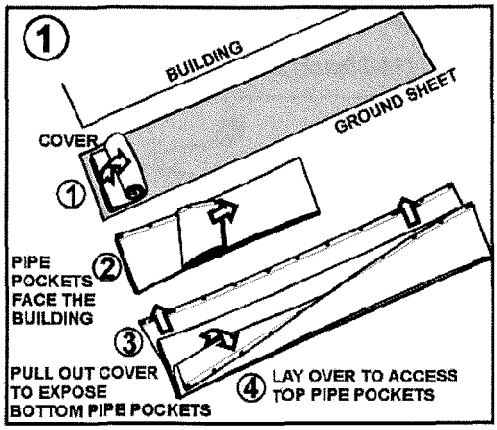
2. Attach lashing winches using 5/8" x 1 1/4" [M16 x 30mm] bolts/nuts.

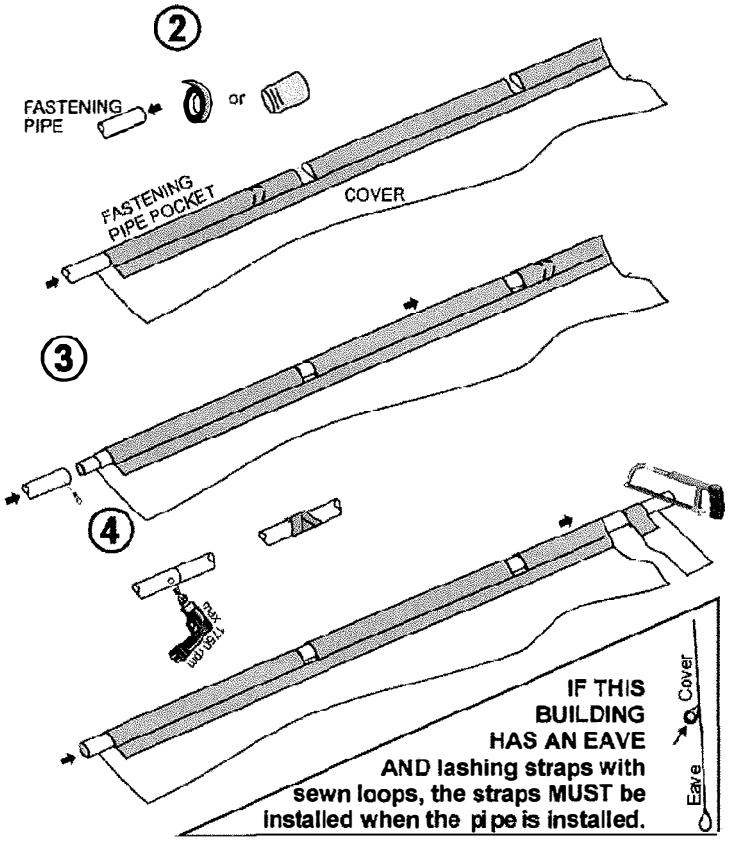
Tighten all bolts/nuts to assembly torque value- See Page 32

STEP 24 INSTALL COVER FASTENING PIPES

Use a ground sheet to protect the cover while it is being prepared for installation.



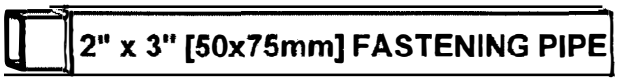




1. Roll out the cover and leave a small walk area along the building. Align the cover evenly to each end of the frame.
2. Pipe raw edge can damage pocket fabric. Wrap or cap leading edge of pipe.
3. Install BOTH fastening pipes.
4. Use 1/4 x 3/4" [M6 x 20mm] Tek self-drilling screws to fasten the pipes together. Wrap with duct tape (tape optional - not supplied).

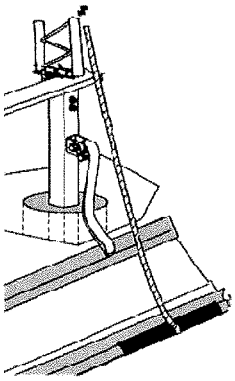
NOTE: ***Fastening pipes are supplied in factory cut lengths. Some buildings will require measured cuts, possibly on two lengths of pipe.***

BUILDINGS USE 2" x 3" [50 x 75MM] RECTANGULAR FASTENING PIPE OR 2 3/8" [60MM] ROUND FASTENING PIPES



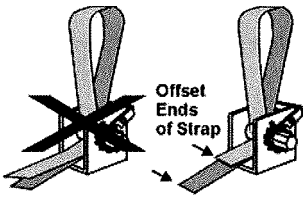
OR

2 3/8" [60mm] ROUND FASTENING PIPE

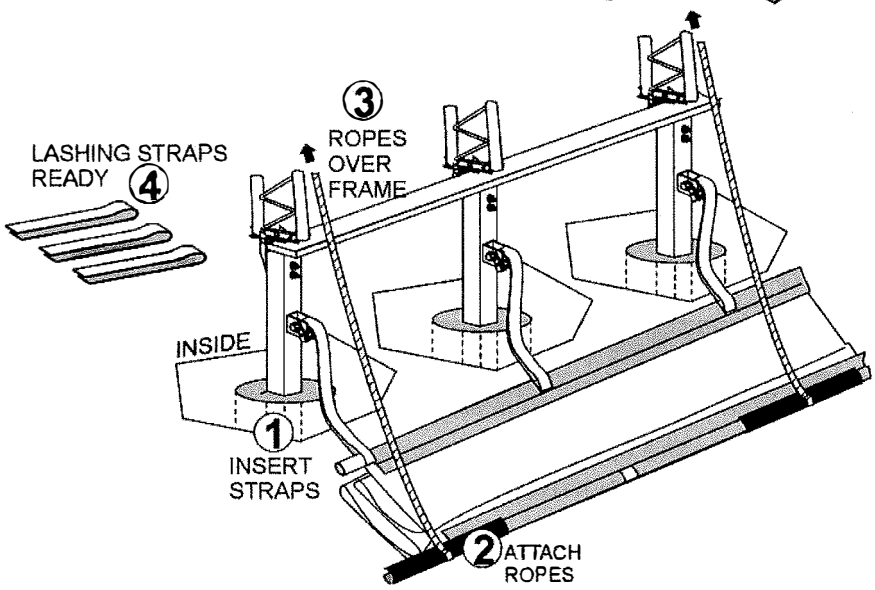


STEP 25 INSTALL THE COVER

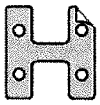
NOTE: ***DO NOT install the cover onto the frame in high wind conditions. A slight breeze is the most advantageous for cover installation. Take advantage of the breeze by pulling the cover up over the arches with the breeze blowing into the cover . . . like a sail filled with air.***



1. Loop the lashing straps around the inner fastening pipe and secure both ends of the straps in the lashing winches.
2. **On the opposite side of the cover** (the side of the cover that is furthest from the frame), tie several ropes, approximately 30 feet [9M] apart, to the steel fastening pipe through the notched hole.
3. Throw the free end of the ropes over the frame to the opposite side of the building.
4. Ready the lashing straps on the opposite side of the building.



CHECK LIST:



- **<u>BEFORE</u> proceeding ensure that the cover is POCKET SIDE up.**
- **ALL coupler plates have coupler protectors.**
- **BOTH fastening pipes are in place.**
- **Fastening straps near side are SECURED in the lashing winches.**
- **Ropes are secured to the OPPOSITE pipe and passed over the frame.**
- **NO WIND or there can be a light breeze (ideally from rope pulling side).**

USE CAUTION WHEN INSTALLING COVERS WITH MOTORIZED EQUIPMENT.
PRE-ARRANGE COMMUNICATION DEVICES OR HAND SIGNALS TO RELAY DIRECTIONS TO EQUIPMENT OPERATORS.

5. Pull the cover over the frame EVENLY, CAREFULLY and SLOWLY.
6. Loop the lashing straps around the fastening pipe and **loosely secure** in the lashing winches. <u>DO NOT TIGHTEN.</u> Adjust the cover so that it is square and evenly centered on the frame. *The end flaps should overhang evenly at both ends.*

NOTE: ***DO NOT LEAVE THE COVER UNATTENDED UNDER ANY CIRCUMSTANCES until final assembly and tightening has been completed.***

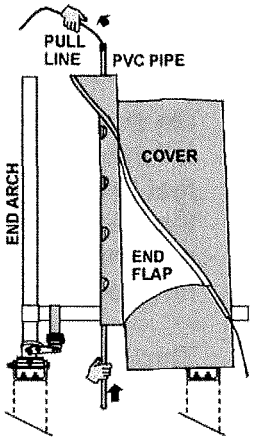
STEP 26

INSTALL COVER PVC PIPE

1. Once the cover is on the frame and is sitting centered, square and straight, visually check to ensure the cover extends approximately 12" [305mm] on both ends of the building.

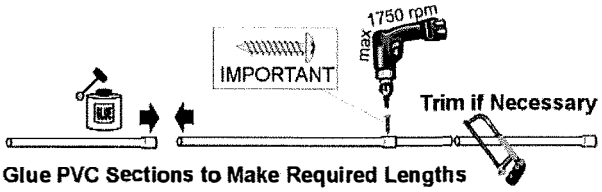
2. Drill a hole in the smooth end of one PVC tube and tie the pull line to it. Wrap this leading end with duct tape.

Hint - A small funnel or cone (not supplied) on the leading edge of the PVC will help spread the PVC pocket.



3. Push - Pull the PVC into the pocket. Glue and screw the lengths of PVC together as you proceed.

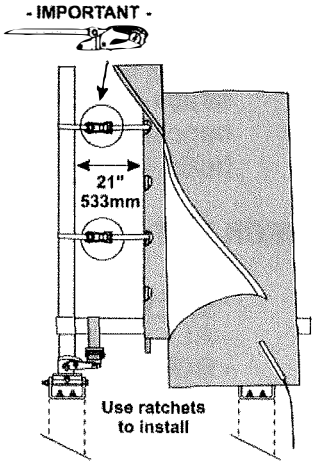
IMPORTANT - ALWAYS install a screw (not supplied) at every connection. PVC glue looses adhesive qualities when applied in cold weather and in damp and humid conditions.



Hint: PVC tubes should slide easily into the pockets. Do not force. Check for twisted fabric or misaligned pocket openings if you experience difficulty.

STEP 27

TENSION COVER ENDS

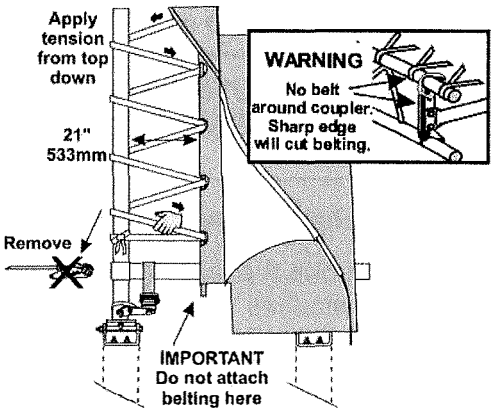


1. Operate the cover fastening tube end arch lashing winches to remove the slack from the lashing straps. DO NOT TENSION.

Hint - Use ratchet straps (not supplied) on both ends, evenly spaced, to tension and hold the cover lengthwise. Adjust to obtain a distance of 21"[533mm] between the Arch tube and the PVC pipe at both ends. Then lace the cover to the end arch.

2. **Lace - start at the base.** Lace the 1" [25mm] belting around the PVC tube through the notches and then back to the top truss tube of the end arch - **in 10'-12' [3-4M] sections** - all the way up to the top center of the building. Tie off each section. **Repeat lacing from other base.**

Hint - The cover shifts down when final tension is applied. Always try to lace the belting on the down side of the web weld.



3. **Tension - start at the top center.** Work your way down from the secured end use force to tighten the belting and finish by tying the belting off on each section. The PVC tube should be parallel with the end arch all the way around.

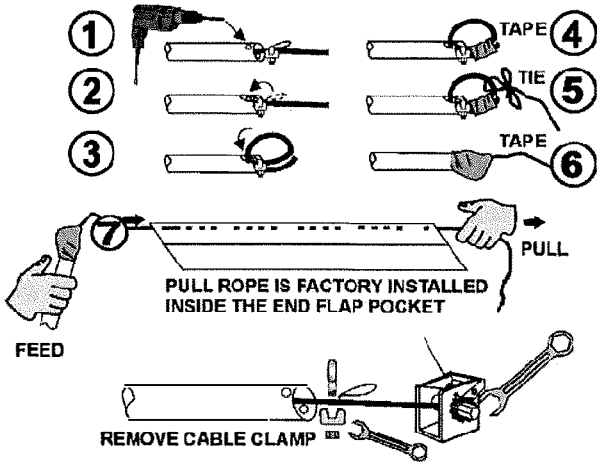
4. Lace and tension the opposite end of the building. The cover should be tight and secure from end to end when finished.

Hint: Trim the belting excess <u>after</u> you have finished the tighten-down.

STEP 28 INSTALL END FLAP CABLE

1. Secure BOTH the cable and PVC tube casing to the end flap pull rope in an acceptable manner. Protect the fabric from any sharp edges.
2. Feed and pull the cable through the end flap until it is equal on both sides.

   You may require a third person on a lift to assist the cable through the folds and creases. You can try flipping the end flap flat over the top of the building.
3. The cable clamps can be removed after the cable is secured into the lashing winch.

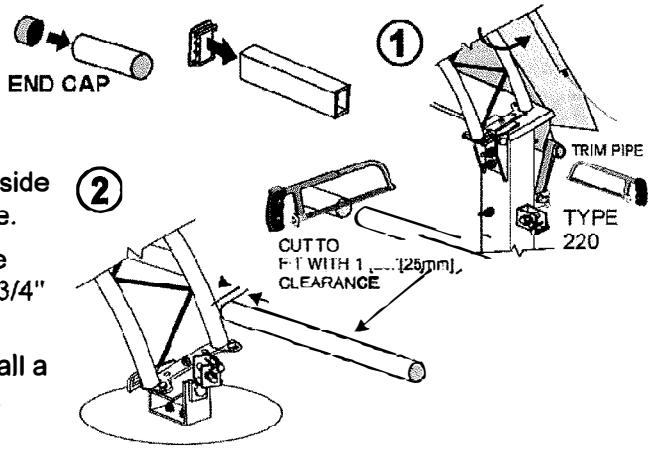


WARNING - Pull slowly or rope burn will damage fabric.

STEP 29 TERMINATE THE COVER FASTENING PIPE

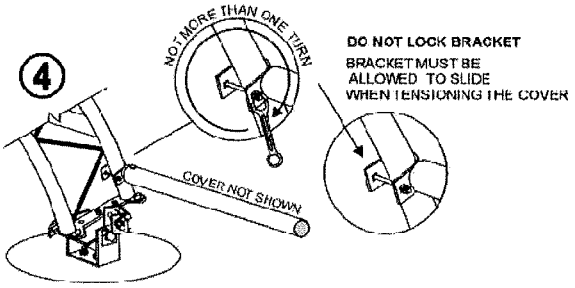
TYPE 220 INSTALLATION

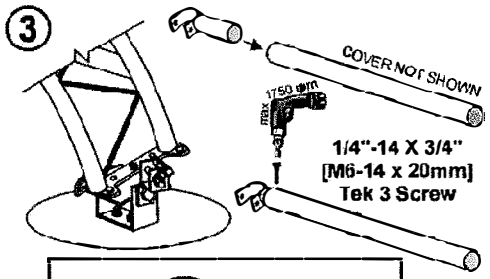
1, Trim the fastening pipe to the end of the building and install plastic end caps.



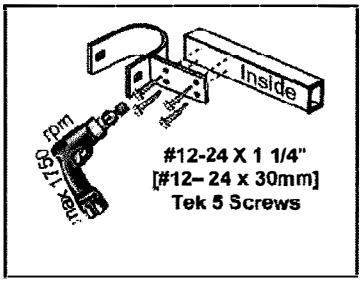
TYPE 320 INSTALLATION

2. Cut the ends of the fastening pipe to fit inside the arch with 1/2" -1"[12-25mm] clearance.
3, Install the saddle bracket in the end of the tube and secure using a single 1/4"-14 x 3/4" [M6-14 x 20mm] Tek 3 screw.
4. Fit the saddle over the arch tube and install a 1/2" x 4"[M12 x 100mm] carriage bolt/nut.





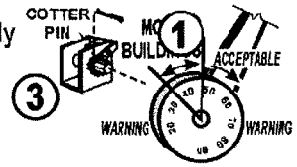
IMPORTANT: Deform the bracket by tightening the 1/2" [M12] bolt/nut as far as possible. This will reduce any protruding edges. **Then release the nut** until you achieve a one turn lock. The bracket must be allowed to slide on the truss tube when the cover is tensioned.



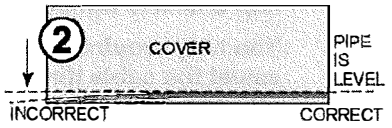
Tighten all bolts/nuts to torque value- See Page 32

It is now safe to remove all ropes used to steady the frame and install the cover.

STEP 30 TENSION THE COVER

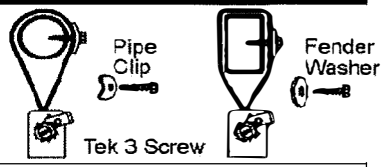


1. Use a 1 1/8" [29mm] wrench to tighten the cover lashing straps evenly on both sides of the building. The tension for the lashing winches on this building has been calculated at **35 - 45 ft. lbs. [48-60N.m.] DO NOT EXCEED 45 ft. lbs. [60 n.m]** *Use a torque wrench.* Remove as many wrinkles and creases and bagging as possible.
2. Next, adjust the end lashing straps tension until the cover fastening pipes are level.
3. Install a cotter pin in the lashing winch pilot holes to lock the release lever.



STEP 31 TYPE 220 - SECURE END LASHING STRAPS

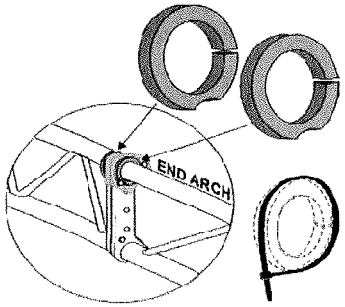
1. Secure the outside (end) lashing straps (4) to the fastening pipe by using pipe clips or fender washers and 1/4" x 3/4" [M6 x 20mm] Tek 3 self-drilling screws. Install the screws **through the fastening strap** into the fastening pipe.



NOTE: ***Failure to secure the corner fastening straps to the pipe could result in possible damage to the cover. Not required on TYPE 320 installation.***

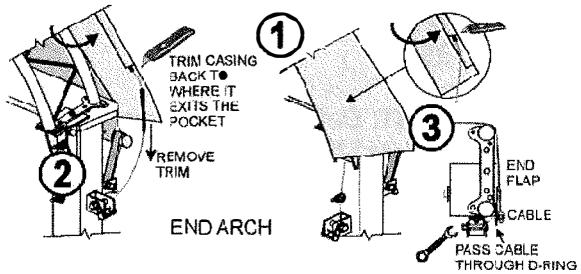
STEP 32 INSTALL RUBBER END FLAP PROTECTORS

1. All buildings require 2 rubber end flap protectors installed on the upper truss tube at all connected couplers on the end arches.
2. The rubber protectors are designed to pressure fit on the truss tube. If necessary, tape them in position.
3. **WARNING** - DO NOT tension the end flap without installing the rubber protectors. DAMAGE WILL OCCUR. If protectors are missing, wrap Ø 1/2" [12mm] 12 rope at the coupler and tape to secure.



STEP 33 TENSION THE END FLAP CABLES

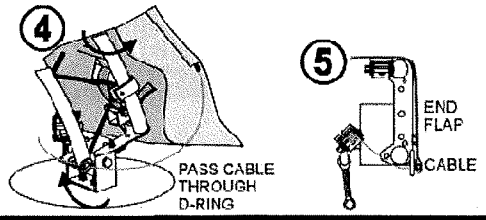
1. **Trim** the plastic cable casing.
2. **TYPE 220** - Insert the cable in the end flap winches so that the windings bind the cable end.
3. **TYPE 220 with Fabric End Wall** - Cut an exit hole in the end flap pocket so the cable exits above the D-ring. Pierce the end panel and feed the cable inside the building through the D-ring to the winch. Secure or weld the end flap tail to the end wall.



It may be necessary to repeat the tightening several times at both winches.

4. **TYPE 320** - Thread the end flap cable through the D-ring to the end flap winch.

5. Tighten winches on both sides until the end flap is tight. *Repeat this procedure on the other end of the building.*



STEP 34 TYPE 320 - SECURE THE APRON

ALWAYS SECURE THE APRON

The fabric is designed to be under tension at all times.

GROUND

Use dimensional lumber to attach the apron to the frame or foundation.
Or back fill the apron at the foundation.

WALL

Depending on the width of the wall you may want to consider the following finishing option. Protruding edges on fabric are potential wear points.
WARNING - This is a 320 APRON option only. Do not use for 220 covers.

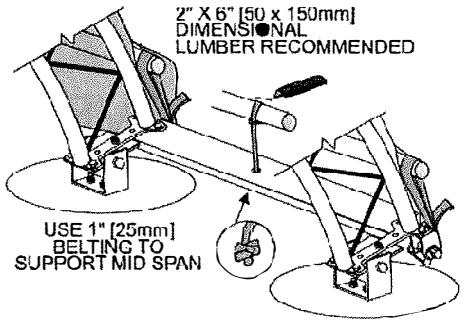
1. Attach dimensional lumber to the underside of the arch bases so that the apron can be wrapped around the lumber and away from protruding edges.

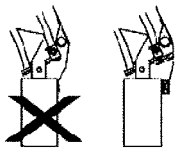
NOTE: Longer bolts may be required to re-attach the lashing winches.

2. Drill a 1" [25mm] hole mid span in the dimensional lumber and pass a short section of 1" [25mm] belting through the hole. Tie a permanent knot below the lumber that will not pass through the hole.

3. Slit the fastening tube pocket directly above the hole and loop the 1" [25mm] belting around the fastening tube. Level the dimensional lumber and tie a releasable knot.

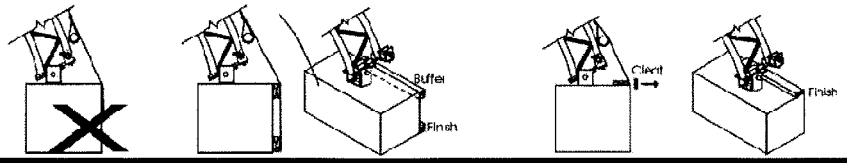
4. This belting will keep the dimensional lumber from sagging. The belting length may need to be adjusted when cover tension is adjusted.





CONCRETE

Never install fabric over concrete edges.
Always install a dimensional lumber buffer or equivalent.



STEP 35 READ MAINTENANCE SCHEDULE Page 2

STEP 36 COMPLETE WARRANTY REGISTRATION

APPENDIX A
EXTRUSION CONNECTION

TYPEB

TYPEC

TYPED

APPENDIX B
FLAP OVERLAP CONNECTION

TYPEA

APPENDIX A

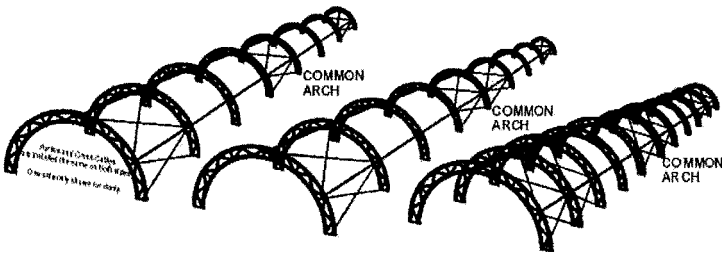
EXTRUSION CONNECTION

Multiple covers are provided for buildings over 144' [44M] in length.
This enables ease of onsite handling and installation.
Normally covers are supplied in equal or near equal lengths. The longest cover length is 144' [44M].
Eg. - a 150' [46M] building with 10' [3M] spacing is supplied with one 70' [21M] and one 80' [25M] cover.

1. CROSS CABLE INSTALLATION

A. Buildings over 144' [44M] long require additional cross cables at the center of the building and some require additional end bay cabling.

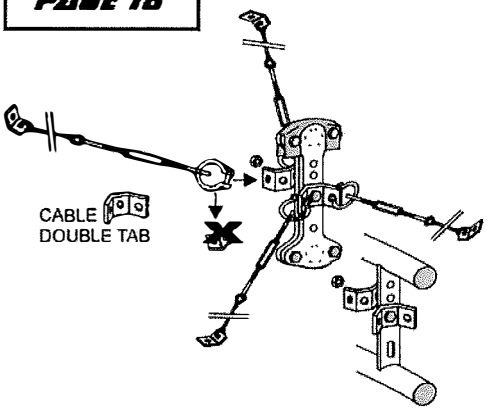
THE COMMON ARCH IS ALWAYS WHERE THE COVERS JOIN.

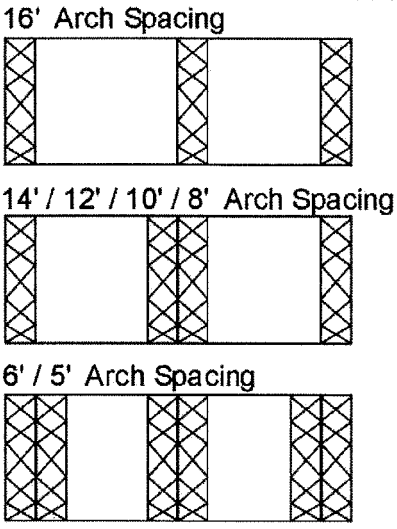


B. Use double tabs where cables are installed in adjacent bays. Remove and discard the single tabs.

STEP 22 FROM PAGE 18

DOUBLE TAB AND CROSS CABLE PLACEMENT

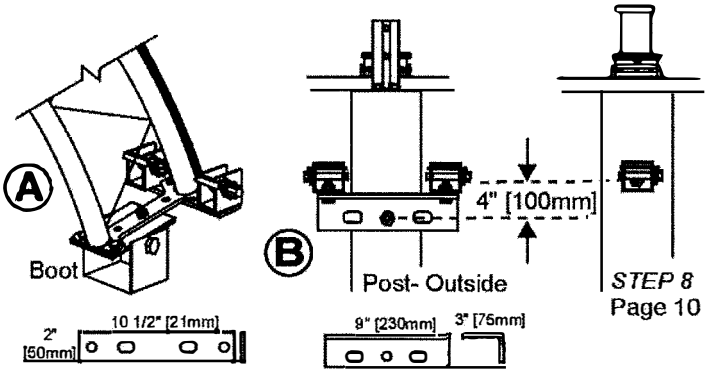




2. WINCH BRACKET INSTALLATION

A. Attach the flat winch bracket to the common arch base using 2 of 5/8" x 2" [M16 x 50mm] bolts/nuts.

B. Attach the angle winch bracket on the outside of the common post using one of 5/8" x 12" [M16x305mm] threaded rod and 5/8" [M16] washers/nuts. Attach the winches using 5/8" x 1 1/4" [M16x30mm] bolts/nuts.



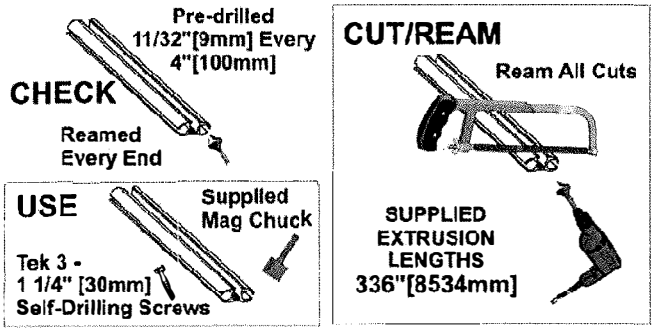
STEP 8 Page 10

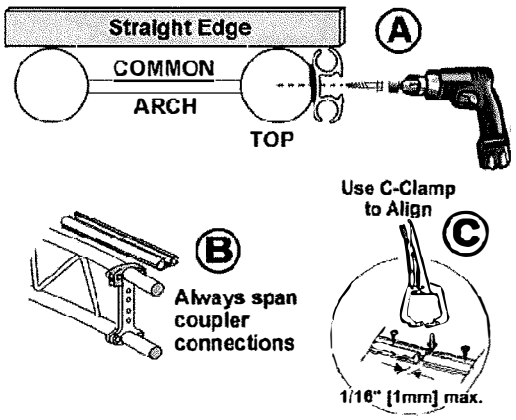
Tighten all bolts/nuts to assembly torque value- See Page 32

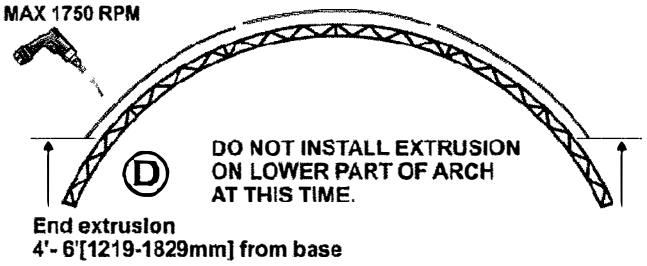
3. INSTALL EXTRUSION

Apply Norseal butyl tape to underside of extrusion

Install extrusion on the Common arch as shown using #12-14 x 1 1/4" [#12-14 x 30mm] Tek 3 screws.







4. 2 COVER INSTALLATION

Install the covers as directed in *STEPS 24-33* (Pages 19-23), ***except :***

A - When installing the cover, shift the pull-over fastening pipe 3 feet [914mm] away from the extrusion end of the cover (the keder rope edge).

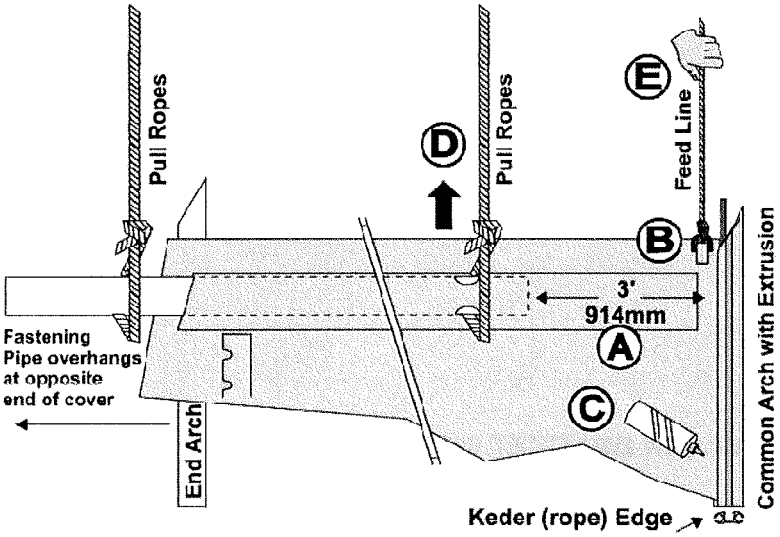
B - Attach a light feed line to the keder D-ring at the leading edge of the cover.

C- Charge the extrusion with WinterGel Lubricant.

D - PULL the cover with the fastening pipe.

E - FEED the keder edge evenly with the D-ring line while installing.

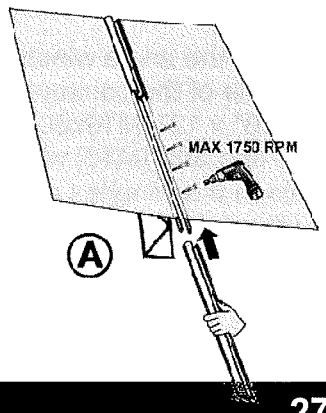
F - Fastening pipe end brackets are not required at common arch.



YOU MUST USE RATCHET STRAPS TO GET ADEQUATE LENGTHWISE TENSION ON THE COVER
SEE *STEP 27*, Page 21.

5. LOWER EXTRUSION INSTALLATION

A. After both covers are installed, install extrusion on the lower edge of the covers and secure to the common arches using #12-14 x 1 1/4" [#12-14 x 30mm] Tek 3 screws.

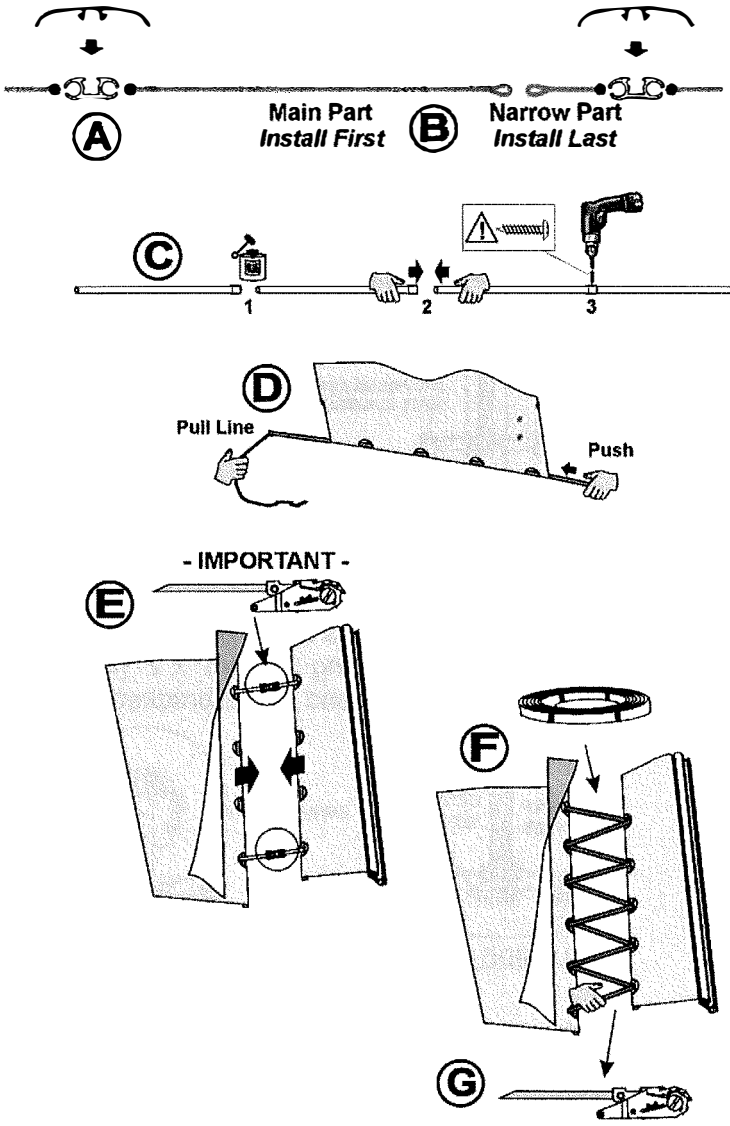


THE INSTALLER DETERMINES WHERE THE LOWER EXTRUSION TERMINATES - AVOID POINTS OR ANGLES THAT COULD DAMAGE THE FARIC WHEN THE FABRIC IS TERMINATED.

6. TRUSS COVER INSTALLATION

A - Install the truss covers

Use a rubber mallet to install snap cap on outside of extrusion



7. 3 OR MORE COVERS - INNER COVERS -

A - Install extrusion on all Common arches.

B - Inner covers have a main cover part and a narrow connector part. Both parts have a keder end and a PVC pocket end and are laced together at the PVC connection.

Install the main cover part and the narrow connector part separately.

C - Assemble lengths of PVC pipe.

D - Install the PVC pipe in the PVC pockets of both the main cover part and the narrow connector part.

E - Attach ratchet straps to the PVC pipes every 10-12 feet [3-4M] and apply tension.

F - Lace the PVC pipe together in 10-12 feet [3-4M] sections using the 1" [25mm] belting. Always tie off the sections.

G - Remove the ratchet straps.

Finish the interior covers by following the directions Step 5 and Step 6 in this Appendix A.

APPENDIX B

FLAP OVERLAP CONNECTION

Multiple covers are provided for buildings over 144' [44M] in length. This enables ease of onsite handling and installation. Normally covers are supplied in equal or near equal lengths. The longest cover length is 144' [44M].

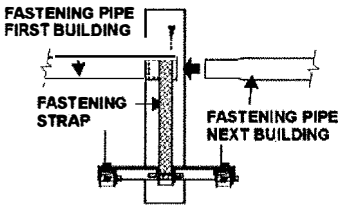
Eg. - a 150' [46M] building with 10' [3M] spacing is supplied with one 70' [21M] and one 80' [25M] cover.

1. SITE PREPARATION

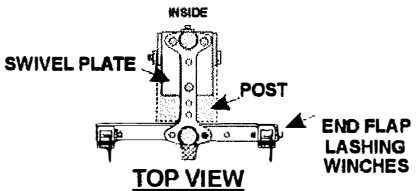
a. Arch spacing (running measurement) is the same for the entire length of the building. (the covers share a common arch). *Eg. - 150'[46M] building on 10' [3M] centers has 16 piles/posts on each side.*

2. TYPE 220 INSTALLATION - JOINER BRACKET

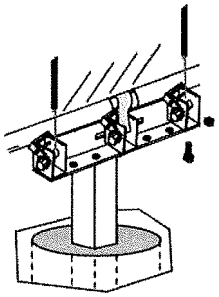
a. Install a joiner bracket to the common arch post. The bracket installs under the cover lashing winch on the threaded rod. Add an end flap lashing winch to each end of the bracket using 5/8" x 2" [M16x50mm] bolts and nuts.



OUTSIDE VIEW

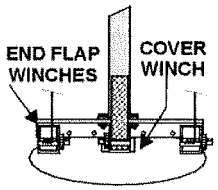


TOP VIEW

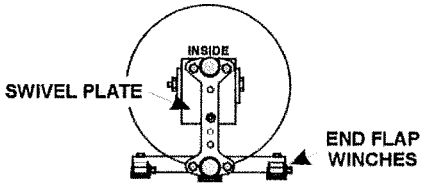


3. TYPE 320 INSTALLATION - JOINER BRACKET

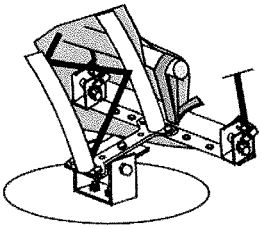
a. Install a joiner bracket to the underside of the arch base between the cover lashing winch and the base using 2 of 5/8" x 2" [M16 x 50mm] bolts/nuts. Add an end flap lashing winch to each end of the bracket using 5/8" x 2" [M16 x 50mm] bolts and nuts.



OUTSIDE VIEW

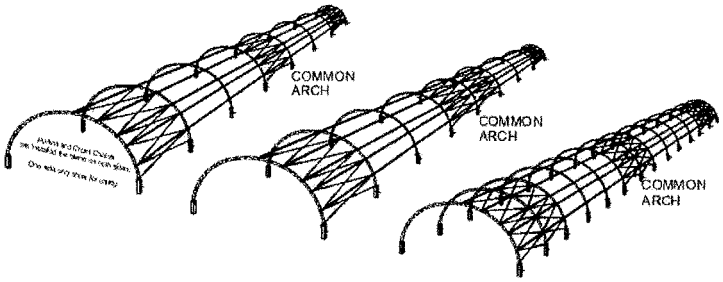


TOP VIEW



4. CROSS CABLE INSTALLATION

a. Buildings over 144' [44M] long require additional cross cables at the center of the building and some require additional end bay cabling.



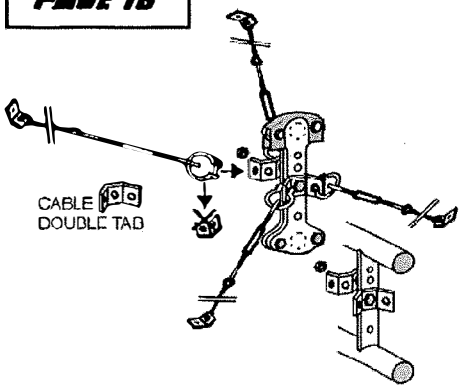
THE COMMON ARCH IS ALWAYS WHERE THE COVERS JOIN.

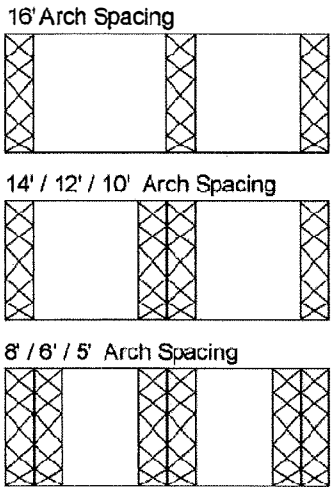
Tighten all bolts/nuts to assembly torque value- See Page 32

STEP 22 FROM PAGE 18

DOUBLE TAB AND CROSS CABLE PLACEMENT

b. Use double tabs where cables are installed in adjacent bays. Remove and discard the single tabs.



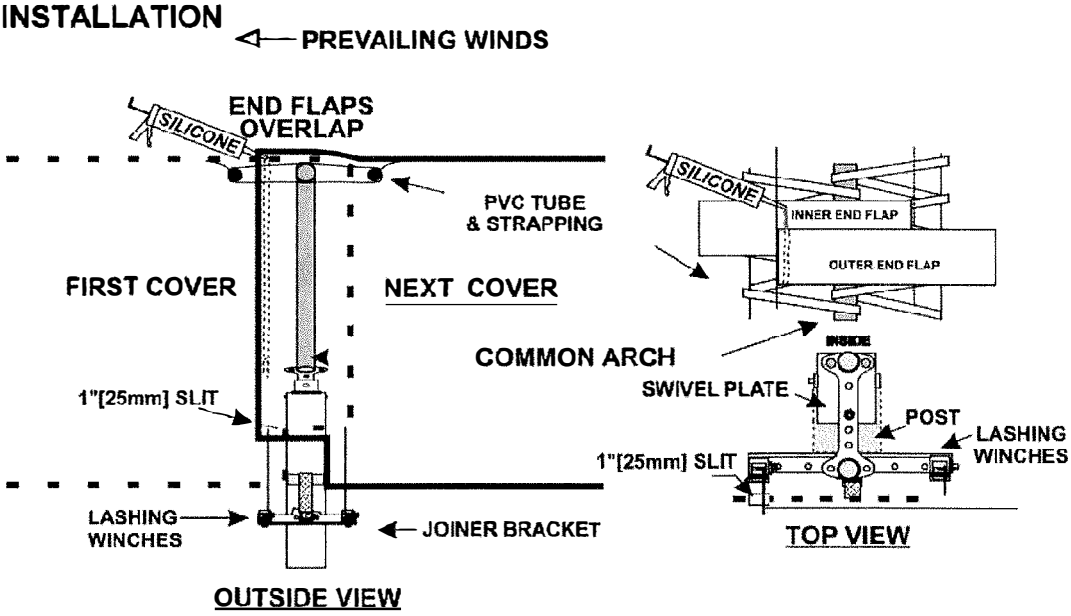


5. COVER INSTALLATION

a. Install the first cover as directed in STEPS 24-32 (Pages 19-23), ***except that :*** the end flap on the common arch is *not* secured at this time, flip the end flap back and out of the way; the joiner bracket is installed under the lashing winch; and the end flap lashing winches are secured to the joiner bracket.

b. Install the next cover in the same manner, *lacing the PVC tube to the common arch.* Do not tighten the lashing winches of this cover at this time.

TYPE 220 INSTALLATION



c. Release the fastening strap in the end arch winch of the first building. Join the fastening pipe of both covers and secure with Tek self-drilling bolts. Place the fastening strap over the fastening pipe and re-install the end fastening strap in the winch. Retighten this lashing winch and tighten all of the winches of the next cover.

Adjust the cover lashing winches to remove as many wrinkles and bagging as possible over the entire building. For most buildings 35 - 45 ft. lbs [48-60 N.m.] of torque provides adequate cover tension.

Tighten all bolts/nuts to assembly torque value- See Page 32

d. Place the end flap of the first cover over the next cover's lacing. Attach the end flap cable for this first (inner) end flap to the lashing winches. Tension the lashing winches.

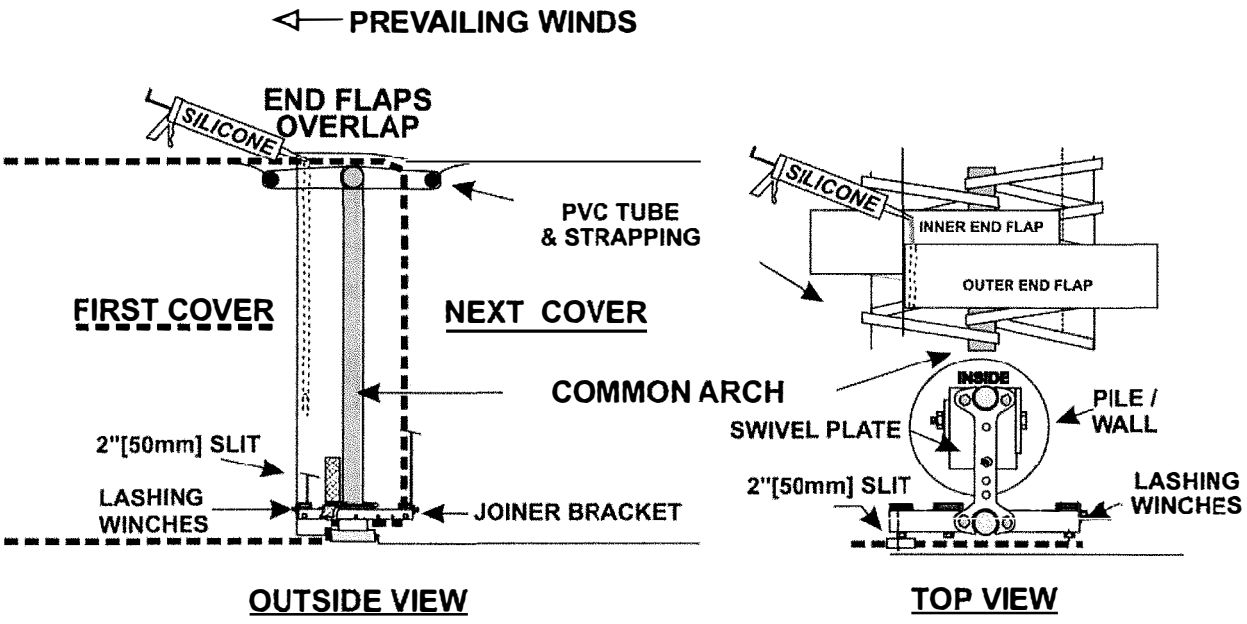
NOTE: ***If your building is subject to prevailing winds, you should secure the end flaps to protect the overlap.***

e. Place the end flap (outer) of the next cover over the first (inner) end flap. Cut a slit in the first (inner) end flap at the point where the end flap cable for the outer end flap exits its pocket. Feed the fastening cable through the slit and attach to the lashing winches. Tension the lashing winches.

It is best to have the end flap PVC cable casing passing through the fabric or against any part of the fabric rather than the end flap steel cable.

f. Apply a bead of silicone (supplied) between the outer end flap and the cover. Insert the tube tip between the layers with all straps fastened securely . Walk on the building to seal the top portion of the end flap and use a ladder or lift equipment to reach the sides. Where it is difficult to reach some areas, unsealed portions should not exceed 3 feet [914mm].

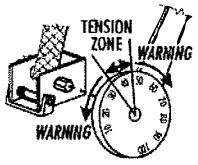
TYPE 320 INSTALLATION



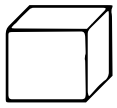
OUTSIDE VIEW TOP VIEW

CONVERSIONS

INCHES					MILLIMETERS
1/32"					
2/32	1/16"				1.6
3/32					
4/32	2/16	1/8"			3.2
5/32					
6/32	3/16"				4.8
7/32					
8/32	4/16	2/8	1/4"		6.4
	5/16				
	6/16	3/8"			9.5
	7/16				
	8/16	4/8	2/4	1/2"	12.7
	9/16				
	10/16	5/8"			15.9
	11/16				
	12/16	6/8	3/4"		19.0
	13/16				
	14/16	7/8"			22.2
	15/16				
	16/16	8/8	4/4	2/2 1"	25.4



1 ft. lb. = 1.356 N.m



1 CUBIC YARD = .77 M^3

1 CUBIC FOOT = .03 M^3

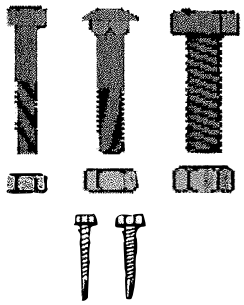
FEET	METERS
1'	.305
2	.610
3	.914
4	1.219
5	1.524
6	1.829
7	2.134
8	2.438
9	2.743
10	3.048
25	7.620
30	9.144
35	10.668
40	12.192
45	13.716
50	15.240
60	18.288
70	21.336
80	24.384
90	27.432
100'	30.480

ASSEMBLY TORQUE VALUES

SUGGESTED ASSEMBLY TORQUE VALUES FOR STRUCTURAL BOLTS

Ø SIZE INCH/mm	THREADS per INCH/25mm	GRADE 5 ft – lbs DRY	GRADE 5 ft – lbs WET*	GRADE 5 N.m DRY	GRADE 5 N.m WET*
3/8 M10	16	30	23	40	30
7/16 M12	14	50	35	70	50
1/2 M12	13	75	55	100	75
5/8 M16	11	150	110	200	150
3/4 M20	10	260	200	353	270
1 1/4 M30	7	1120	840	1520	1140
#12 TEK 3	14	7.7	-	10.5	-
#12 TEK 5	24	12.5	-	17	-

* Lubricant



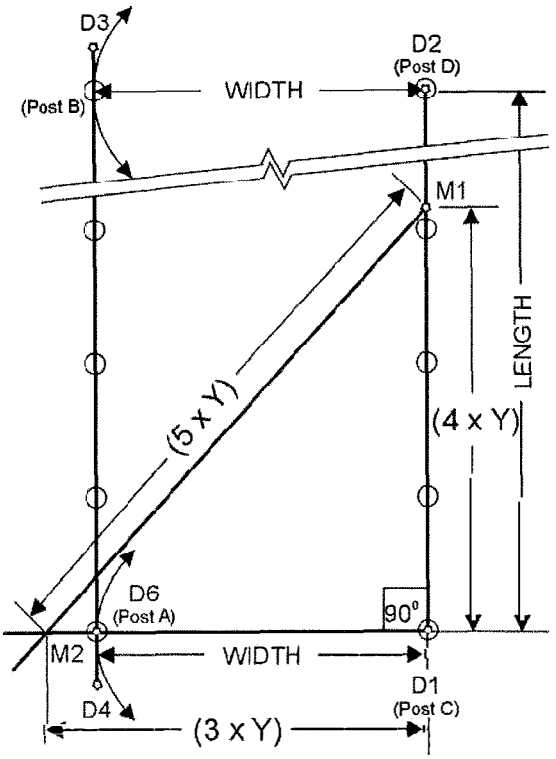
SQUARING A FOUNDATION

IMPORTANT
Depending on the size of your building, you may need a qualified contractor or surveyor to lay out the foundation of your building to ensure that it is straight and square.
The following is a suggested method only.
BRITESPAN is not responsible for foundations.

1. Measure and string a straight line the exact length of the building (D1-D2).
2. Attach a measuring tape to stake D2 and measure the exact width of the building perpendicular to line D1-D2. Make an arc in the dirt at that exact measurement. Repeat this procedure at stake D1 and make a second arc.
3. String an extended line (D3-D4) at the crowns of these two arcs. Recheck width measurements.

   USING THE **3-4-5 METHOD** TO SQUARE THE FOUNDATION
4. With the measuring tape still attached to stake D1, measure the distance **(4 x Y)** from stake D1 towards stake D2 and place a stake (M1). See chart this page for a suggested value for Y for your building.
5. With the measuring tape still attached to stake D1, measure the distance **(3 x Y)** through the crown of the arc, and past line D3-D4, to M2.
6. With a second tape attached to stake M1, measure the distance **(5 x Y)** to M2.
7. Keeping the tapes tight, cross the two tapes at exactly the **(3 x Y)** measurement and the **(5 x Y)** measurement and hold in position. Place a stake (D6) exactly **where line D1-M2 crosses line D3-D4**. Remove stake M2.
8. Follow the linear and diagonal measurement checks beginning on Page 6 of this manual.

SERIES/ SIZE	SUGGESTED Y VALUE
18/20	7' [2.0M]
22	8' [2.5M]
26	9' [2.8M]
30/32	11' [3.4M]
36	12' [3.6M]
40	14' [4.3M]
42	15' [4.5M]
50	17' [5.2M]
55	19' [5.8M]
62	22' [6.7M]
72	25' [7.6M]
82	30' [9.2M]



Maintenance Recommendations For Buildings in Corrosive Environments

BUILDING STEEL

BRITESPAN manufactured steel components are hot dipped galvanized, hot zinc plated or coated with a high quality sealant. *It is recommended that the building owner/operator:*

- Prevent corrosive material or product from resting against or covering the building steel.
- Remove any environmental residue that accumulates on the building steel.
- Seal all surface penetration marks with a high quality sealant or a high zinc content paint.

BUILDING HARDWARE

Hardware components are made of galvanized steel or aluminum alloy; are zinc plated with an added leachant-sealant; or are zinc or cadmium plated. *It is recommended that the building owner/operator:*

- Prevent corrosive material or product from coming in direct contact with the building hardware.
- Remove any environmental residue that accumulates on the building hardware.
- Seal or protect from corrosion any non-building components that are connected to, or that come in contact with, the building hardware.

ANCHOR BOLTS *It is recommended that the building owner/operator:*

- Seal the exposed anchor bolt threads with a high quality sealant or a high zinc content paint.

FABRIC LASHING WINCHES *It is recommended that the building owner/operator:*

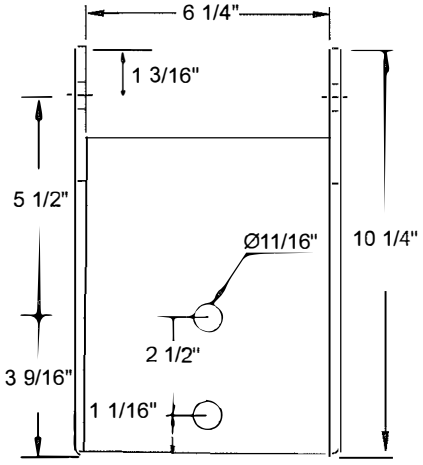
- Spray the lashing winches with a moisture displacing filming lubricant. (WD40 or equivalent)

FABRIC *It is recommended that the building owner/operator:*

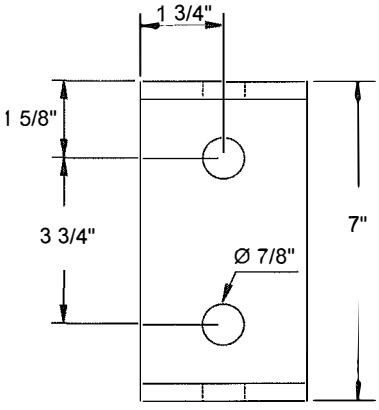
- Prevent corrosive material or product from resting against or covering the building fabric.
- Remove any environmental residue that accumulates on the building fabric. Where moisture will not contribute to corrosion – wash with water and non-abrasive soap.

MOUNTING TEMPLATES

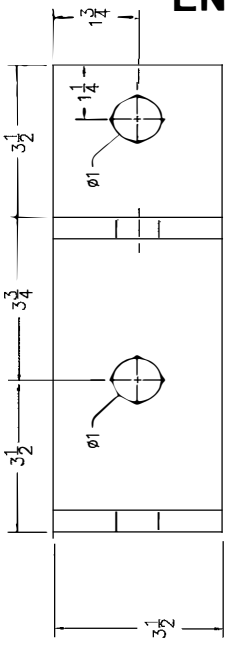
PLATE



COMMON BOOT



END BOOT



BUILDING ENDWALLS

AN IMPORTANT MESSAGE FOR INSTALLERS AND OWNERS

FABRIC END WALLS must be supported by a framework that is constructed to meet wind load ratings and building safety standards.

If you are constructing a framework for BRITESPAN supplied fabric end panels the framework MUST BE DESIGNED to match the fastening system of the fabric end panel and must be constructed to meet wind load ratings and building safety standards per engineer's requirements.

Failure to comply with the above can result in damage to the building and will void fabric end panel warranty.

Contact a structural engineer or your local BRITESPAN representative for details.

SUSPENDING OBJECTS AND SERVICES IN BUILDING

AN IMPORTANT MESSAGE FOR INSTALLERS AND OWNERS

RULE # 1

Always suspend weighted objects and services from the arches. Use dedicated brackets and hardware and attach to the lower truss cord only - do not use building brackets or hardware and never use the truss webbing as an attachment point. Wherever possible, use clamps to avoid drilling or piercing the lower truss cord. Any suspended objects must be approved by a licensed engineer. If this is not done it may void the building warranty.

RULE #2

Do not suspend weighted objects, services or building operation components from the purlins. The purlins act under compression when wind and snow loads affect the building. Added weight to a purlin can cause it to react unevenly and fail when wind and snow load forces are applied.

If suspensions mid-arch are necessary, use a separate purlin dedicated to the suspension. In some cases a tensioned cable in conjunction with the standard purlin can be used to offset the weight of the suspended object. Four inch (100mm) diameter purlins are capable of supporting weighted objects and services and in some cases can be substituted for standard purlins.

Exceptions for suspensions from purlins can include:

> Lightweight aluminum and plastic roof vents
> Simple lighting services without ballasts or transformers
> Electrical conduit and wiring
> Control cables

IMPORTANT- always use clamps or ties - DO NOT drill or pierce purlins

Contact a structural engineer or your BRITESPAN representative for assistance.