

INSTALLATION MANUAL

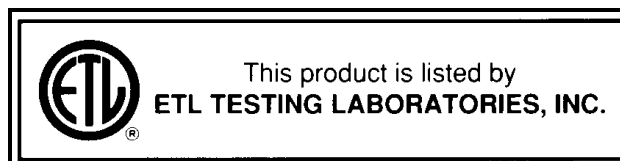
For

Colonnade Light Track II & III

Revised January 20, 1997

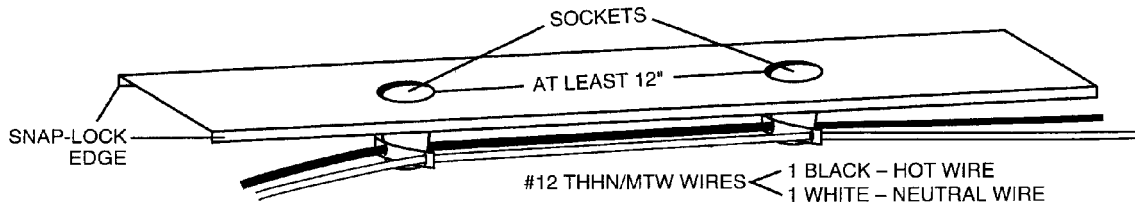
Note: Follow all directions for installation of the Colonnade Light Track in this instruction manual. Consult manufacturer if there are any questions or proposed deviations from installation methods as recommended in this manual. Any deviations should conform to local code and regulation requirements.

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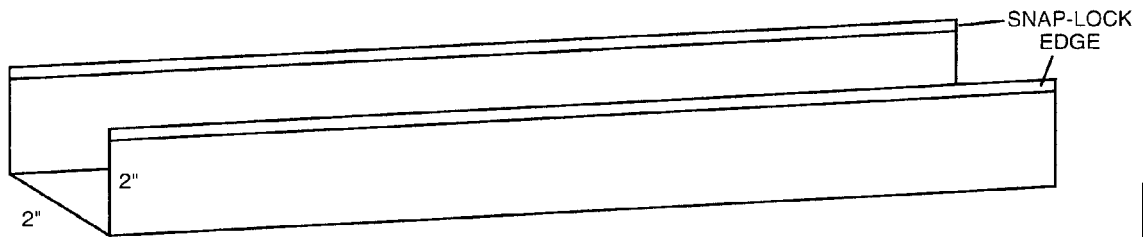
COLONNADE LIGHT TRACK II

FRONT LEVEL ASSEMBLY DRAWING



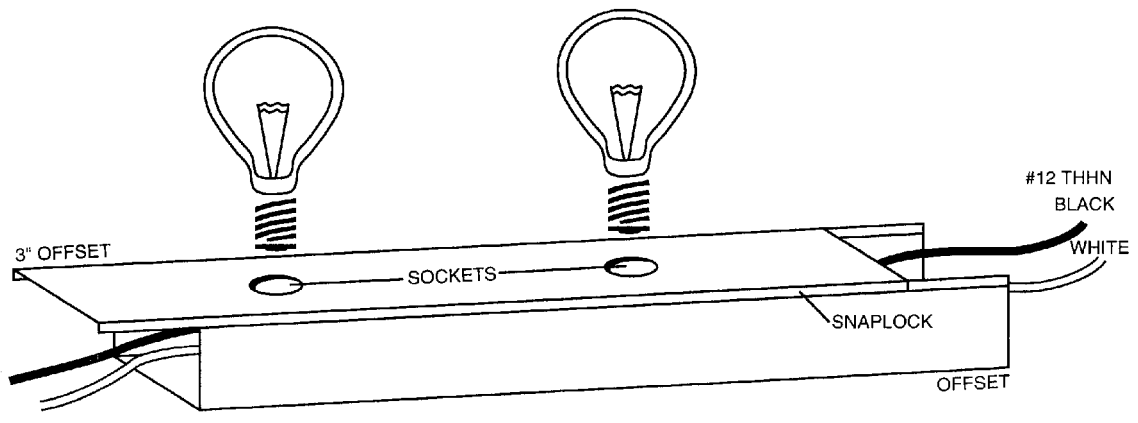
**SNAP-
ON FRONT OF TRACK**

Figure -1-



"U" SHAPED BACK SECTION OF TRACK

FIGURE -2-



ASSEMBLED TRACK: WITH FRONT & BACK SECTIONS

FIGURE -3-

NOTE: Sockets can be shipped in reverse installation in "U" section.

INSTALLATION OF COLONNADE LIGHT TRACK II & III

INSTALLATION ORIENTATION: HORIZONTAL

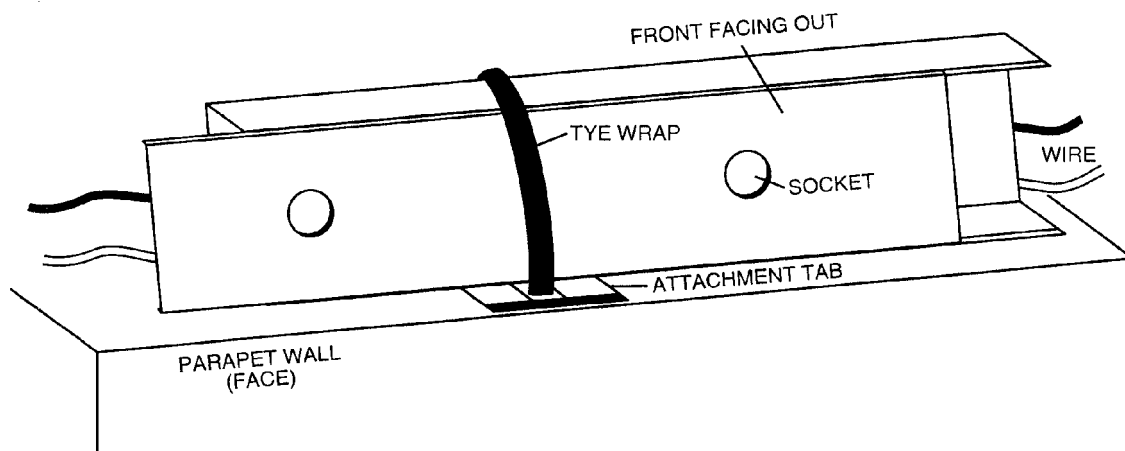


FIGURE -4-

HORIZONTAL: SOCKETS/BULBS FACING OUT, NOT UP.

INSTALLATION ORIENTATION: NON-HORIZONTAL/VERTICAL

NON-HORIZONTAL/VERTICAL

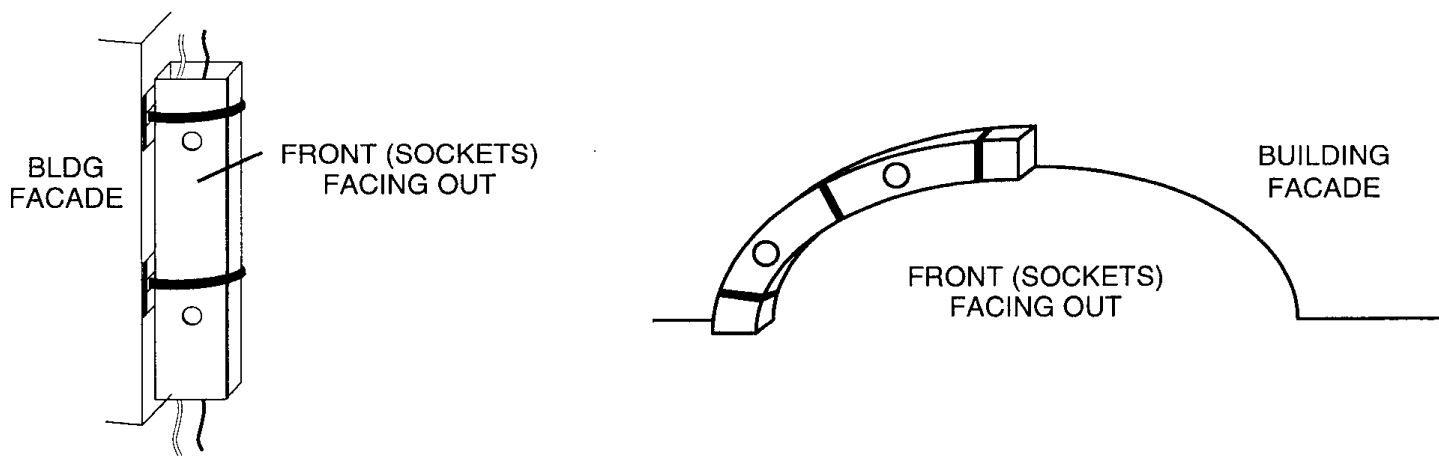
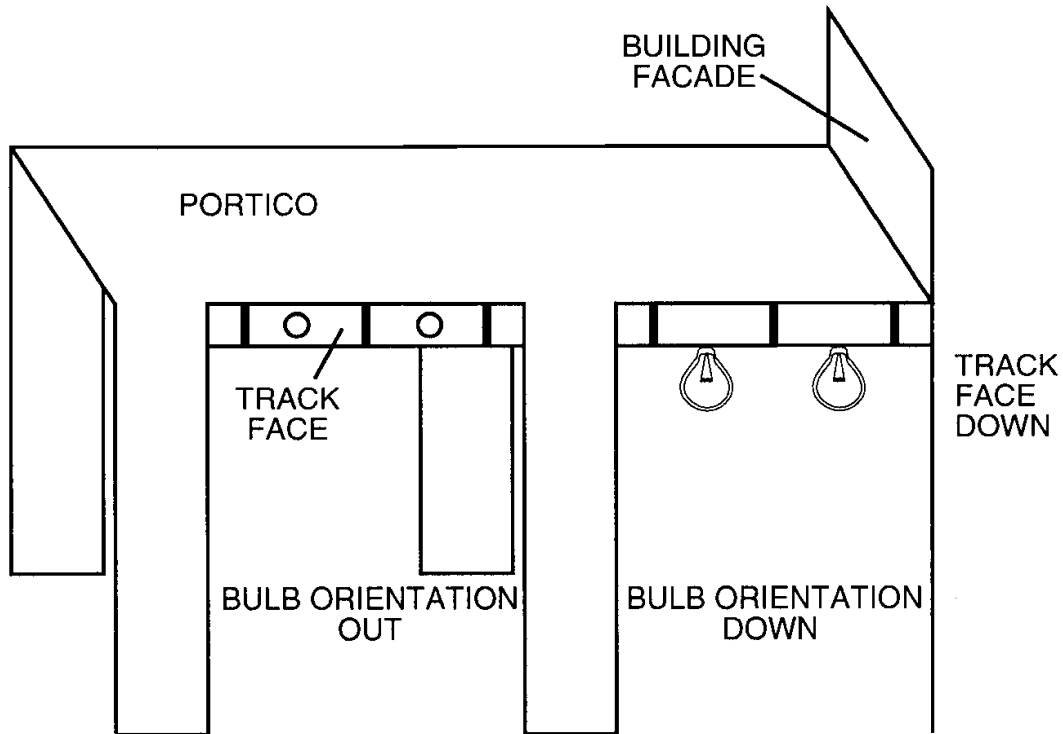


FIGURE -5-

NON-HORIZONTAL/VERTICAL: SOCKETS/BULBS FACING OUT.

**FIGURE -6-
 INSTALLATION ORIENTATION:
 INTERIOR MOUNT/PROTECTED UNDER EYE OR PORTICO
 WITH SOCKETS & BULBS FACING OUT OR DOWN**



COLONNADE LIGHT TRACK II & III INSTALLATION CIRCUIT PLAN:

- I. Plan Number of Circuits required and their beginning and ending locations.

Colonnade Lights offers its trademarked Colonnade Light Track II & III in multiple configurations. The configurations vary by the type/size of socket and the spacing socket. One can purchase a given configuration in different lengths (see Appendix A for Model Numbers). Sections of Track can be connected together up to a maximum length per 20 Amp, 130 Volt circuit for #12 ga wire (medium and intermediate based sockets) and 15 amps per circuit at 125 volts for candelabra based depending upon the configuration. See table on next page. **DO NOT EXCEED MAXIMUM LENGTHS PER CIRCUIT. TRACK IS NOT TO BE USED IN CONJUNCTION WITH ANY OTHER FIXTURES, APPLIANCES, ETC. OTHER THAN CONNECTING LENGTHS OF THE SAME SERIES (II or III) COLONNADE LIGHT TRACK AS PER THIS MANUAL. ORDER # III TO EXACT LENGTH. DO NOT DISCONNECT GROUNDING WIRE IN # III.**

Using the following table, identify your Track Configuration (i.e. bulb spacing and wattage) and read across to determine the maximum length of Track which can be supported per 15 or 20 Amp circuit.

COLONNADE LIGHT TRACK II & III FOOTAGE PER 20 AMP. CIRCUIT*

A 20 Amp (maximum operating load of 16 Amps), 130 Volt circuit can support different lengths of Track depending on the Track configuration. Shown below, for each Track configuration, is the maximum length of Track, number of bulbs, and number of watts which one 20 Amp, 130 Volt circuit can support.

Building Height	Track Configuration	MAXIMUM PER 20 AMP 130 VOLT CIRCUIT		
		Track Footage	Bulbs	Watts
1-3 Stories	12" O.C., intermediate sockets for C-9 10 Watt bulbs.	208'	208	2,080
	or 12" O.C., intermediate sockets for C-9 7 Watt bulbs.	297'	297	2,079
4-10 Stories	18" O.C., medium base sockets for 25 Watt bulbs. (Models 25-M)	124.5'	83	2,075
11-20 Stories	24" O.C., medium base sockets for 40 Watt bulbs. (Models 40-M)	104'	52	2,080
21-40 Stories	30" O.C., medium base sockets for 60 Watt coated bulbs. (Models 60-M)	85'	34	2,040
41-65 Stories	36" O.C., medium base sockets for 75 Watt coated bulbs. (Models 75-M)	81'	27	2,025
66+ Stories	42" O.C., medium base sockets for 100 Watt coated bulbs. (Models 100-M)	70'	20	2,000

COLONNADE LIGHT TRACK II & III FOOTAGE PER 15 AMP. CIRCUIT*

A 15 Amp (maximum operating load of 12 Amps), 125 Volt circuit can support different lengths of Track depending on the Track configuration. Shown below, for each Track configuration, is the maximum length of Track, number of bulbs, and number of watts which one 15 Amp, 125 Volt circuit can support.

Building Height	Track Configuration	MAXIMUM PER 15 AMP 130 VOLT CIRCUIT		
		Track Footage	Bulbs	Watts
1-5 Stories	12" O.C., candelabra sockets for C-7 4 Watt bulbs	375'	375	1,500
	12" O.C., candelabra sockets for C-7 5 Watt bulbs	300'	300	1,500
	12" O.C., candelabra sockets for C-7 7 Watt bulbs	214'	214	1,498
	6" O.C., candelabra sockets for C-7 4 Watt bulbs	187.5'	375	1,500
	6" O.C., candelabra sockets for C-7 5 Watt bulbs	150'	300	1,500
	6" O.C., candelabra sockets for C-7 7 Watt bulbs	107'	214	1,498

Divide the total linear footage of Track to be installed by this maximum length/circuit. Round-up to the next highest number (integer). This is the minimum number of circuits required for your Track installation. Now divide the total linear footage of Track to be installed by the number of circuits, and this will give you the number of feet each circuit should ideally have (note: the number of feet each circuit will actually run should always be less than or equal to the maximum length of Track from the Tables above).

Identify on your installation site where the first circuit will be connected to the Track. From this location, measure out the length of the circuit moving to your right, (for consistency purposes installation instructions are written to proceed in a clockwise direction from the starting point) and mark this spot as a location to end one circuit and begin another. Continue to measure and mark the ending and beginning of circuits until you have covered the complete installation site.

II. Determine the best attachment method for attaching the Track to the surface. INSTALLER MUST DETERMINE THE BEST INSTALLATION LOCATION (E.G. HORIZONTAL, VERTICAL, INTERIOR MOUNT), FOR STABILITY AND SUITABILITY OF ATTACHMENT METHOD. Alternative attachment methods include affixing the Attachment Tabs to the installation surface via glue, screws or pop rivets. Directly attaching the Track to the installation surface without the Attachment Tabs can be done with screws or bolts through the Track provided the path of the screw or bolt does not come in contact with the wire inside the track. ALWAYS CHECK WITH YOUR ROOFING SUPPLIER BEFORE ATTACHING TO ENSURE YOU WILL NOT HARM THE ROOF SEAL OR VOID ANY ROOFING GUARANTEES.

When using Attachment Tabs, locate tabs on 24" centers for PVC track, 36" for Aluminum and a minimum of 2" from any joints or track connections (i.e. where track lengths join at straight or mitered connections a tab should be located 2" away from the connection on both sides). Similarly, tabs should be used 2" from the beginning and end of a Track installation. Tabs should be installed with the flat edge against the installation surface and the opening slot perpendicular to the line of the Track. See drawing below.

On glued installations the recommendation of the glue manufacturer should be followed as to application and circumstances for the application, i.e. bonding and drying times. Test tabs for adherence before installation.

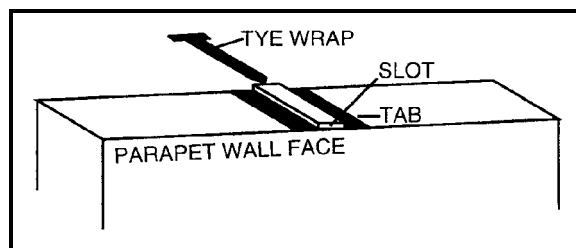


FIGURE -7- ⇒

III. When Attachment Tabs are used for installation, slide Tye Wraps through the slot in the attachment tabs, but do not fasten them closed. When using metallic straps or flat tab brackets, DO NOT distort the track when attaching or clamping. 16 Gauge galvanized wire ties may be used also, as well as stainless steel.

IV. Lay Track out alongside installation site on roof. Note the side labeled "THIS SIDE UP OR OUT" and orient it appropriately; in a horizontal installation the labeled side should be up, in a vertical or slanting slope installation, the labeled side should be facing out. See Figures 4-6. Keep "Front" offset end of each Track section to your left and the "Back" offset end to your right.

V. The Track is labeled "SUITABLE FOR WET LOCATIONS" and must have a drain hole drilled in the bottom or lowest point of each Track section if installed outdoors or where moisture contact is possible.

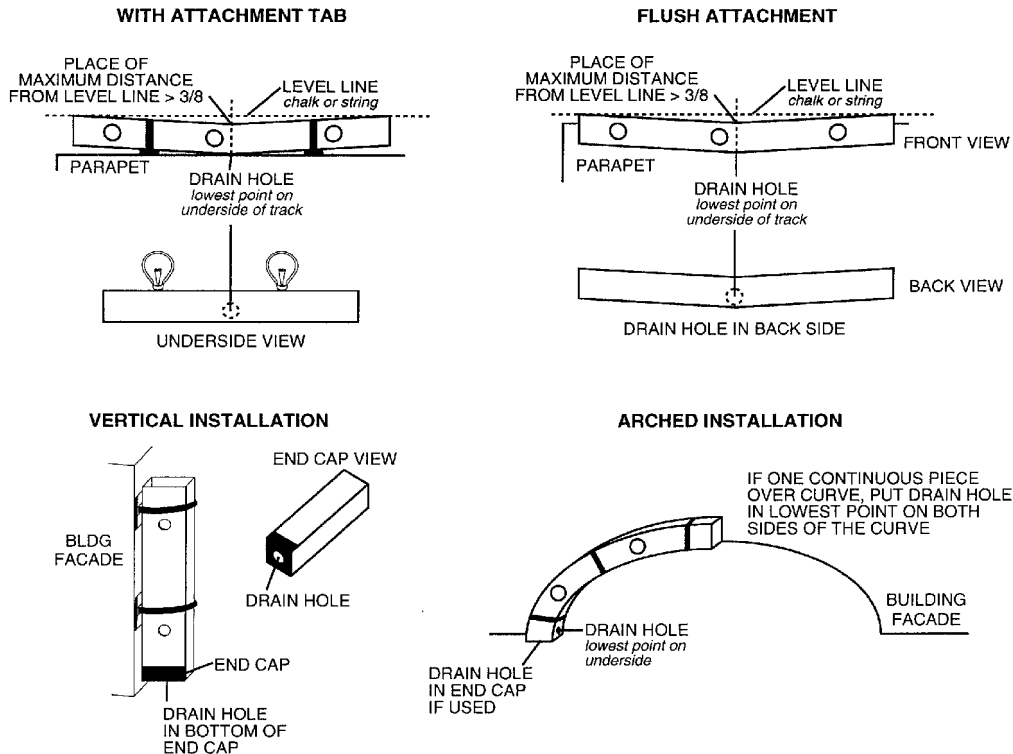
HORIZONTAL INSTALLATION

On a level installation using Attachment Tabs, the drain hole should be placed in the center of the Track section on the bottom. If the Track is installed flush on top of a surface without tabs or other material that would allow at least 1/4" space between the Track and the installation surface, then the drain hole must be installed in the back of the Track touching the bottom.

In the event that a single section of the Track has more than one low point or is configured in such a way that low points may allow for interior moisture accumulation, then you must make an additional drain hole in the bottom of each low point. An additional low point is determined by using a level or making a straight line above a section of Track using a string or by snapping a chalk line. When a portion of the Track dips more than 3/8" below the level plane or level line of the Track, this is determined to be a low point and should have a drain hole at this point. Example: The parapet dips and snakes up and down in a "S" shape in such a way that low points are created in the Track that could accumulate moisture without a way to escape. At these low points is where drain holes must be installed.

VERTICAL OR ARCHED INSTALLATIONS

Where the track is installed in a vertical or an arched manner the drain hole should be placed in the lowest point of the Track. Options include the end cap of the track, the bottom or building side of the Track or the back side at the lowest point. Installer will have to determine the best location depending upon the particular installation. Consideration should be given to the drain hole placement in the same manner as in the drain hole placement in the horizontal installation: **DO NOT PLACE THE HOLE WHERE IT WILL NOT DRAIN** such as on the side of a Track that will be flush against a building where no water could drain out. See Figure 8 below.



**DRAIN HOLE INSTALLATION
FIGURE -8-**

VI. Place a section of Track onto the attachment tabs with sockets in the proper orientation (see #4). While one installer holds the Track in place, another should fasten and tighten the Tye Wraps, leaving a little "give" or slack for expansion of the Track. (NOTE: TYE WRAPS SHOULD BE TIGHT BUT ALLOW LATERAL MOVEMENT.)

VII. BEGINNING A CIRCUIT - NOTE: POWER MUST BE OFF DURING INSTALLATION!

Select an adequate power source for supplying power to the tracks and size the wire which brings the power to the Track so that the voltage drop to Track is not more than 3-5 volts while lights are burning.

PERMANENT INSTALLATION: Approximately 3" from the beginning end (left end) of the Track, make a 1/2" knock-out hole in back of Track. Bring wires from EMT rigid or flexible conduit into Track through knock-out hole. An oversize or 1/2" x 3/4" reducing washer must be used inside the PVC Track on all connections that are made through the plastic Track wall in order to reinforce the Track wall and prevent damage to the Track. A sealing washer should be used on the outside of the Track to prevent moisture entering the Track at the connection point. (NOTE: Supply wire must be rated for 105°C). Next to connect to wires in the Track, connect the "colored" (not green) wire in the Track to the "hot" wire of the power supply, and the white wire in the Track connects to the neutral wire of the power supply, green connects to the ground wire. See figure 9. (NOTE: If additional feeder circuits are installed in the track they will be a larger #10 ga. wire and or labeled)

NOTE: We recommend the installation of a disconnect switch within reach of the Track for maintenance safety.

TEMPORARY INSTALLATION: Approximately 3" from the "starting" end (left end) of the Track, make a 1/2" knock-out hole in back of Track. Insert a strain relief connector in the knock-out hole and bring SOWA into Track through knock-out hole. An oversize or 1/2" x 3/4" reducing washer must be used inside the PVC Track on all connections that are made through the plastic Track wall in order to reinforce the wall and prevent damage to the Track. A sealing washer should be used on the outside of the Track to prevent moisture entering the Track at the connection point. Connect the SOWA to the wires in the Track; the colored (not green) wire in the Track connects to the "hot" wire of the power supply and the green to the ground, the white wire in the Track connects to the neutral wire of the power supply. See Figure 9 below:

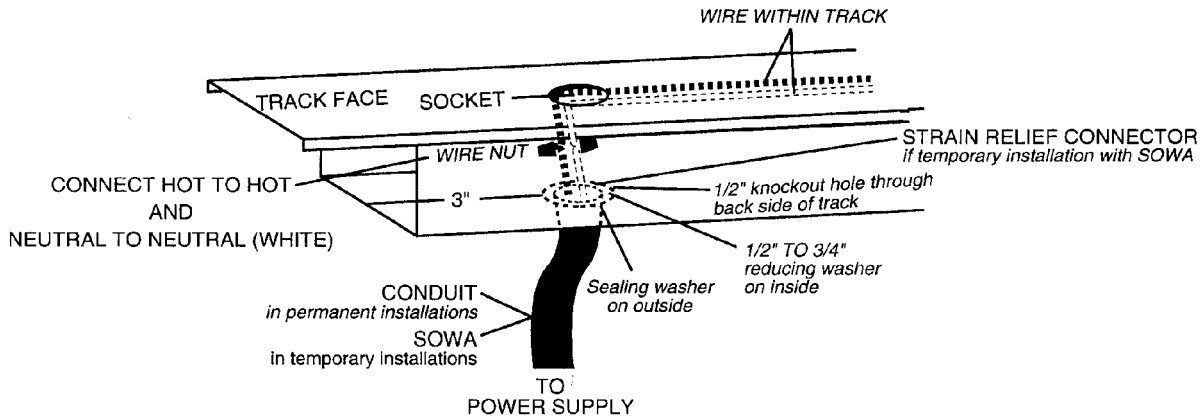


FIGURE -9-

VIII. Move to end of the section just installed. If circuit is to continue beyond the end of this section (SEE MAXIMUM LENGTH OF TRACK PER CIRCUIT TABLE IN STEP #1) repeat steps 5 & 6 for attaching the next section to the building. Then go to step #9. If the circuit should end at a point within the next section of Track, move to step #11.

IX. Connect the wires of the contiguous Track sections with wire nuts connecting the colored ("hot") wires to each other and the white (neutral) wires to each other. See Figure 10 below:

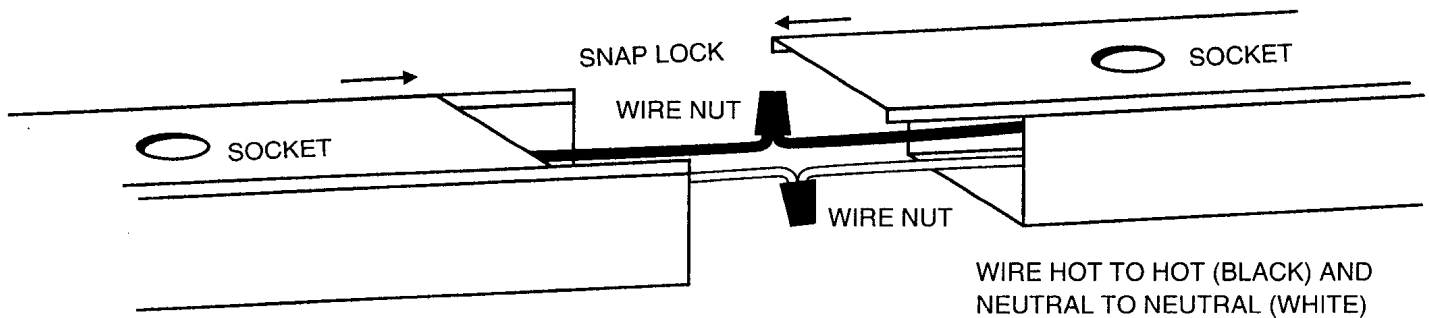


FIGURE -10-

Note: Green wire to green wire (ground).

X. Snap "Front" offset piece on subsequent Track section down onto "Back" offset piece of preceding Track section. Return to step #8.

XI. ENDING THE CIRCUIT - Place the next section of Track on the installation site butting it up against the previous section. Do not close Tye wraps over Track yet. Mark the Track at the point where it reaches the mark (made at the end of Step 1) on the installation site denoting where the current circuit should end.

XII. Pry up the front of Track (side with sockets) and cut it and the wires at the circuit-end mark. End the circuit by placing a wire nut on the end of each wire on the left side of the cut. See Figure 11A on the next page. **DO NOT CONNECT THE TWO WIRES TOGETHER.**

XIII. Snap down the front of the Track on the completed circuit.

XIV. Go to Step #4 to continue the installation starting a new circuit in the remaining length of Track. Alternative: It may be that a licensed electrician would develop a more sophisticated circuit plan than a circular plan such as this where one circuit ends another begins. It may be that in the next circuit in the installation the power source is closer to the other end of this circuit. In which case the circuit could begin there and run counter clockwise and both circuits could end here. See Figure 11B on the next page. Return to step #4 to continue installation starting a new circuit. When you reach a corner, see Step #15.

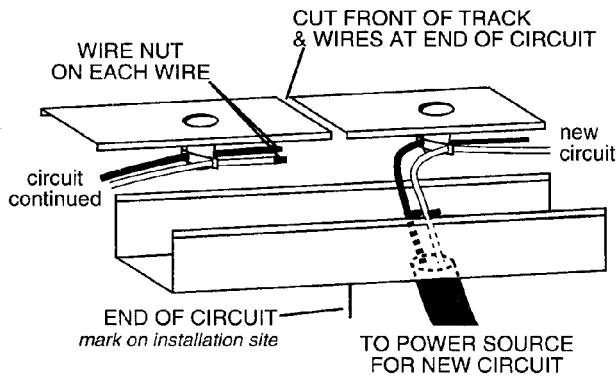


FIGURE -11A-

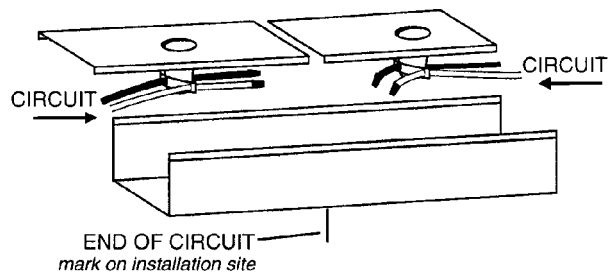


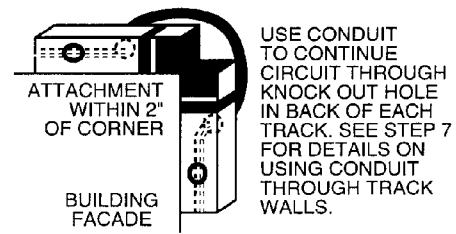
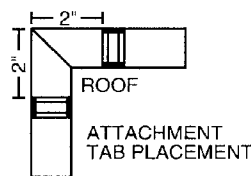
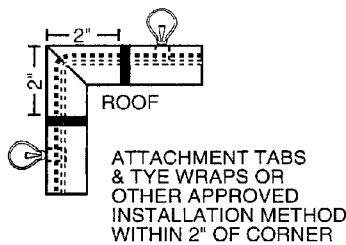
FIGURE -11B-

XV. CORNERING - Note that from Step #2 you should have Attachment Tabs 2" from the corner on either side (inside position). When you come to a corner, test if the shape of the curve is gentle enough that you can bend the Track around it (down to a curve of approximately 12' radius). If the curve is too sharp for bending you will need to cut the Track. Note unless it is also the end of the circuit you will not necessarily need to cut the wires. Miter the two pieces of Track (the one coming into the corner, and the one going out of the corner) so that they butt up against each other. Do not create an offset of the top or bottom; these Track pieces will not snap lock together. See Figure 12 below. Make cuts in track so as to have a "flush" connection. Return to Step #8 to continue installation along the straight building edge.

FIGURE 12

Horizontal to Horizontal:

Horizontal to Vertical:



XVI. **ENDING THE TRACK** - If your installation is a complete circumference of building, when you reach the starting point again, cut the last section of Track to reach the end of the first section of Track installed. Create the offset of Front and Back pieces so that you can snap lock the last section to the first to have one continuous "circle" of Track. Before snap-locking the sections together, end the circuit of the last section of Track as in step #12.

If your installation is not a complete "circle", at the end of the installation, cut Track front, back and wires off flush (no offset) and terminate each wire with a wire nut (see Figure 10). Affix an end cap over open end of Track. See Figure 13.

Return to the beginning Track section and cut front offset piece off so it is even with the back piece. Affix an end cap over open end. See Figure 13.

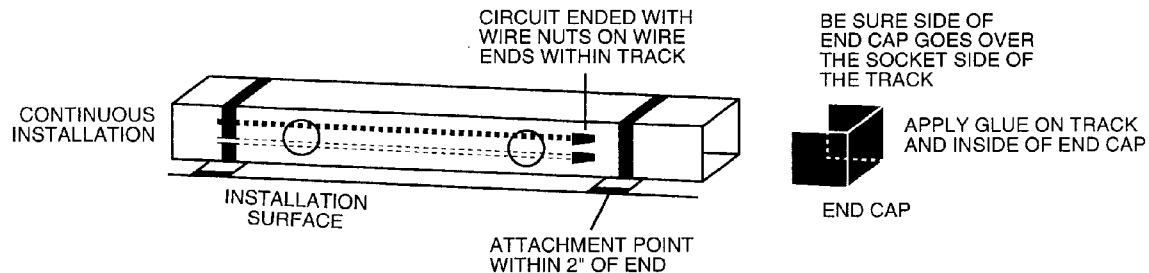


FIGURE -13-

XVII. Insert bulbs in each socket. Turn on power to the Track and observe for unlighted bulbs. Mark any bulbs which are not lighted. **TURN OFF POWER.** Replace any unlighted bulbs with bulbs which you know are working. Turn on Power. Mark any bulbs which still remain unlighted. **TURN OFF POWER.**

XVIII. At each unlighted bulb (which we know are "good" bulbs from Step #17), remove bulb and pry Front piece from the Back piece and twist the back of the socket to ensure that the wires are connected to the socket. Snap Track closed.

XIX. Turn on power and observe those bulbs which previously were not lighted. They should now be working.

XX. Operations & Maintenance: Timers are recommended to operate lights. Lights should be set to come on just before sunset and go off at a selected time. Many installations select an on time 30-40 minutes before sunset and an off time at midnight and another on time at 5:00 AM with the off time 40-45 minutes after sunrise. If using Ty Wraps or Tyton Ties or other connection device with the Attachment Tab, a quarterly inspection should be made to check each Track section to make sure that it is secure. After severe weather (wind especially) additional inspections should be made. The use of wire, stainless steel or "high impact/high heat/UV stabilized ties is strongly recommended for permanent installations.

If hurricane or tornado force winds are expected, Track should be removed.

Observe the bulbs frequently, and, **AFTER TURNING OFF POWER TO THE TRACK**, replace burned out bulbs.

XXI. Special Installations or Configurations: For installations or special configurations not covered in this manual, contact the manufacturer. Special installations and configurations may already be approved and available. Recommended installation is not wind tunnel tested or certified by a structural engineer. If testing or certification is required, contact the manufacturer for individual and specific installations.

XXII. Ground Connection in Aluminum Track: The green ground wire must be connected to the track on both ends and each end will have a 6" lead of green grounding wire. This wire should be connected to the ground wire from the power source. Do not cut, alter or remove the ground wire. ORDER track sections to exact size or order with additional ground wires connected to the desired position in the track that you may want to cut.