

Connector Snow Plow Array Instructions

The following is a list of recommended practices for the installation and operation of your light.

FAILURE TO FOLLOW THESE SAFETY PRECAUTIONS AND INSTRUCTIONS COULD RESULT IN DAMAGE TO THE PRODUCT OR VEHICLE AND/OR SERIOUS INJURY AND/OR DEATH TO YOU AND YOUR PASSENGERS

- Proper installation of this product requires the installer to have a good understanding of automotive electronics, systems and procedures. You may need to consult a professional for installation.
- SWS Warning Systems Inc. recommends the use of waterproof butt splices and/or connectors for all electrical connections. It is recommended that the use of good dielectric grease be used on all connections where possible.
- SWS Warning Systems Inc. does not recommend leaving a magnetically mounted light on a vehicle while the vehicle is in motion. The owner does so at their own risk.
- If mounting this product requires drilling holes, the installer **MUST** be sure that no vehicle components or other vital parts could be damaged by the drilling process. Also de-burr the holes and remove any metal shards or remnants. Grommets are recommended for all wire holes.
- Do not mount the light close to antennae or radio equipment, as they may cause electromagnetic interference. After installation of the light, it is necessary to test all electronic equipment simultaneously to ensure that they operate free of interference from other components within the vehicle.
- Never power emergency warning equipment from the same circuit or share the same grounding circuit with radio communication equipment.
- Do not install this product or route any wires in the deployment area of your air bag or areas that interfere with the operation of the vehicle. Refer to your vehicle owner's manual for the air bag deployment area and recommended mounting areas for warning lights and other equipment.
- Do not attempt to activate or control the device with the vehicle in motion or in a hazardous driving environment. The vehicle should be stopped and in park before control of the light is attempted.
- Do not stare directly into these lights. Momentary blindness and/or eye damage could result.
- Use only soap and water to clean the product. Use of other chemicals could result in degradation and discolouration of the lens/dome.
- Do not use a pressure washer to clean this product.
- Inspect and operate this product regularly to confirm its proper operation and mounting condition.
- It is recommended that these instructions be stored in a safe place and referred to when performing maintenance and/or reinstallation of this product.
- SWS Warning Systems Inc. and its subsidiaries are not responsible for any damages due to improperly mounted or improperly wired lighting equipment.

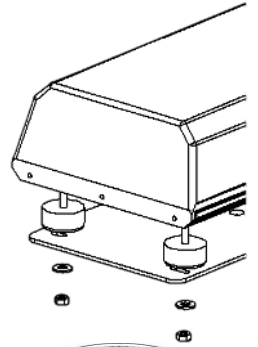
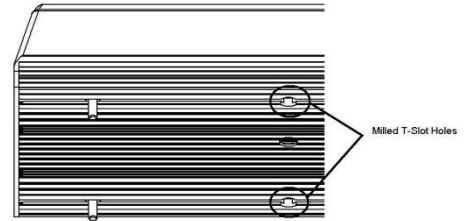
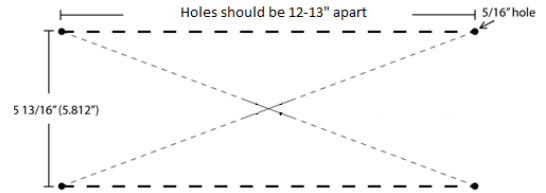
Mounting

- The Main Junction Box can be mounted anywhere on the vehicle, to facilitate the connection requirements and summer/winter modifications as per the owner's requirement.

Minibar Permanent Mount

Select a surface where the light is visible and free of obstruction. Mounting brackets are available from the manufacturer if required.

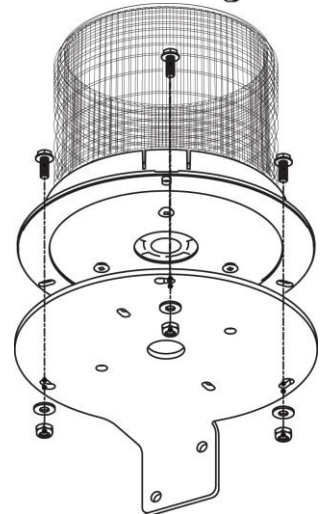
- A straight level is highly recommended to ensure the light is level on two axes.
 - Ensure the vehicle is on level ground when installing.
 - Outer dome does not require removal for installation.
 - Take note of the "Pattern Starts Here" label. It must face the front of the vehicle.
1. If you are not using an SWS mounting bracket, use the images on the right as a guide. Drill four $\frac{5}{16}$ " holes as shown and wire holes of appropriate size (if desired).
 2. Take the four $\frac{1}{4}$ "-20 bolts and insert them into the T-slots on the bottom of the base of the light. Look for the milled holes to insert the bolt heads.
 3. Slide one bolt to each corner of the base approximately 1.5 - 2 inches in from the edge.
 4. Place the large rubber grommet into the hole drilled in the mounting surface for wires.
 5. Place the 4 rubber standoffs on each bolt from the underside of the light.
 6. **If your light has an external connector**, connect the wiring pigtail to the connector prior to the next step. A small amount of dielectric grease is recommended.
 7. Pass the bolts through the mounting surface keeping the rubber standoffs between the light and the mounting surface. Be sure to pass the wires through their grommet.
 8. From the underside of the mounting surface, place a flat washer and self-locking nut onto each bolt.
 9. Tighten the nuts with a $\frac{7}{16}$ " wrench while using a straight level to ensure the light is level.



Beacon Permanent Flange Mount

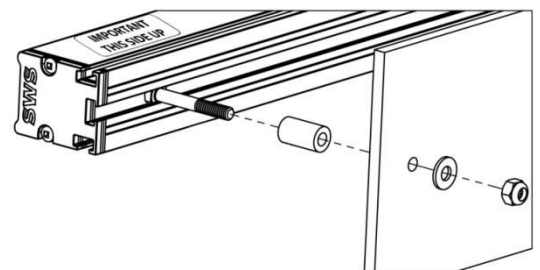
Select a surface where the light is visible and free of obstruction. Mounting brackets are available from the manufacturer if required.

- Take note of the "Pattern Starts Here" label. They both must face the front of the vehicle.
1. Select a mounting area that will allow the light to function unobstructed. Be sure that the light is mounted vertically, as any other orientation will decrease the effectiveness of the light.
 2. If you are not using an SWS mounting bracket, you will have to drill three (3) holes into the surface using a $\frac{7}{32}$ " drill bit. Use the foam pad as a template. Be sure to drill a hole in the center for the connector.
 3. Set the foam pad down on the surface and align the holes with the pre-drilled mounting holes. Set the light onto the pad aligning the flange holes with the holes on the pad, passing the wires through the center hole.
 4. Pass the #10 Hex Drive Machine screws through the three flange mounting locations, the pad, and the mounting surface.
 5. Install the #10 Flat washers and #10 self-locking nuts. Tighten the screws and self-locking nuts, but **do not over tighten**.

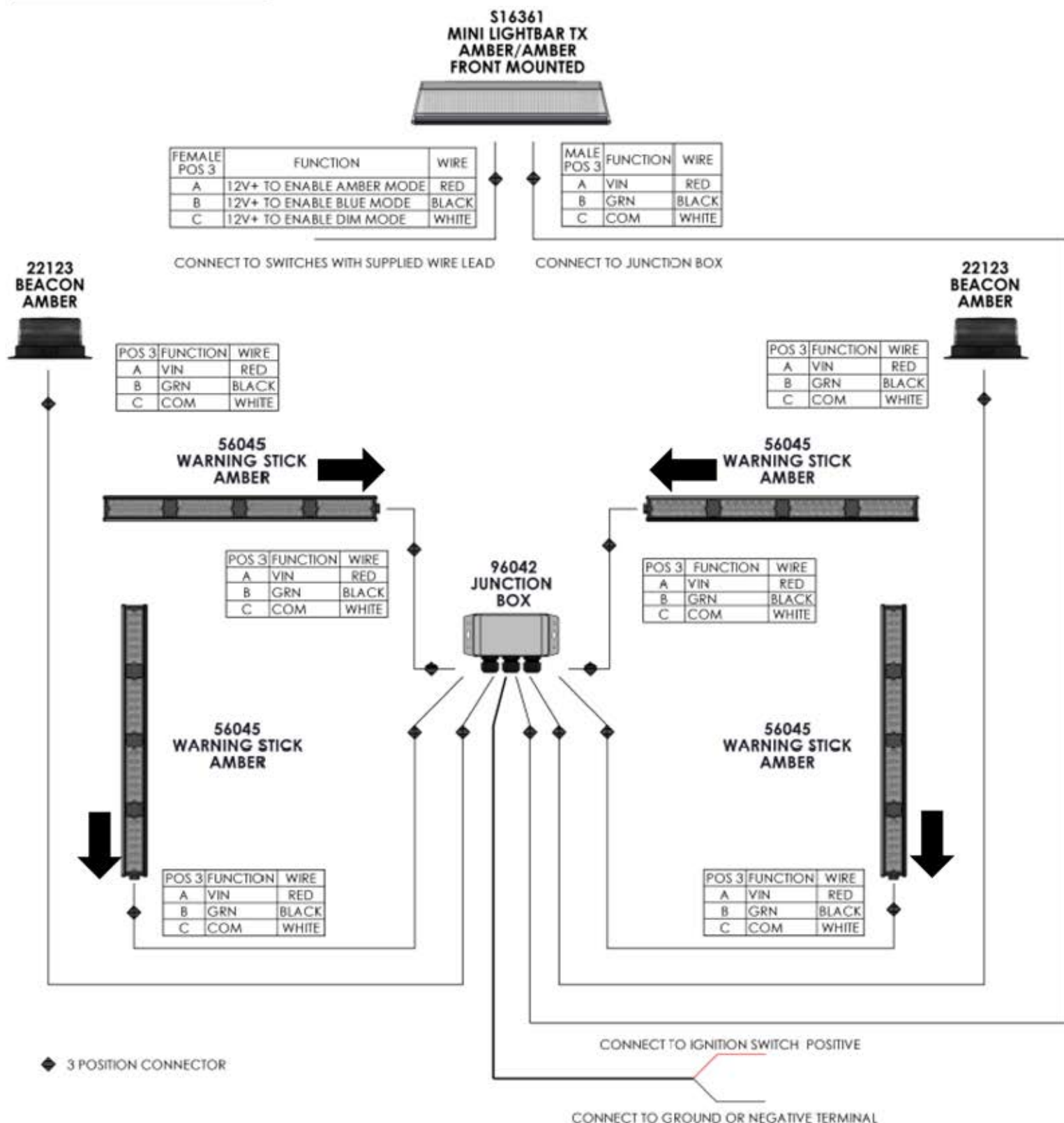


Warning Stick Permanent Mount

- Select a surface where the light is visible and free of obstruction. Mounting brackets are available from the manufacturer.
 - A straight level is highly recommended to ensure the light is level.
 - Ensure the vehicle is on level ground when installing.
 - Vertical sticks should have the wires to the bottom of the mounting orientation.
1. If you are not using SWS mounting brackets, you must drill $\frac{5}{16}$ " diameter holes in the mounting surface. A minimum of two per stick are required.
 2. Slide the head of the $\frac{1}{4}$ "-20 bolt into one of the T-slots in the body of the light. The T-slots can be accessed through the endcap.
 3. Place a nylon spacer onto each bolt, then pass the bolt through the mounting surface.
 4. From the opposite side of the mounting surface, place the flat washers and self-locking nuts onto the bolts.
 5. Tighten the nuts with a $\frac{7}{16}$ " wrench or ratchet and socket.



Array Orientation/Layout



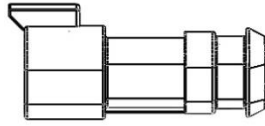
Wiring

- This snowplow system is meant to connect to the Main Junction Box for all devices.
- Connect all devices to the 3 position connectors of the junction box, using your desired extension cables (See Minibar wiring section below for clarification for this device).
- The Main Junction Box will distribute power and communication connections to all connected devices.
- The Minibar controls the colour selection and flashing nature of the system.
- Connect the RED wire on the junction box to the Positive of the vehicle (or ignition switch or positive switch), and the BLACK wire to the Ground/Negative of the vehicle

Minibar

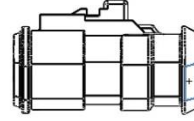
The minibar is the master light in the system and will control the colours of the other lights.

- There are two connectors on the minibar, which function as in the images below



Power, Ground, &
Communication.

Connect to Main Junction Box



Amber, Blue, & Dim

Connect to Switches with
supplied wire lead.

Switch Connections

<u>Wire Lead Colour</u>	<u>Function</u>	<u>Connection</u>
Red	Amber Flashing Control	Connect to Ignition Switch or 12Vdc Positive Switch
Black	Blue (or other) Flashing Control	Connect to 12Vdc Positive Switch or Plow Activation Switch
White	Manual Dim Control	Connect to positive to enable Manual Dim

Spare Lead Connections (Summer Month Connections)

- The other spare wire lead is for summer month operation of the minibar once it is disconnected from the Main Junction Box.
- This spare lead can be wired into the vehicle and stowed away for the winter months if desired.
- If the snowplow system will not be removed from the vehicle, or the minibar will not be disconnected from the Main Junction Box, this lead can be stored or discarded.

<u>Wire Lead Colour</u>	<u>Function</u>	<u>Connection</u>
Red	Positive (+)	Connect to Ignition Switch or 12Vdc Positive Switch
Black	Ground/Negative (-)	Connect to chassis ground or Negative connection
White	No Function	No Connection

Troubleshooting

If your light fails to work, please follow these troubleshooting tips before calling the factory:

- Check all connections for breakage or corrosion.
 - If no light is working and power is confirmed: Check communication line from the Master/Transceiver Light
 - If the Front Minibar is working but nothing on the back is, check communication from the Front Minibar.
 - If either of the beacons are not working, check the connections and check to see if the beacon work alone.
 - For the sticks, if one stick is out, check the connections and check to see if the stick works on its own.
 - If the package does not light up when the switch is flipped, check the wiring on the switches.
 - Check to see if the fuse has blown within the vehicle. If it has, replace it with a fuse of the exact same amp rating.
 - For long power wire lengths, ensure the voltage at the light connection is adequate. If not, you may have to shorten the length or increase the wire gauge.
 - Ensure the vehicle's battery is charged and that the charging system is functional.
- If the light fails to come out of AutoDim, be sure the top of the dome/lens of the minibar/beacons is clear of debris.

CALL SWS (1-877-357-0222) FOR FURTHER ASSISTANCE

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