

*Installation, Pre-Installation & Operation Manual*

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# **LED Pin Light**

December 2018/ 47-902714-000

**Brunswick<sup>®</sup>** 

## **LED Pin Light Installation, Pre-Installation & Operations Manual**

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Reorder Part No. 47-902714-000

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# Safety

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## NOTES AND WARNING

Throughout this publication, “Warnings” and “Cautions” (accompanied by one of the International HAZARD Symbols) are used to alert the mechanic to special instructions concerning a particular service or operation that may be hazardous if performed incorrectly or carelessly. They are defined below. **OBSERVE AND READ THEM CAREFULLY!**

These “Safety Alerts” alone cannot eliminate the hazards that they signal. Strict compliance to these special instructions when performing the service, plus training and “Common Sense” operation are major accident prevention measures.



**NOTE or IMPORTANT!:**

*Will designate significant informational notes.*



**WARNING!**

*Will designate a mechanical or nonelectrical alert which could potentially cause personal injury or death.*



**WARNING!**

*Will designate electrical alerts which could potentially cause personal injury or death.*



**CAUTION!**

*Will designate a mechanical or nonelectrical alert which could potentially cause product damage.*



*Will designate grounding alerts.*

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## SAFETY NOTICE TO USERS OF THIS MANUAL

This manual has been written and published by the Service Department of Brunswick Bowling and Billiards to aid the reader when servicing or installing the products described.

It is assumed that these personnel are familiar with, and have been trained in, the servicing or installation procedures of these products, which includes the use of common mechanic's hand tools and any special Brunswick or recommended tools from other suppliers.

We could not possibly know of and advise the reader of all conceivable procedures by which a service might be performed and of the possible hazards and/or results of each method. We have not attempted any such wide evaluation. Therefore, anyone who uses a service procedure and/or tool, which is not recommended by Brunswick, must first completely satisfy himself that neither his nor the product's safety will be endangered by the service procedure selected.

All information, illustrations and specifications contained in this manual are based on the latest product information available at the time of publication.

It should be kept in mind, while working on the product, that the electrical system is capable of violent and damaging short circuits or severe electrical shocks. When performing any work where electrical terminals could possibly be grounded or touched by the mechanic, the power to the product should be disconnected prior to servicing and remain disconnected until servicing is complete.

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# Packaging

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<b>MODEL NUMBER CONFIGURATION</b>			
<i>BRUNSWICK BOWLING PRODUCTS</i>			
Drawing Number:		<b>G6-30001-000</b>	Rev. No: <b>C</b>
<b>DESCRIPTION: MNC - MULTI-COLORED PIN DECK LED LIGHTING, LED LIGHT</b>			
REV.	QTY.	PART NUMBER	DESCRIPTION OF PACKAGE
<b>C</b>	0.08	11-602251-000	CORD - 16/3 WIRE GA. 10 FT. EXTENSION CORD
	1.00	47-863001-000	PKG. - LED LIGHT FIXTURE

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<b>MODEL NUMBER CONFIGURATION</b>			
<i>BRUNSWICK BOWLING &amp; BILLIARDS CORPORATION</i>			
Drawing Number:		<b>G6-30002-000</b>	Rev. No: <b>N/C</b>
<b>DESCRIPTION: MNC - PIN DECK LED LIGHTING, DMX CONTROLLER, 110V</b>			
REV.	QTY.	PART NUMBER	DESCRIPTION OF PACKAGE
	1.00	47-863003-000	PKG. - CONTROLLER FOR PIN DECK LIGHTING, 110V
	1.00	47-902714-000	MANUAL - LED PIN LIGHT PRE-INSTALLATION, INSTALLATION & OPERATION

Page 1 of 1

<b>MODEL NUMBER CONFIGURATION</b>			
<i>BRUNSWICK BOWLING &amp; BILLIARDS CORPORATION</i>			
Drawing Number:		<b>G6-30003-000</b>	Rev. No: <b>N/C</b>
<b>DESCRIPTION: MNC - PIN DECK LED LIGHTING, DMX CONTROLLER, 230V</b>			
REV.	QTY.	PART NUMBER	DESCRIPTION OF PACKAGE
	1.00	47-863004-000	PKG. - CONTROLLER FOR PIN DECK LIGHTING, 230V
	1.00	47-902714-000	MANUAL - LED PIN LIGHT PRE-INSTALLATION, INSTALLATION & OPERATION

<b>MODEL NUMBER CONFIGURATION</b>			
<i>BRUNSWICK BOWLING &amp; BILLIARDS CORPORATION</i>			
Drawing Number:		<b>G6-30004-000</b>	Rev. No: <b>A</b>
<b>DESCRIPTION: MNC - PINDECK LED LIGHT, HOME RUN CABLE LONG</b>			
REV.	QTY.	PART NUMBER	DESCRIPTION OF PACKAGE
<b>A</b>	2.00	47-863005-000	PKG. - DMX CABLE, 150' (OMNICABLE 150')

<b>MODEL NUMBER CONFIGURATION</b>			
<i>BRUNSWICK BOWLING &amp; BILLIARDS CORPORATION</i>			
Drawing Number:		<b>G6-30005-000</b>	Rev. No: <b>A</b>
<b>DESCRIPTION: MNC - PIN DECK LED LIGHTING, GSX MOUNTING BRACKET</b>			
REV.	QTY.	PART NUMBER	DESCRIPTION OF PACKAGE
<b>A</b>	1.00	47-862933-000	PKG. - PIN DECK LIGHT MOUNTING BRACKETS
	1.00	47-863002-000	PKG. - DMX CABLE, 10'

<b>MODEL NUMBER CONFIGURATION</b>			
<i>BRUNSWICK BOWLING &amp; BILLIARDS CORPORATION</i>			
Drawing Number:		<b>G6-30006-000</b>	Rev. No: <b>N/C</b>
<b>DESCRIPTION: MNC - PIN DECK LED LIGHTING, 25' EXTENSION CABLE</b>			
REV.	QTY.	PART NUMBER	DESCRIPTION OF PACKAGE
	1.00	47-863006-000	PKG. - DMX CABLE, 25'

<b>MODEL NUMBER CONFIGURATION</b>			
<i>BRUNSWICK BOWLING &amp; BILLIARDS CORPORATION</i>			
Drawing Number:		<b>G6-30007-000</b>	Rev. No: <b>A</b>
<b>DESCRIPTION: MNC - BRACKETS, A2 PIN DECK LIGHT</b>			
REV.	QTY.	PART NUMBER	DESCRIPTION OF PACKAGE
<b>A</b>	1.00	12-860812-000	PKG. - BRACKETS, A2 PIN DECK LIGHT, W/HDWR.
	1.00	47-863002-000	PKG. - DMX CABLE, 10' <i>LED Pin Lighting</i>

<b>MODEL NUMBER CONFIGURATION</b>			
<i>BRUNSWICK BOWLING &amp; BILLIARDS CORPORATION</i>			
Drawing Number:		<b>G6-300008-000</b>	Rev. No: <b>N/C</b>
<b>DESCRIPTION: MNC - PIN DECK LIGHT H-RUN CABLE TO SERVICE AISLE</b>			
REV.	QTY.	PART NUMBER	DESCRIPTION OF PACKAGE
	1.00	47-863002-000	PKG. - DMX CABLE 10' (OMNICABLE 10')

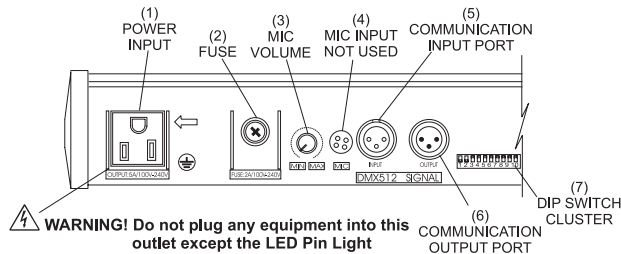
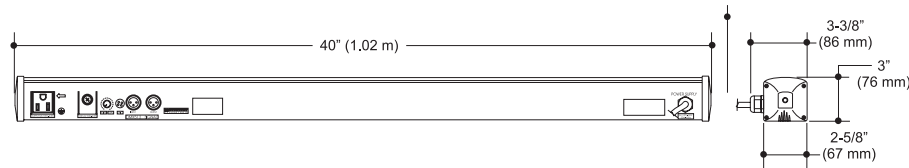
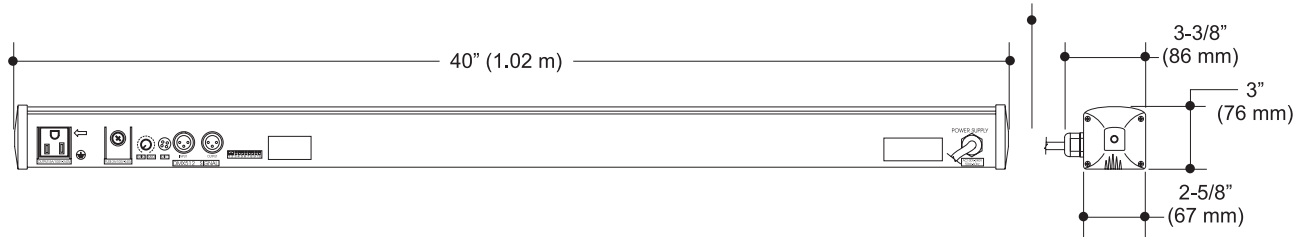
<b>MODEL NUMBER CONFIGURATION</b>			
<i>BRUNSWICK BOWLING &amp; BILLIARDS CORPORATION</i>			
Drawing Number:		<b>G6-300009-000</b>	Rev. No: <b>A</b>
<b>DESCRIPTION: MNC - STRINGPIN MOUNTING BRACKETS &amp; GUARD FOR LED PIN DECK LIGHT</b>			
REV.	QTY.	PART NUMBER	DESCRIPTION OF PACKAGE
<b>A</b>	1.00	55-860040-000	PKG. - MULTI COLORED PIN LIGHT MOUNTING BRACKETS & HARDWARE
<b>A</b>	1.00	47-863006-000	PKG. - DMX CABLE, 25'

<b>MODEL NUMBER CONFIGURATION</b>			
<i>BRUNSWICK BOWLING PRODUCTS</i>			
Drawing Number:		<b>G6-300010-000</b>	Rev. No: <b>N/C</b>
<b>DESCRIPTION: MNC - PIN DECK LED BRACKETS, GS-X W/PIVOTING WALKWAY</b>			
REV.	QTY.	PART NUMBER	DESCRIPTION OF PACKAGE
	1.00	47-267129-000	PKG. - BRACKET, LED PIN LIGHT, GS-X PIVOTNG WALKWAY
	1.00	47-863002-000	PKG. - DMX CABLE, 10'



# Pre-Installation

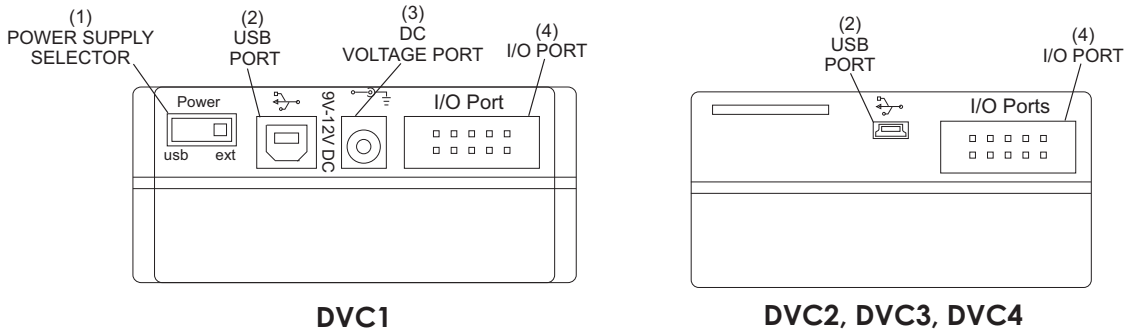
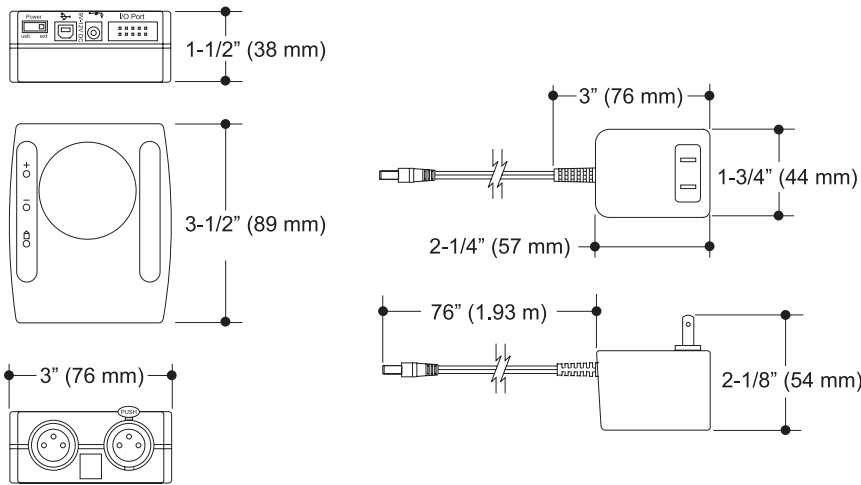
LED Pin Light, 47-863001-000							
Volts	Hertz	AC/DC	Phase	Amps Per Unit	Watts	Branch Circuit	Customer's Responsibility
100-130	50/60	AC	1	0.5	60	2 wires + ground	No more than 12 lights daisy chained in series
200-240	50/60	AC	1	.25	60	2 wires + ground	No more than 12 lights daisy chained in series



- (1) **POWER INPUT** - 120-240VAC, 5 amp
- (2) **FUSE** - 100-240VAC, 2 amp
- (3) **MIC VOLUME** - Not Used
- (4) **MIC** - Not Used
- (5) **COMMUNICATION INPUT PORT** - Connection for the communication cable from the Deck Light controller or the previous LED pin light
- (6) **COMMUNICATION OUTPUT PORT** - Connection for the cable to continue the Communication to additional pin lights
- (7) **DIP SWITCH CLUSTER**- Switches used to set the ID address of pinlight.

**i** **IMPORTANT!:** There will need to be a new outlet/circuit per 12 lanes. The outlet on the LED pin light is only rated for 5 amps.

Controller, 47-863003-000							
Volts	Hertz	AC/DC	Phase	Amps Per Unit	Watts	Branch Circuit	Customer's Responsibility
100-130	50/60	AC	1	.1	120	2 wires + ground	No more than 12 lights daisy chained in series
200-240	50/60	AC	1	0.5	120	2 wires + ground	No more than 12 lights daisy chained in series



- (1) **POWER SUPPLY SELECTOR SWITCH - DVC1 unit only.** Use to switch power input between the "USB" Port (2) and the "EXT" DC Voltage Port (3). Set to "EXT" (3)
- (2) **USB PORT -** Connection for USB power supply used to power DVC2, DVC3, DVC4 units.
- (3) **DC VOLTAGE PORT -** Power input for DVC1 units. See (1) Power Supply Selector
- (4) **I/O PORT- Not Used**

**i** **IMPORTANT!:** Program numbers 15, 16 and 24 will **NOT** operate with vector cameras. The programs will cause mis-scoring with Vector scoring.

# Installation LED Pin Lighting

## GS-X LED PIN LIGHT BRACKETS

If the GS-X Pinsetter has an attached wire way on the front of the machine perform *step 1*, if pinsetter is not equipped with a wire way proceed to *step 2*.

1. Remove one of the two M8 screws and nuts (Left Hand side of the machine) securing the wire way to the pinsetter.

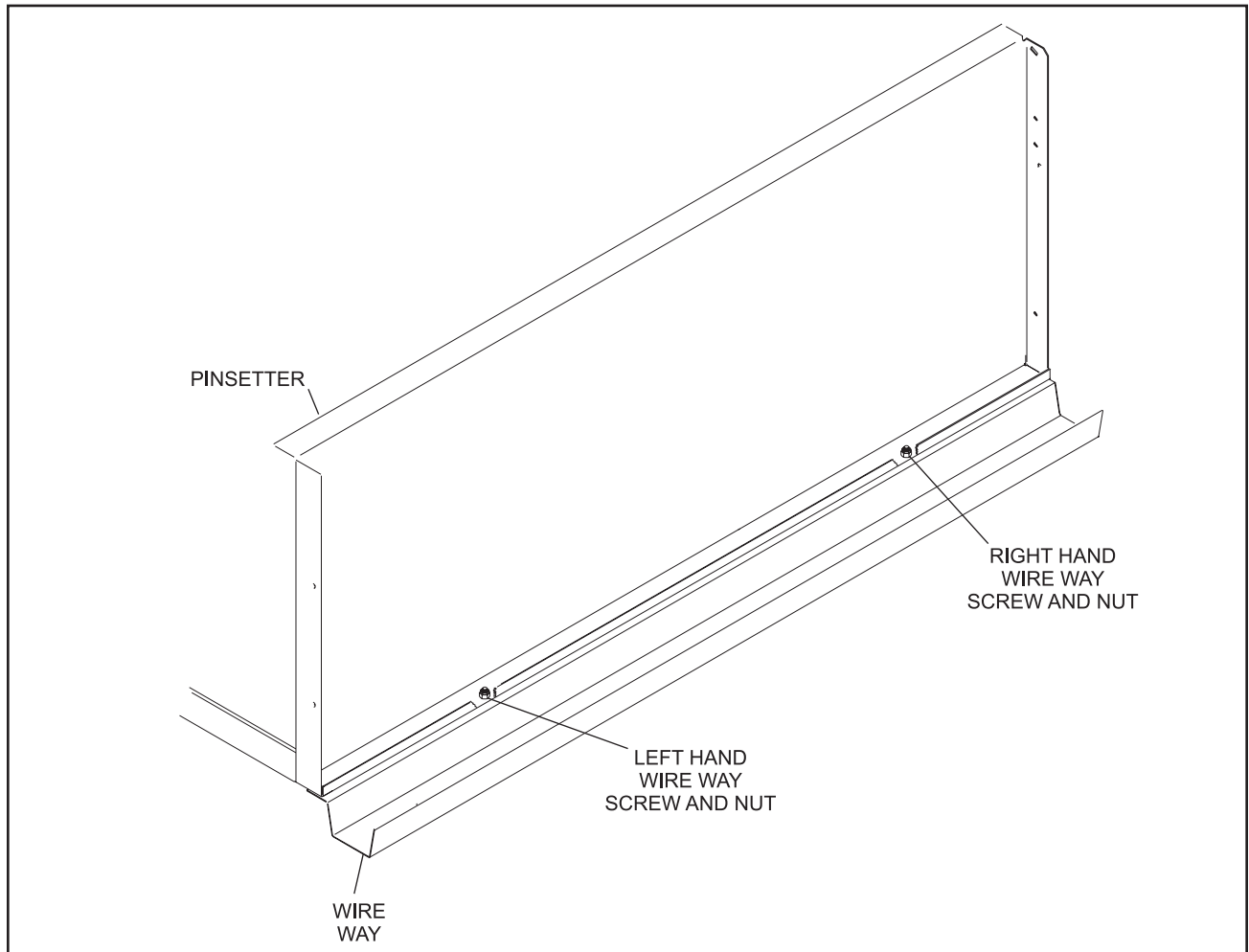
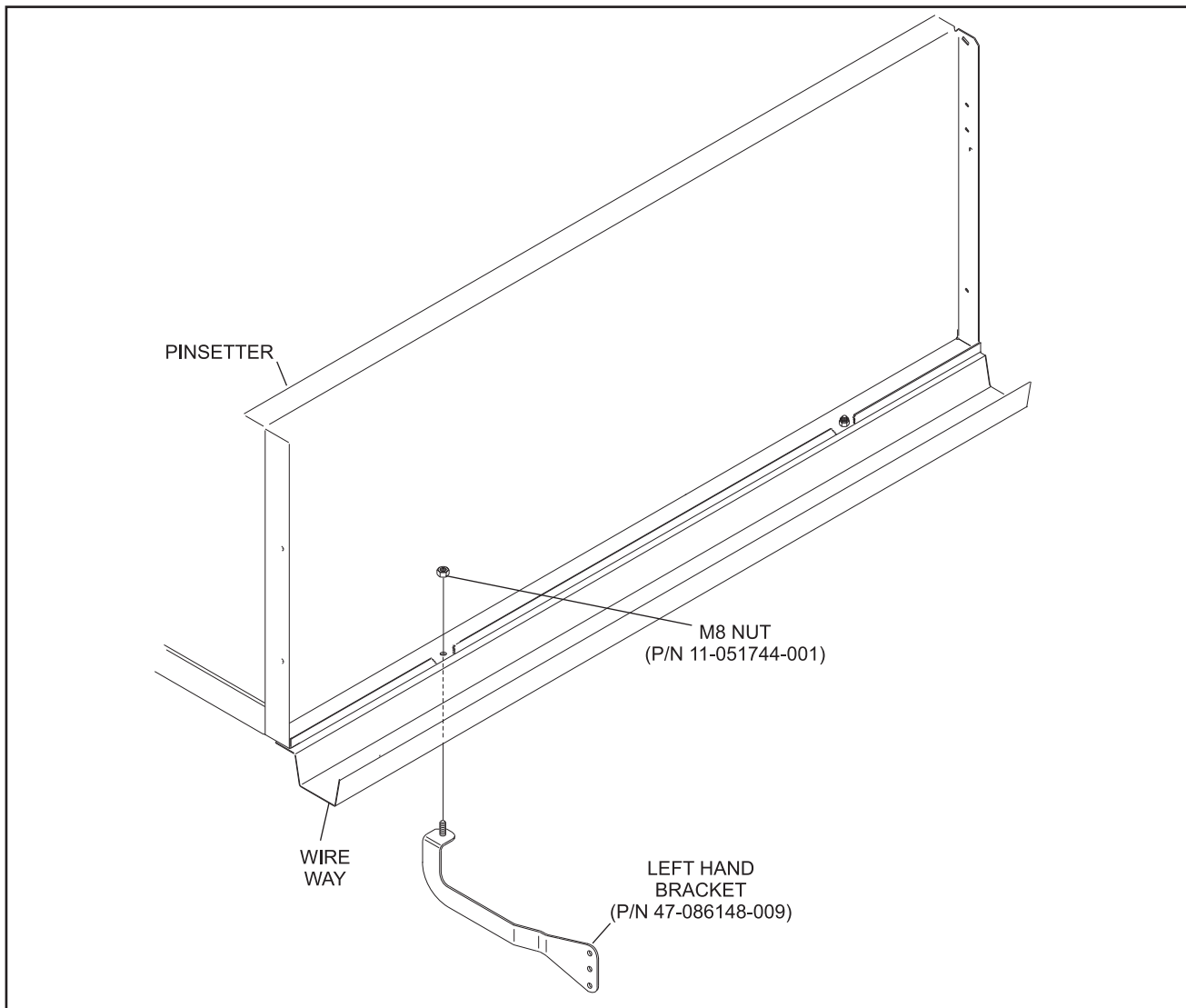


Figure 1

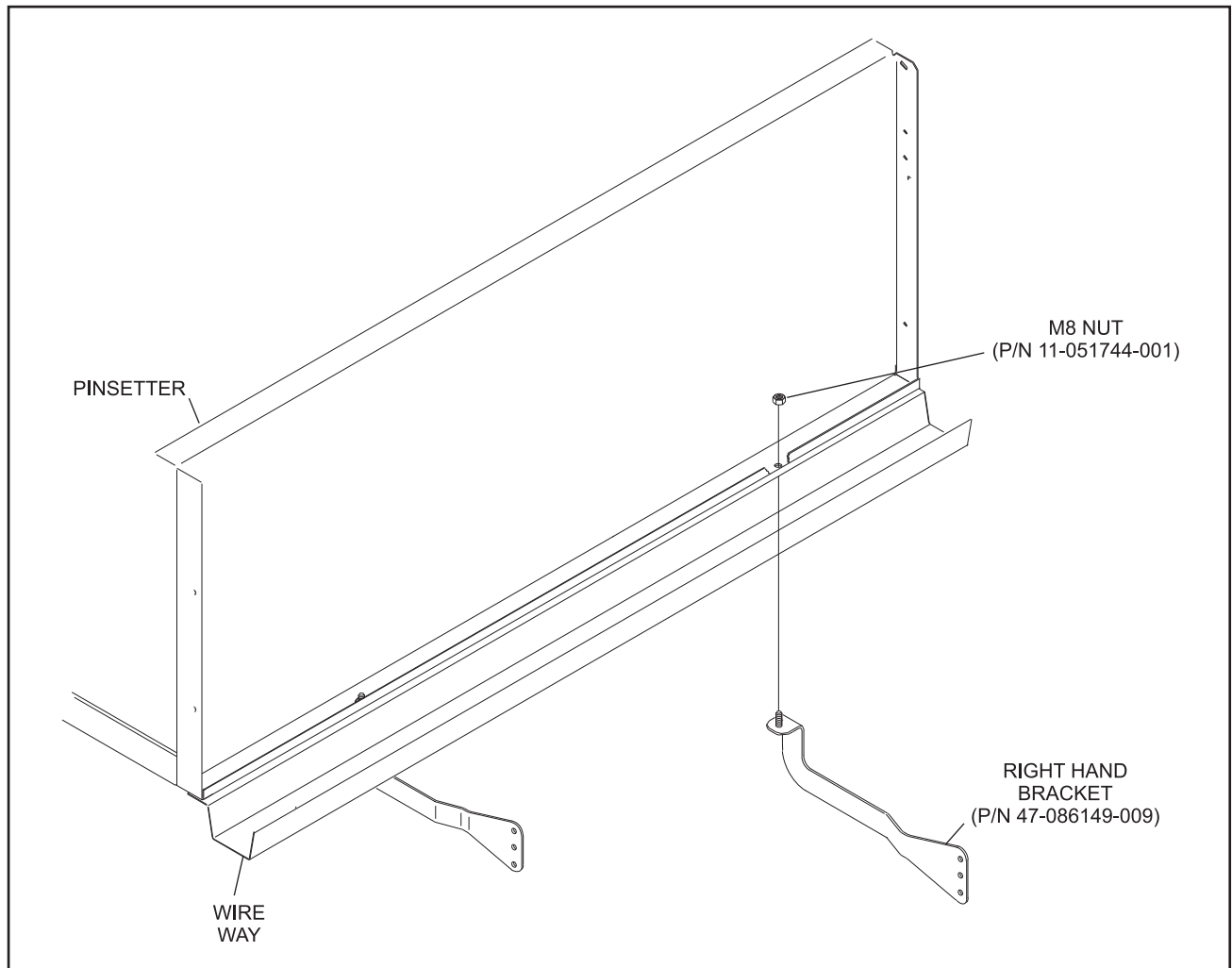
2. Insert the stud of Left Hand Bracket (47-086148-009) into the hole left by hardware removal in previous step and secure it with M8 nut (11-051744-001). Refer to *Figure 2*.



*Figure 2*

3. Remove the Right Hand side M8 screw and nut securing the wire way to the pinsetter. Refer to *Figure 1*.

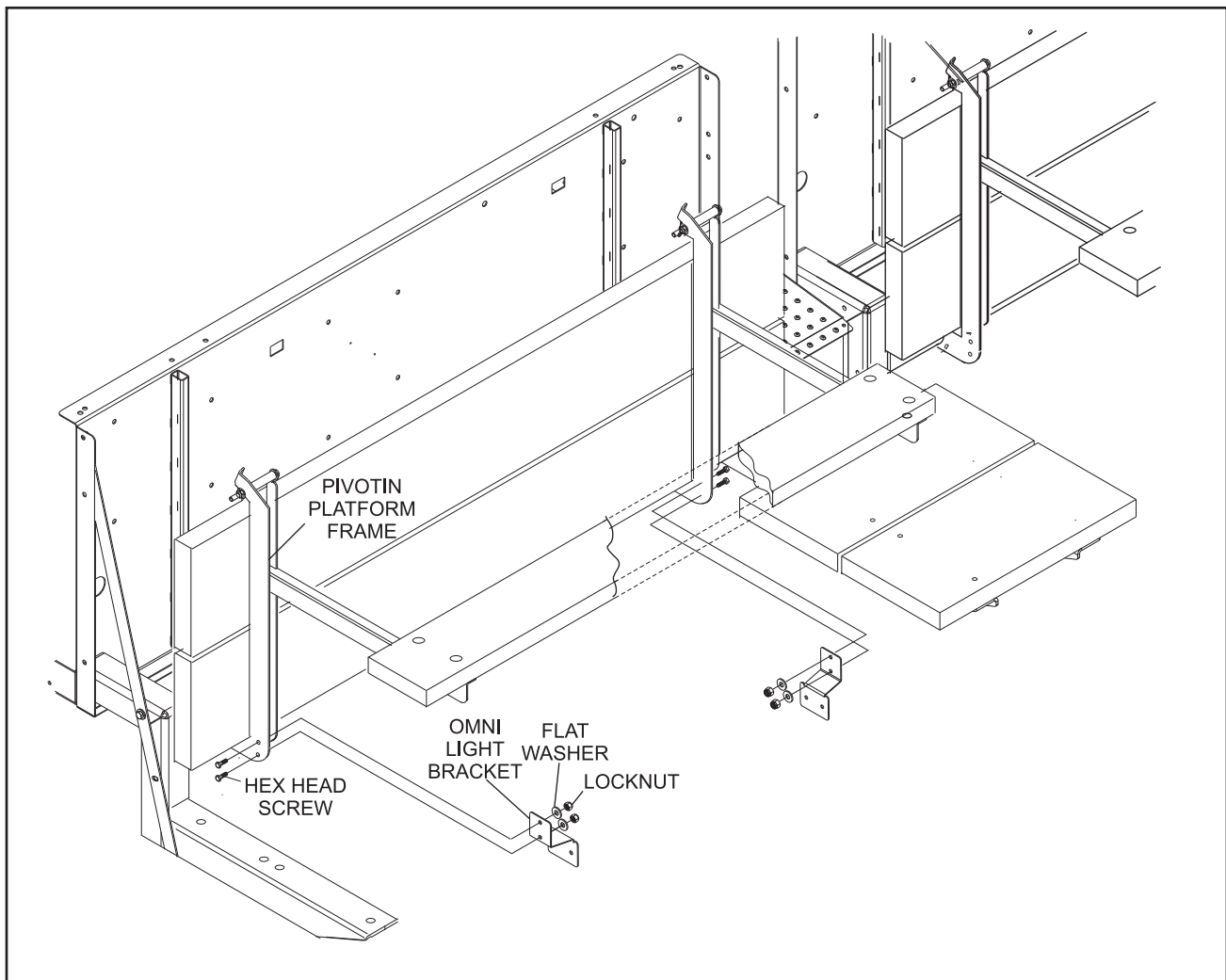
4. Insert the stud of Right Hand Bracket (47-086149-009) into the hole left by hardware removal in previous step and secure it with M8 nut (11-051744-001). Refer to *Figure 3*.



*Figure 3*

## GS-X WITH PIVOTING PLATFORM LIGHT BRACKETS

1. With platform up and secured (in the ready to bowl position) attach two Omni light brackets to the Pivoting Platform Frame with two hex head cap screws, two flat washers and two locknuts per bracket. Refer to *Figure 4*.



*Figure 4*

## A-2 LED PIN LIGHT BRACKETS

1. Find the center of the existing A-2 pin light support. Refer to *Figure 5*.

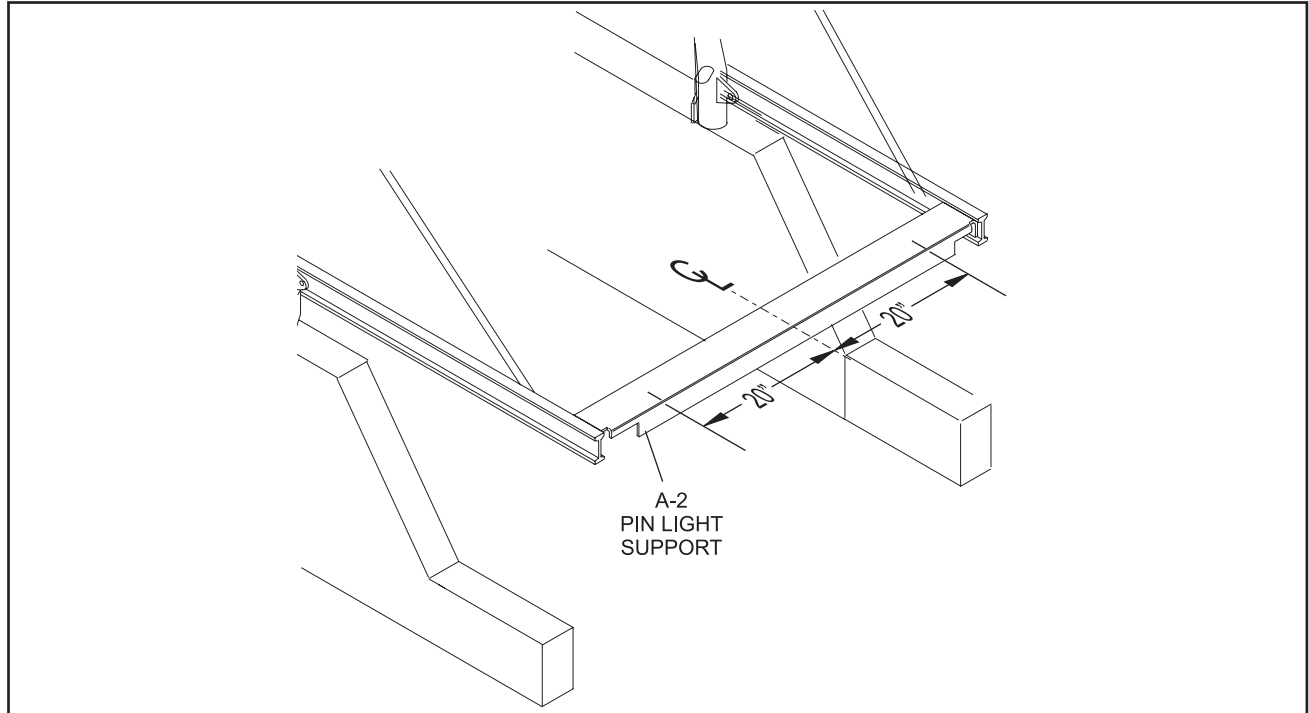


Figure 5

2. Position 1 bracket (12-610001-000) 20" to the left of the center line of the pin light support and one bracket 20" to the right of the center line of the pin light support. Bracket must extend toward foul line. Refer to *Figures 5 & 6*.

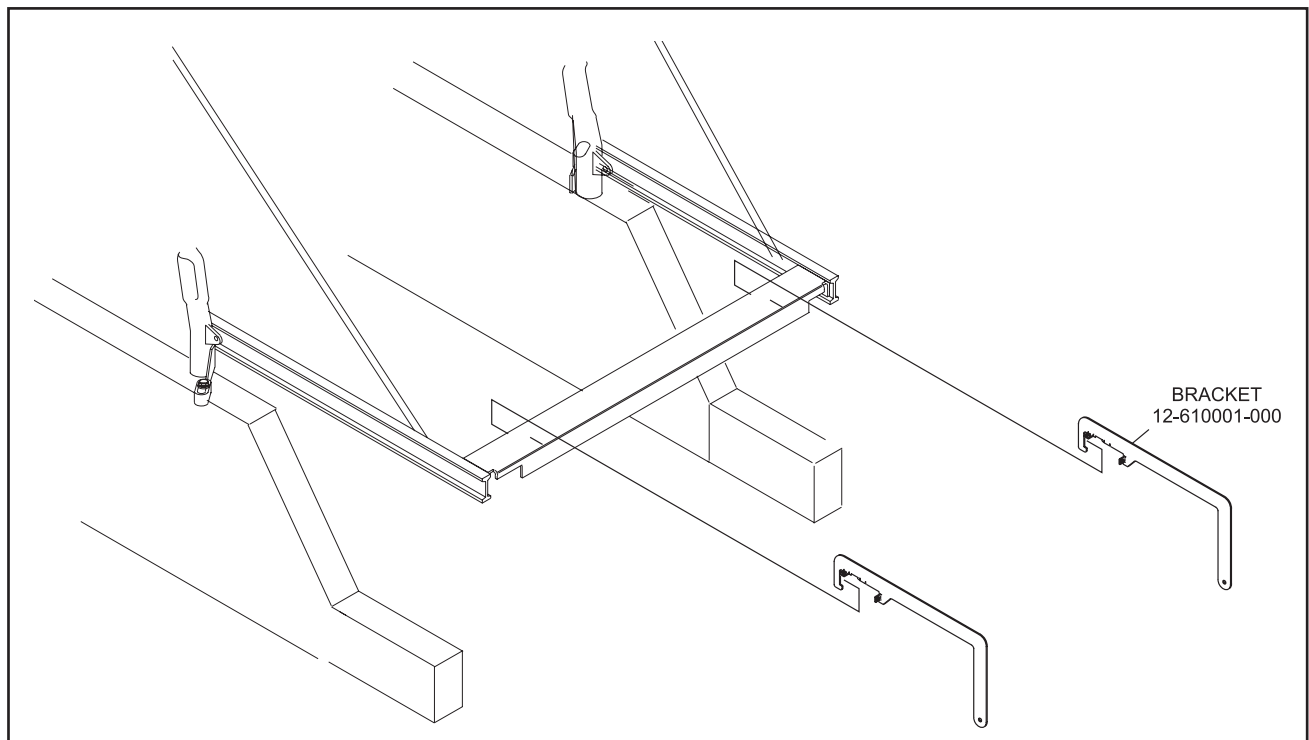
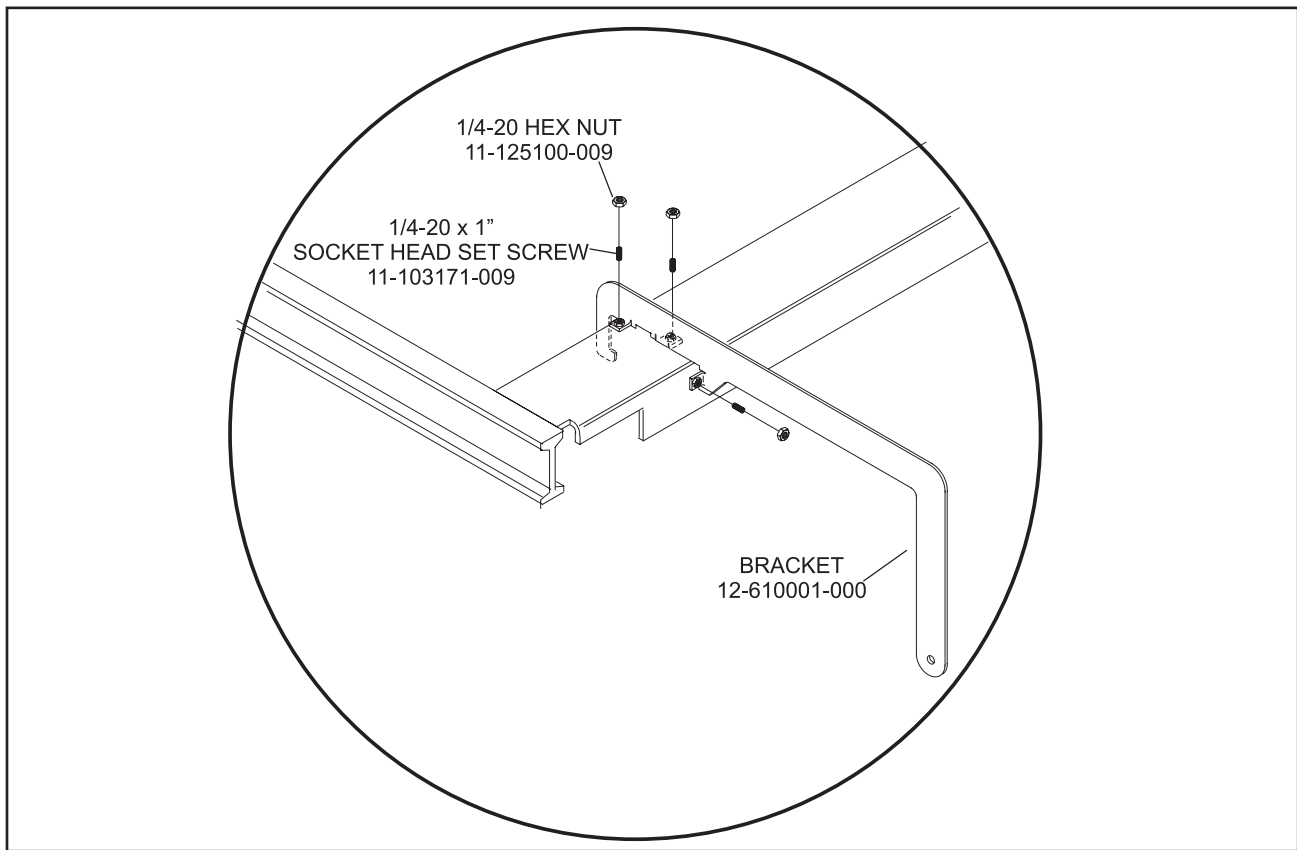


Figure 6

3. Thread a 1/4-20 x 1" socket head set screw (11-103171-009) in the nut on the front (toward the foul line) side and tighten to secure the bracket to the pin light support. Refer to *Figure 7*.



*Figure 7*

4. Thread a 1/4-20 hex nut (11-125100-009) onto the set screw and tighten to lock set screw.
5. Thread a 1/4-20 x 1" socket head set screw (11-103171-009) in each of the nuts on top of the bracket. Alternately tighten the set screws until the bracket is square and perpendicular to the pin light support.
6. Thread a 1/4-20 hex nut (11-125100-009) onto the set screw and tighten to lock set screw.



# STRING PIN LIGHT BRACKETS

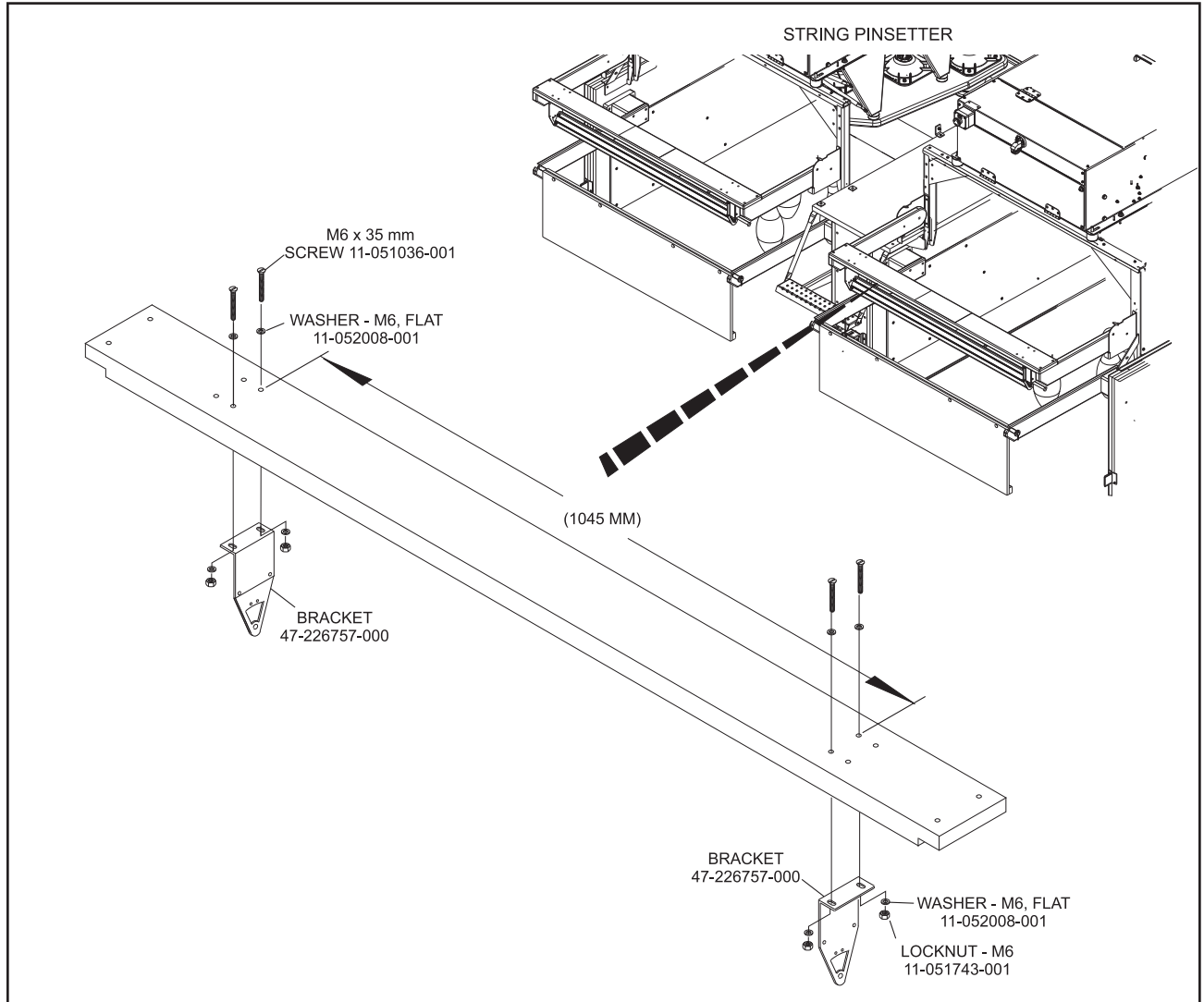


Figure 8

# LED PIN LIGHT INSTALLATION

1. Loosely attach Pin Deck Light to brackets with (1) M6 Screw and (2) External Tooth Lockwashers on each end of the light. Refer to *Figures 9 & 10*.

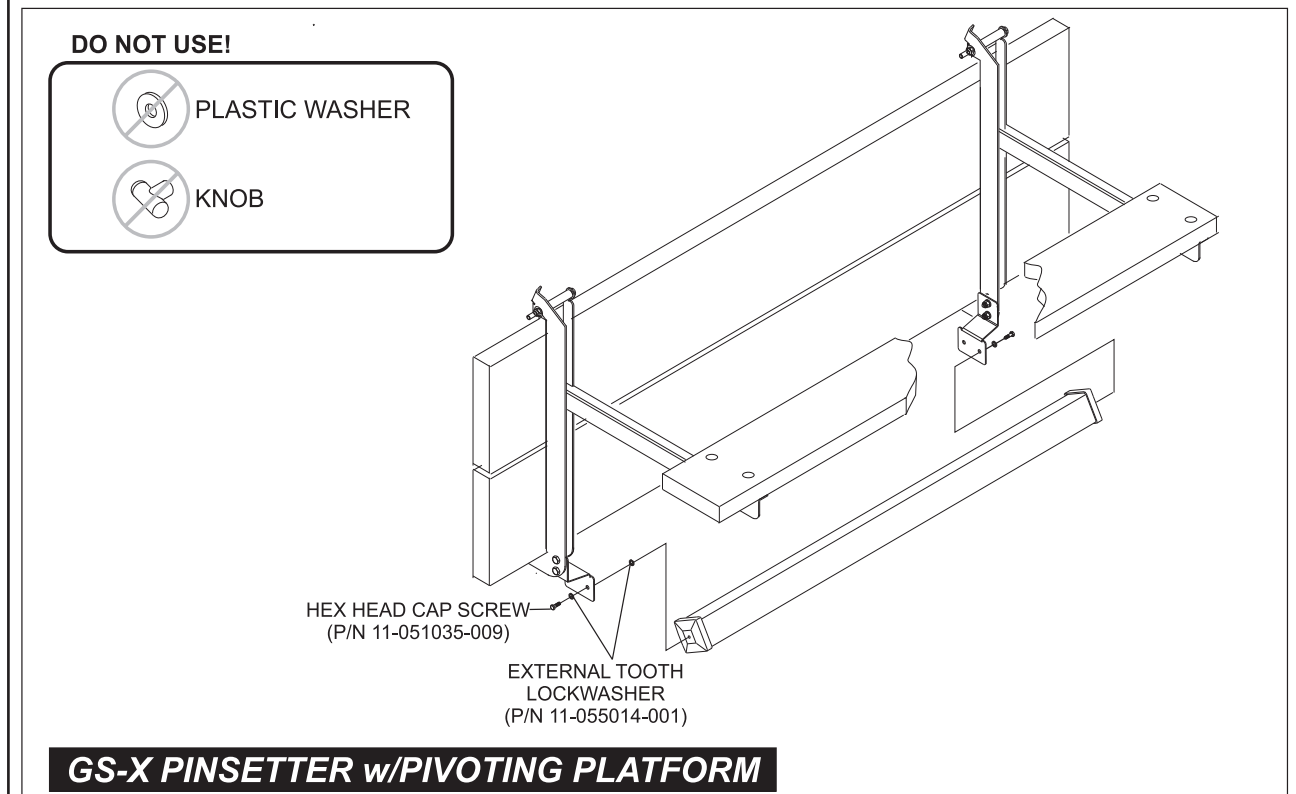
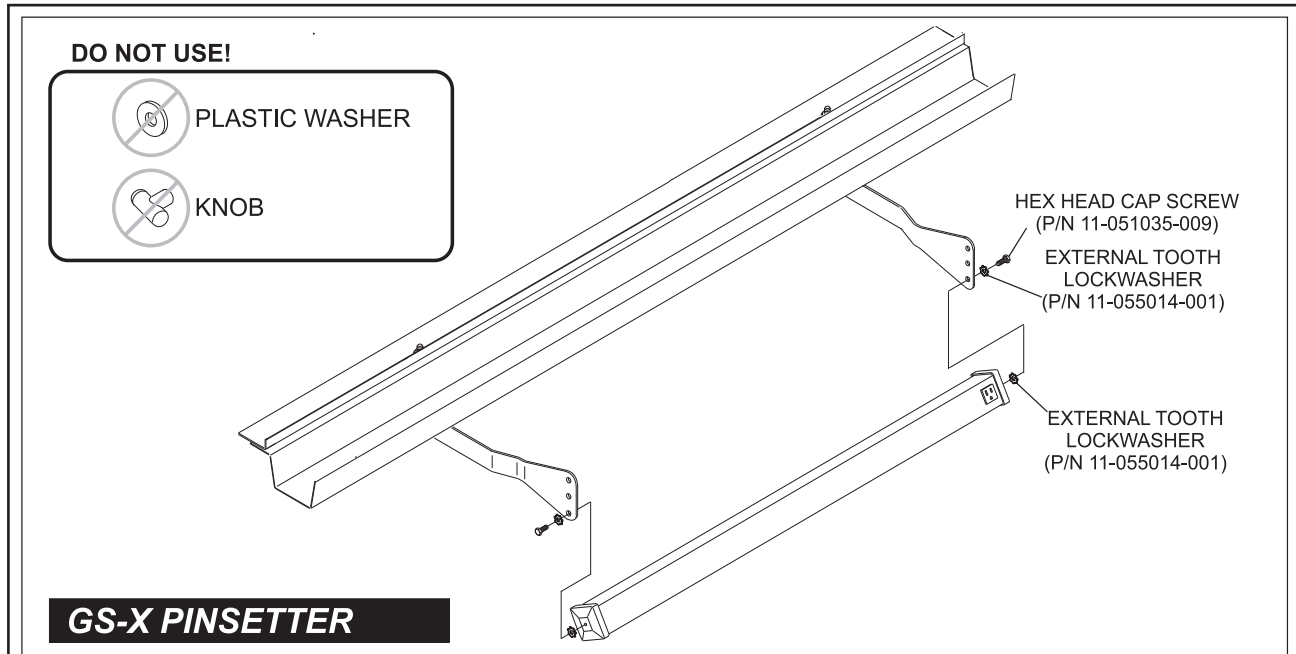


Figure 9

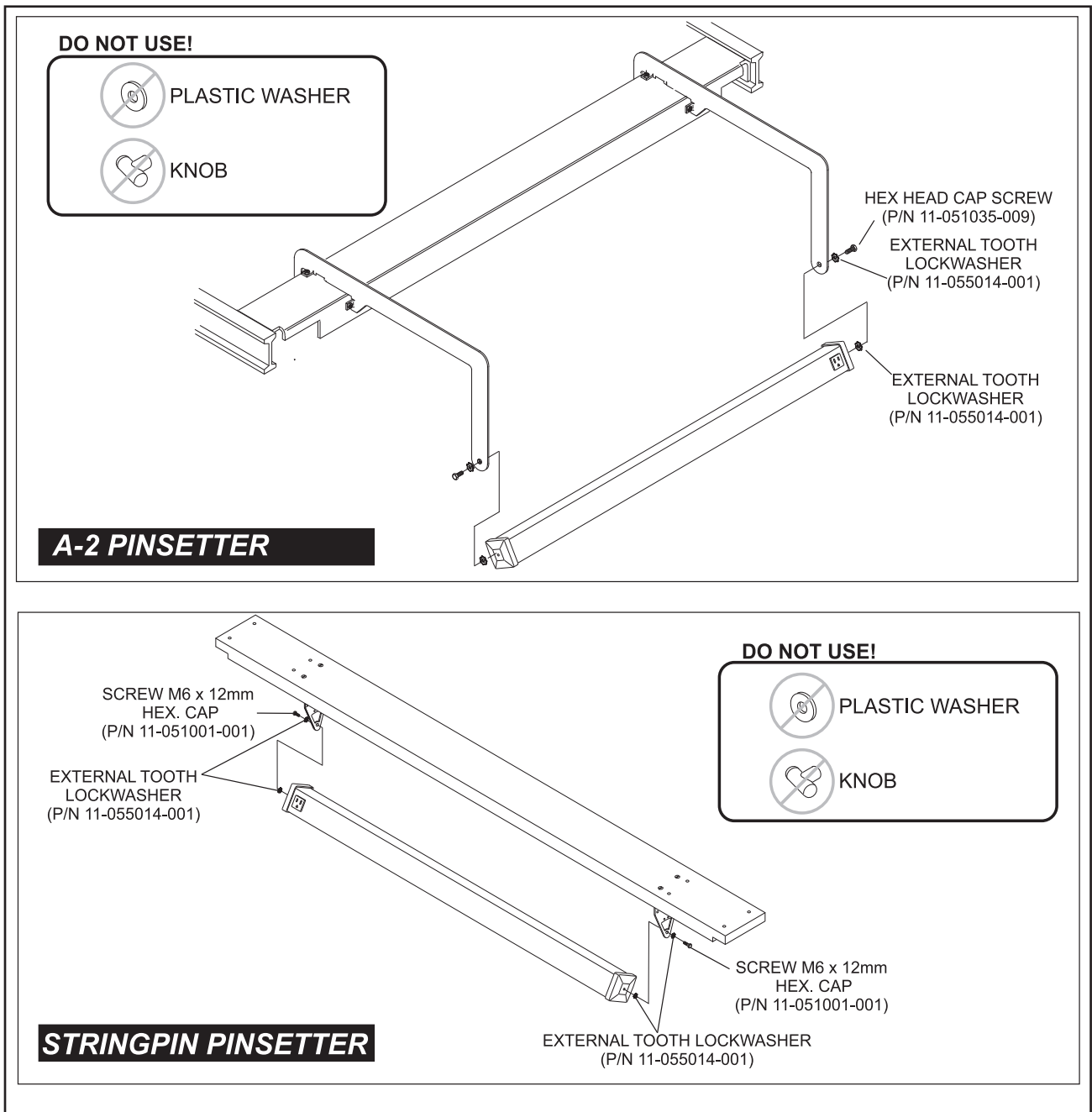


Figure 10

- Adjust the angle of the light to the desired position and tighten the screws on both ends of the light. Refer to *Figure 11*.

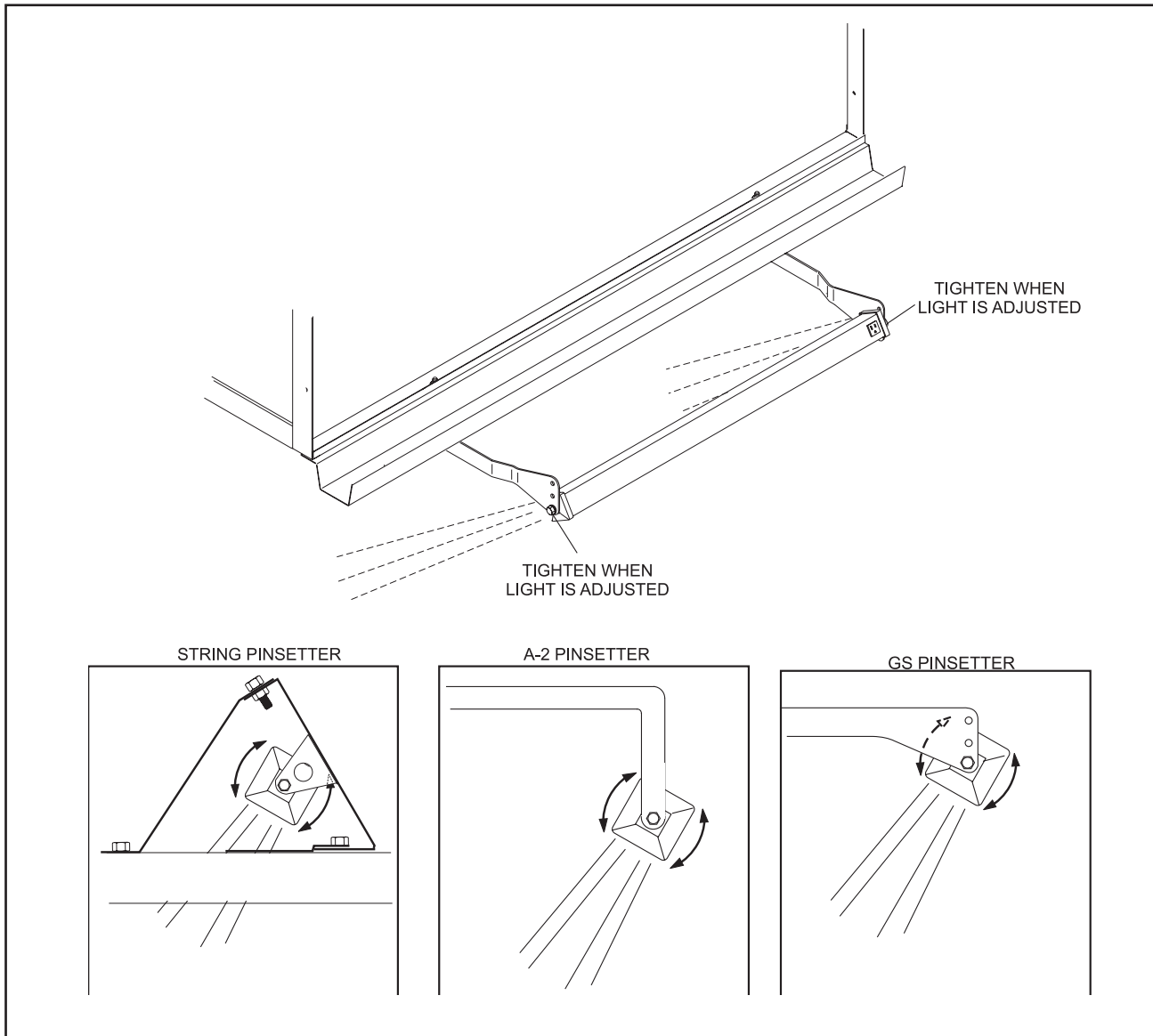


Figure 11

# CABLING & POWER

## Communication Cables

1. Connect the male end of the 150' (45.72 m) home run cable to the "Communication Output" port on the controller (P/N 47-863003-000). Refer to *Figure 12*.

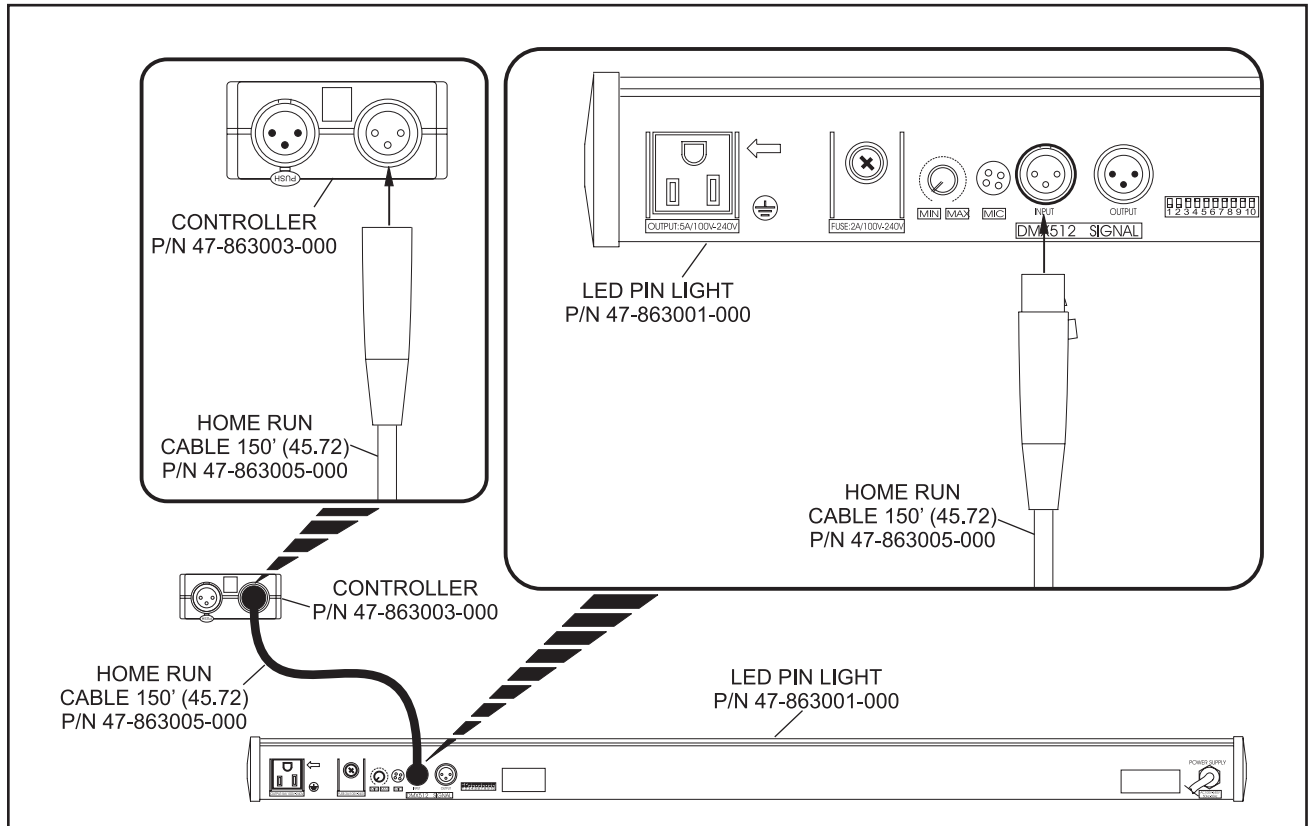


Figure 12

2. Connect the female end of the home run cable to the "Communication Input" port on the first LED pin light. Refer to *Figure 12*.

**i** **NOTE:** The home run cable can be attached to the pin light of either the first or last lane. Communication for the remaining pin lights will daisy chain from that point.

- Using a 10ft/3m cable, connect the first light to the second light, the second light to the third light, etc., until all the lights are chained together. Refer to *Figure 13*

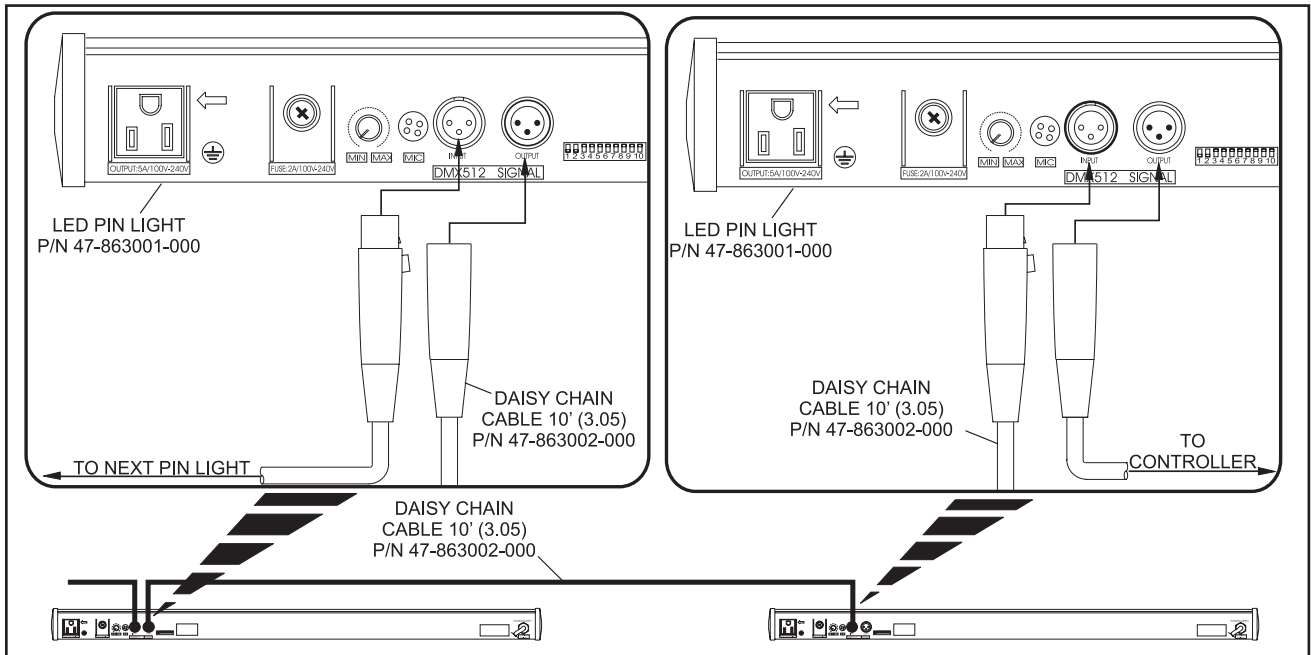


Figure 13



**NOTE:** If there is a large gap between two lanes, the data cables can be connected together to create a longer cable. Refer to Figure 14.

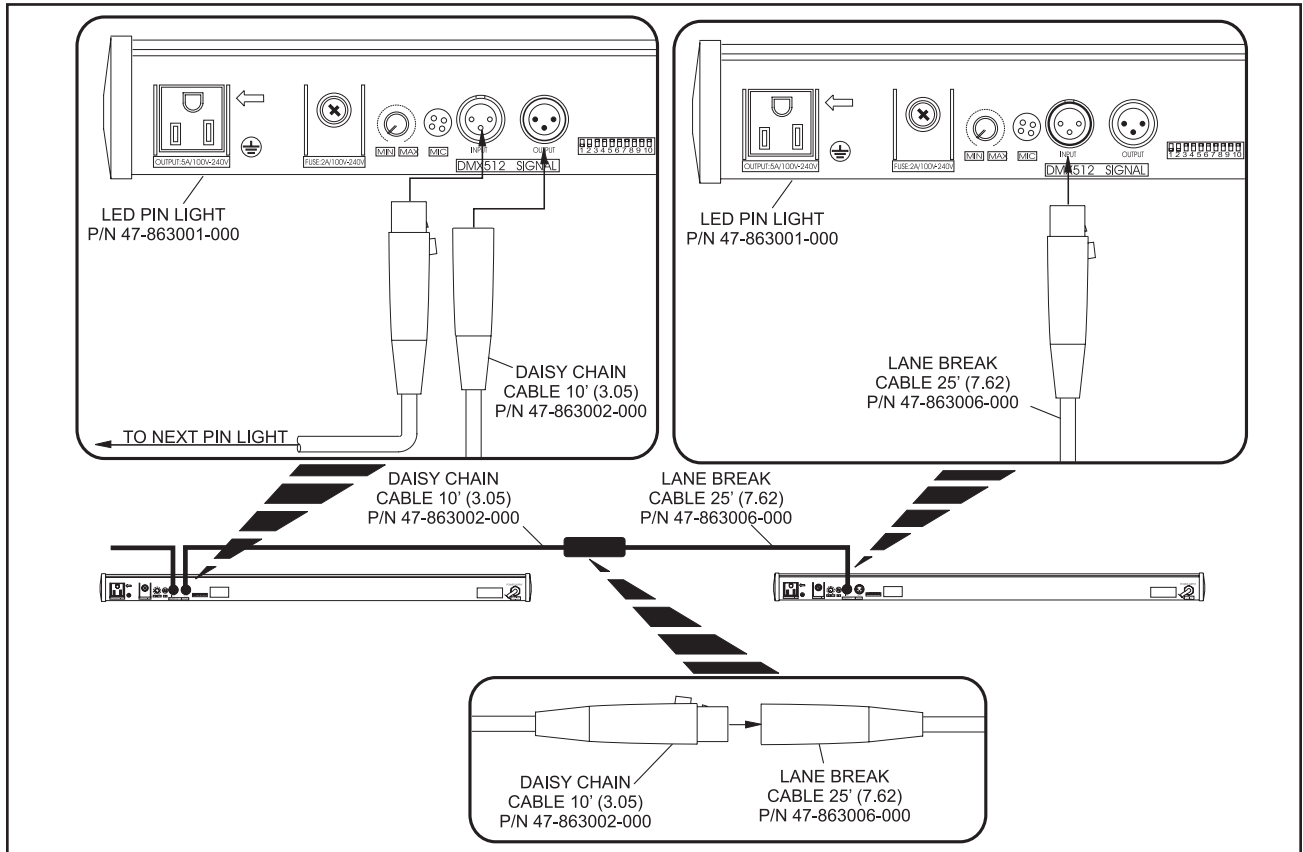


Figure 14

## Power

### LED Pinlight Fixture

1. Starting at the first or last light, plug the light into a standard electrical outlet. An adapter may need to be used, but the light will support 90-240V 50/60 Hz. Refer to *Figure 15*.

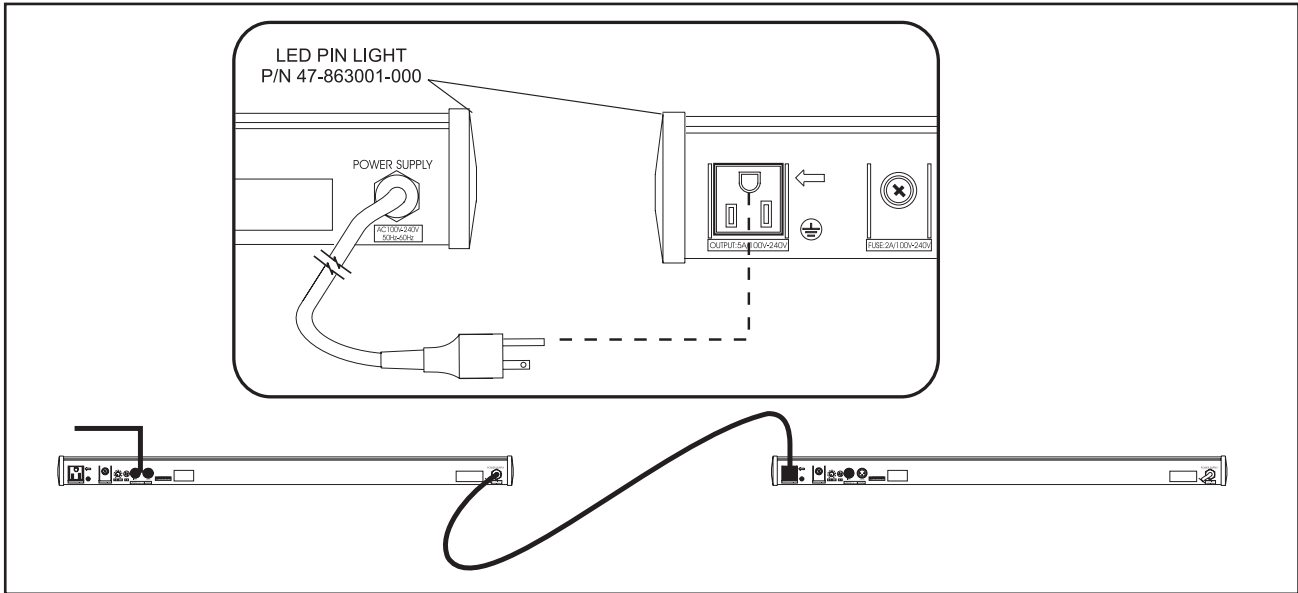


Figure 15

2. Plug the power cable from the light on the next lane into the power plug on the light on the previous lane. Up to 12 lights may be connected together.

**i** **NOTE:** An outlet is required for every 12 LED pin Lights.

### Controller

#### Model DVC1

To turn on the DVC1 model controller, plug the supplied power supply into the "DC Voltage" port and make sure the switch on the box is set to "EXT" (external power supply) not "USB" (for connecting to a computer). In order to function properly, the controller must be set to EXT. When it is set correctly and plugged in, the light indicators on the controller will light up. Refer to *Figure 16*.

#### Models DVC2, DVC3, DVC4

To turn on the DVC2, 3 or 4 model controllers, plug the supplied power supply into the "USB port". When plugged in, the light indicators on the controller will light up. Refer to *Figure 16*.

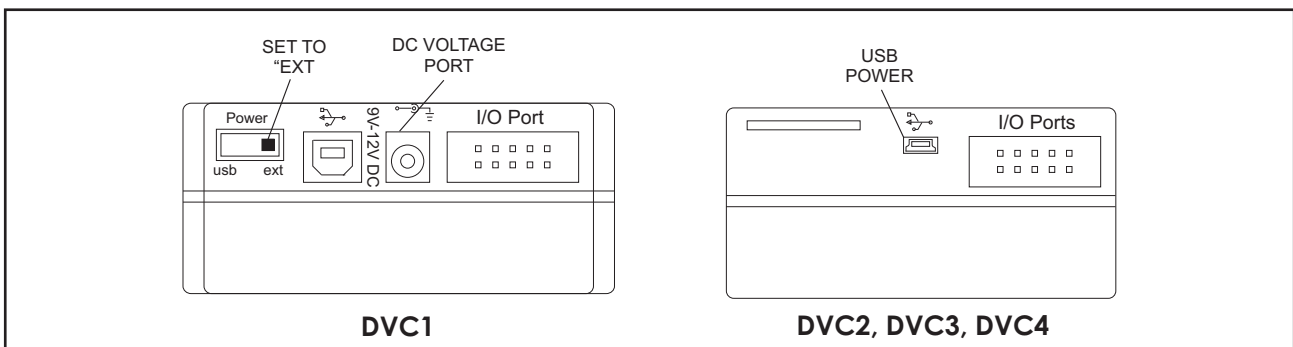
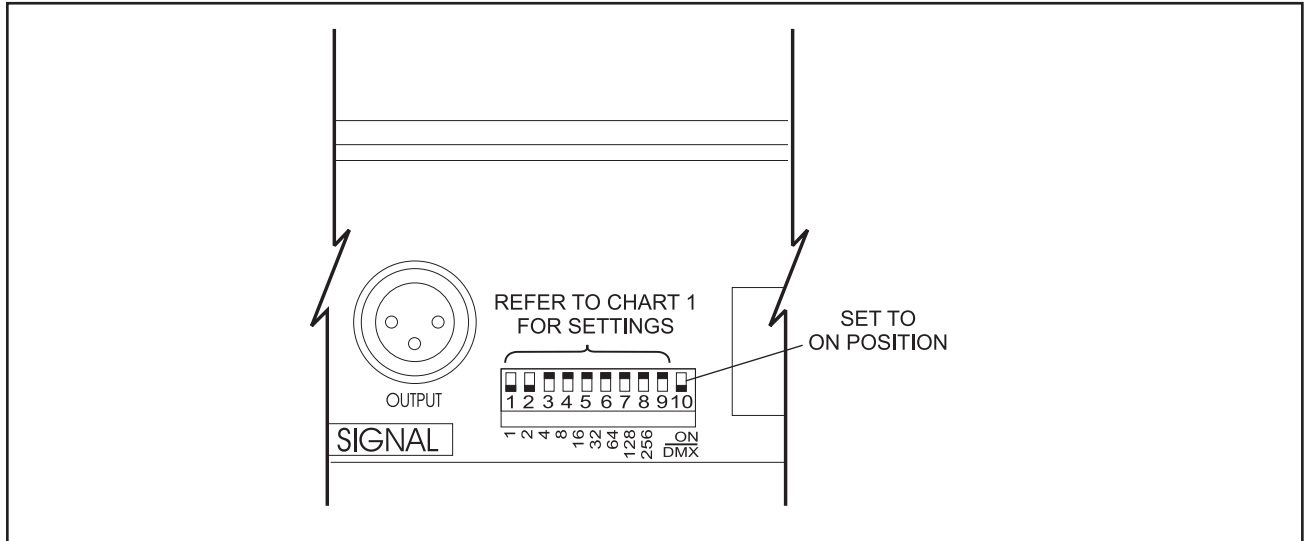


Figure 16



## Setting the Address of the LED Pin Light

Each light has 10 dip switches used to create a unique address for the light. Switches 1-9 are used to set the unique address for each light. Switch 10 is used to enable the light for DMX operation. To set a switch to the ON position, push the switch toward the number. Push the switch away from the number to set the switch to the OFF position. Refer to *Figure 17*.



*Figure 17*

Set the dip switches as follows:

**Switch 10** - Switch 10 should always be set to the On position (DMX operation).

**Switches 1-9** - There are 24 unique addresses (IDs) that can be assigned using dip switches 1-9. The addresses start at 1 and increase by the values of 13 up to an address of 300 (or 24 IDs). Refer to *Chart 1*.

Address	DIP SWITCH or LED PINLIGHT									
	S1 (1)	S2 (2)	S3 (4)	S4 (8)	S5 (16)	S6 (32)	S7 (64)	S8 (128)	S9 (256)	S10 DMX
1	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON
14	OFF	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	ON
27	ON	ON	OFF	ON	ON	OFF	OFF	OFF	OFF	ON
40	OFF	OFF	OFF	ON	OFF	ON	OFF	OFF	OFF	ON
53	ON	OFF	ON	OFF	ON	ON	OFF	OFF	OFF	ON
66	OFF	ON	OFF	OFF	OFF	OFF	ON	OFF	OFF	ON
79	ON	ON	ON	ON	OFF	OFF	ON	OFF	OFF	ON
92	OFF	OFF	ON	ON	ON	OFF	ON	OFF	OFF	ON
105	ON	OFF	OFF	ON	OFF	ON	ON	OFF	OFF	ON
118	OFF	ON	ON	OFF	ON	ON	ON	OFF	OFF	ON
131	ON	ON	OFF	OFF	OFF	OFF	OFF	ON	OFF	ON
144	OFF	OFF	OFF	OFF	ON	OFF	OFF	ON	OFF	ON
157	ON	OFF	ON	ON	ON	OFF	OFF	ON	OFF	ON
170	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON
183	ON	ON	ON	OFF	ON	ON	OFF	ON	OFF	ON
196	OFF	OFF	ON	OFF	OFF	OFF	ON	ON	OFF	ON
209	ON	OFF	OFF	OFF	ON	OFF	ON	ON	OFF	ON
222	OFF	ON	ON	ON	ON	OFF	ON	ON	OFF	ON
235	ON	ON	OFF	ON	OFF	ON	ON	ON	OFF	ON
248	OFF	OFF	OFF	ON	ON	ON	ON	ON	OFF	ON
261	ON	OFF	ON	OFF	OFF	OFF	OFF	OFF	ON	ON
274	OFF	ON	OFF	OFF	ON	OFF	OFF	OFF	ON	ON
287	ON	ON	ON	ON	ON	OFF	OFF	OFF	ON	ON
300	OFF	OFF	ON	ON	OFF	ON	OFF	OFF	ON	ON

*Chart 1*

Since the address of the lights impacts the light pattern sequence and the perceived movement of the light from lane to lane, the actual address assignment is dependent on what affect the bowling center desires.

It is suggested that the lanes be divided into 2 zones by assigning IDs using the following pattern:

The LED pin light on the first lane **AND** the LED pin light on the last lane address = 1 (1st Address)

The LED pin light on second lane **AND** the LED pin light on second from the last lane = 14 (2nd Address)

The LED pin light on the third lane **AND** the LED pin light on third from the last lane = 27 (3rd Address)

Continue this address pattern for the remaining lanes. Refer to the Chart 2 for an example of using this addressing method for 48 lanes.

An alternative method for centers 24 lanes or less is to simply configure the lights as one zone and assign addresses sequentially. Refer to the Chart 3 for an example of using this addressing method.

Lanes	Address	DIP SWITCH or LED PINLIGHT									
		S1 (1)	S2 (2)	S3 (4)	S4 (8)	S5 (16)	S6 (32)	S7 (64)	S8 (128)	S9 (256)	S10 DMX
1, 48	1	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON
2, 47	14	OFF	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	ON
3, 46	27	ON	ON	OFF	ON	ON	OFF	OFF	OFF	OFF	ON
4, 45	40	OFF	OFF	OFF	ON	OFF	ON	OFF	OFF	OFF	ON
5, 44	53	ON	OFF	ON	OFF	ON	ON	OFF	OFF	OFF	ON
6, 43	66	OFF	ON	OFF	OFF	OFF	OFF	ON	OFF	OFF	ON
7, 42	79	ON	ON	ON	ON	OFF	OFF	ON	OFF	OFF	ON
8, 41	92	OFF	OFF	ON	ON	ON	OFF	ON	OFF	OFF	ON
9, 40	105	ON	OFF	OFF	ON	OFF	ON	ON	OFF	OFF	ON
10, 39	118	OFF	ON	ON	OFF	ON	ON	ON	OFF	OFF	ON
11, 38	131	ON	ON	OFF	OFF	OFF	OFF	OFF	ON	OFF	ON
12, 37	144	OFF	OFF	OFF	OFF	ON	OFF	OFF	ON	OFF	ON
13, 36	157	ON	OFF	ON	ON	ON	OFF	OFF	ON	OFF	ON
14, 35	170	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON
15, 34	183	ON	ON	ON	OFF	ON	ON	OFF	ON	OFF	ON
16, 33	196	OFF	OFF	ON	OFF	OFF	OFF	ON	ON	OFF	ON
17, 32	209	ON	OFF	OFF	OFF	ON	OFF	ON	ON	OFF	ON
18, 31	222	OFF	ON	ON	ON	ON	OFF	ON	ON	OFF	ON
19, 30	235	ON	ON	OFF	ON	OFF	ON	ON	ON	OFF	ON
20, 29	248	OFF	OFF	OFF	ON	ON	ON	ON	ON	OFF	ON
21, 28	261	ON	OFF	ON	OFF	OFF	OFF	OFF	OFF	ON	ON
22, 27	274	OFF	ON	OFF	OFF	ON	OFF	OFF	OFF	ON	ON
23, 26	287	ON	ON	ON	ON	ON	OFF	OFF	OFF	ON	ON
24, 25	300	OFF	OFF	ON	ON	OFF	ON	OFF	OFF	ON	ON

Chart 2

		DIP SWITCH or LED PINLIGHT									
Lane	Address	S1 (1)	S2 (2)	S3 (4)	S4 (8)	S5 (16)	S6 (32)	S7 (64)	S8 (128)	S9 (256)	S10 DMX
1	1	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON
2	14	OFF	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	ON
3	27	ON	ON	OFF	ON	ON	OFF	OFF	OFF	OFF	ON
4	40	OFF	OFF	OFF	ON	OFF	ON	OFF	OFF	OFF	ON
5	53	ON	OFF	ON	OFF	ON	ON	OFF	OFF	OFF	ON
6	66	OFF	ON	OFF	OFF	OFF	OFF	ON	OFF	OFF	ON
7	79	ON	ON	ON	ON	OFF	OFF	ON	OFF	OFF	ON
8	92	OFF	OFF	ON	ON	ON	OFF	ON	OFF	OFF	ON
9	105	ON	OFF	OFF	ON	OFF	ON	ON	OFF	OFF	ON
10	118	OFF	ON	ON	OFF	ON	ON	ON	OFF	OFF	ON
11	131	ON	ON	OFF	OFF	OFF	OFF	OFF	ON	OFF	ON
12	144	OFF	OFF	OFF	OFF	ON	OFF	OFF	ON	OFF	ON
13	157	ON	OFF	ON	ON	ON	OFF	OFF	ON	OFF	ON
14	170	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON
15	183	ON	ON	ON	OFF	ON	ON	OFF	ON	OFF	ON
16	196	OFF	OFF	ON	OFF	OFF	OFF	ON	ON	OFF	ON
17	209	ON	OFF	OFF	OFF	ON	OFF	ON	ON	OFF	ON
18	222	OFF	ON	ON	ON	ON	OFF	ON	ON	OFF	ON
19	235	ON	ON	OFF	ON	OFF	ON	ON	ON	OFF	ON
20	248	OFF	OFF	OFF	ON	ON	ON	ON	ON	OFF	ON
21	261	ON	OFF	ON	OFF	OFF	OFF	OFF	OFF	ON	ON
22	274	OFF	ON	OFF	OFF	ON	OFF	OFF	OFF	ON	ON
23	287	ON	ON	ON	ON	ON	OFF	OFF	OFF	ON	ON
24	300	OFF	OFF	ON	ON	OFF	ON	OFF	OFF	ON	ON

Chart 3

## Operation

To operate the controller, use the + and – buttons to switch programs. When a program is active, it will continue to run until the controller box is unplugged or a different program is selected. By default, the controller will operate program 01 when it is turned on. Refer to *Figure 18*.

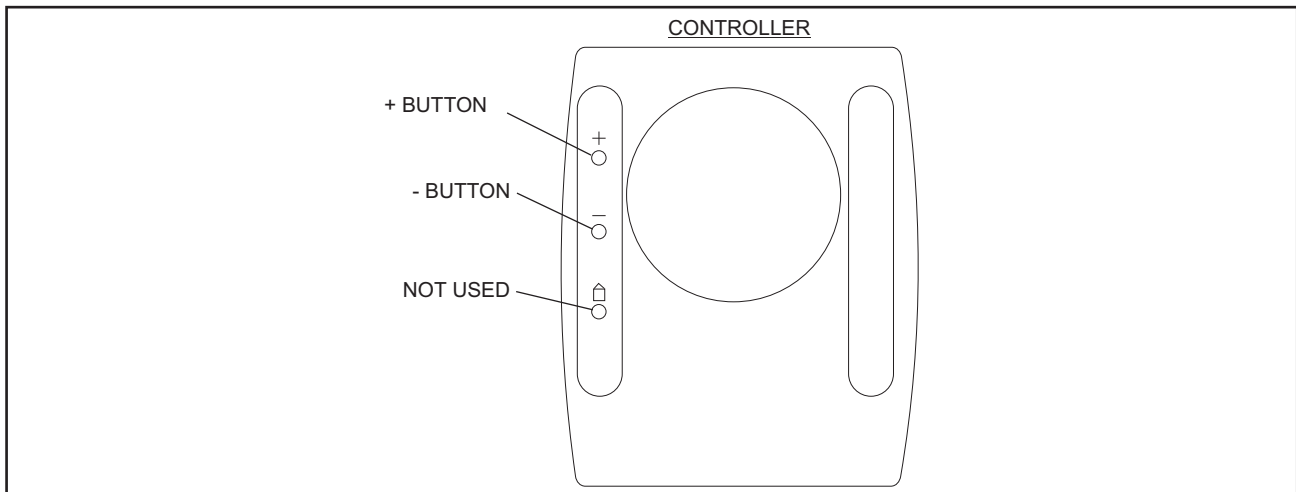


Figure 18