

67301 Nova Arrow Board Kit & Control Box

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

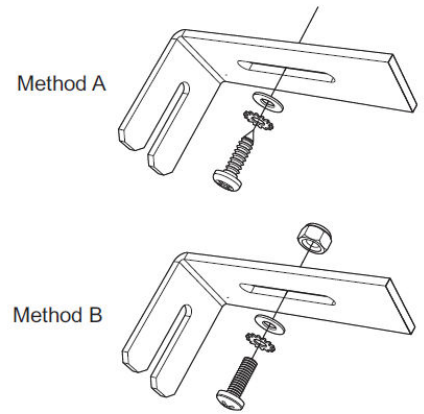
FAILURE TO FOLLOW THESE SAFETY PRECAUTIONS AND INSTRUCTIONS COULD RESULT IN DAMAGE TO THE PRODUCT OR VEHICLE AND/OR SERIOUS INJURY AND/OR DEATH TO YOU AND YOUR PASSENGERS

- 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 Lights 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.
- 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.
- Always be aware of the pattern and its effect on traffic when activating the Traffic Directing Device.
- 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 endeavors to maintain installation instructions for its products according to the latest requirements of vehicle manufacturers. SWS cannot guarantee, and shall not be held liable for, changes or updates a vehicle manufacturer may make which render SWS's products inoperable or otherwise.
- SWS Warning Lights Inc. and its subsidiaries are not responsible for any damages due to improperly mounted or improperly wired lighting equipment.

Mounting Bracket Installation

1. Drill 2 holes into the mounting surface to mount the bracket with the drill bit appropriate for whichever of the mounting methods, shown at right.
2. Attach the bracket to the desired mounting surface using your chosen method.
3. You may want to avoid attaching the control box to the bracket until after wiring the connector.

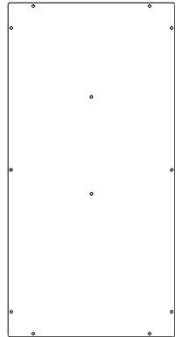
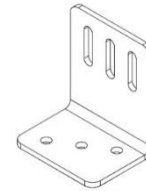
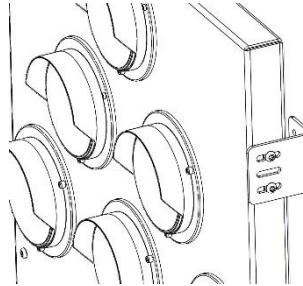
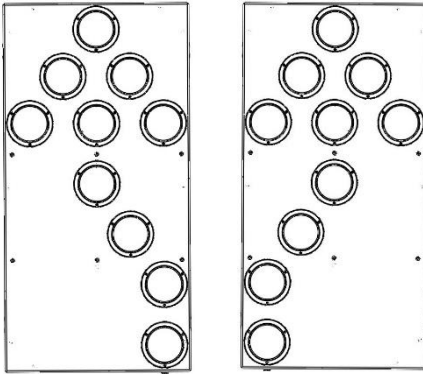
Method	Drill Bit
A	1/8"
B	3/16"



Mounting the Nova Arrow Boards

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

- **A straight level is highly recommended to ensure the arrow boards are level on two axes.**
 - **Ensure the vehicle is on level ground when installing.**
1. If you are not using an SWS mounting bracket, use the images on the right as a guide. Remove the rear cover for easy access to the arrow board's rear frame.
 2. Locate the four sets of 1/4-20 mounting locations on the vertical sides of the frame and use them to mount your product as you see fit.
 3. The Nova can be mounted using the threaded mounts or directly through the rear frame to the vehicle.



Power Splice Connector

***You may need to run your extension cable prior to performing this step.
See image below right (in Fleet Wiring Harness Installation Section) for details.***

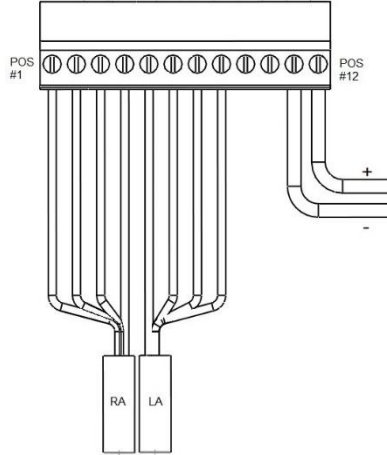
1. Crimp one end of the supplied butt connectors onto one end of the 15A inline fuse holder.
2. Crimp the other end of the splice to the positive wire for the product (large 18-16AWG Red Wire)
3. Apply heat to the splice connector to activate the heat-shrink material and seal the connection.
4. Connect the other end of the splice to the Positive connection of your vehicles battery.

Fleet Wiring Harness Installation

Your product will not use all of the connections available on the connector.

- Connect the control box Ground and Positive connections (#11 & 12) to the vehicles power supply.
- The position numbers are for the 12-position connector as viewed from the rear (screw terminals up).

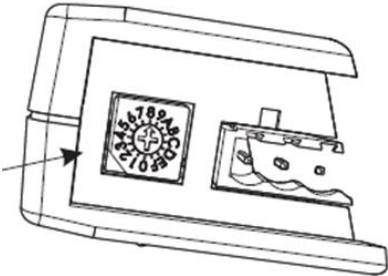
Connector Position	Wire to Connect
1	20AWG White (Right Arrow)
2	20AWG Blue (Right Arrow)
3	20AWG Brown (Right Arrow)
4	20AWG Green (Right Arrow)
5	20AWG Green (Left Arrow)
6	20AWG Brown (Left Arrow)
7	20AWG Blue (Left Arrow)
8	20AWG White (Left Arrow)
9	No Connection
10	Optional AUX Product Positive Wire (10A Max)
11	Vehicle Ground
12	Vehicle Positive (Must match product voltage)



Software Selection

The control box is factory pre-set to 0 if the control box is purchased separately. To change the function, use the small dial on the back left of the control box (Note the arrow shape).

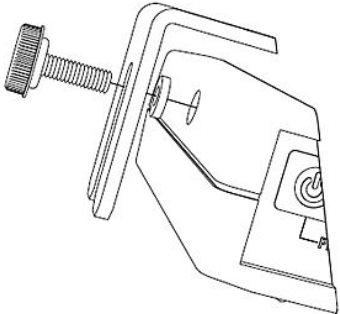
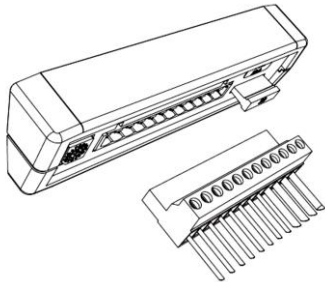
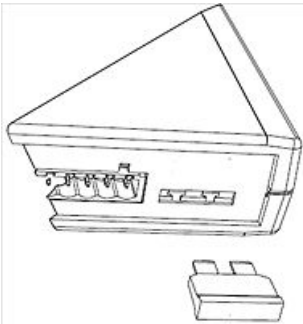
Dial Selection	Software Function
0	Traffic Director (Even* Number of Modules)
1	Traffic Director (Odd Number of Modules)
8	Traffic Arrow (Even* Number of Modules in Shaft)
9	Traffic Arrow (Odd Number of Modules in Shaft)
A	54xxx Traffic Arrow
B	Nova Arrow (67301)
D	TC12 Utility (55010)



* all split arrows and split traffic directors are considered Even numbers, regardless of the number of modules.

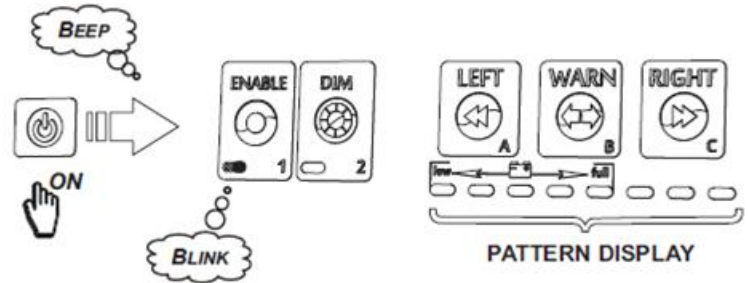
Final Installation

- Insert automotive fuse into slot in back right of control box if not already present.
- Insert 12-position connector into back of control box.
- Mount control box to installed mounting bracket using the supplied thumbscrews. Be sure to place the rubber washers between the control box and the mounting bracket.



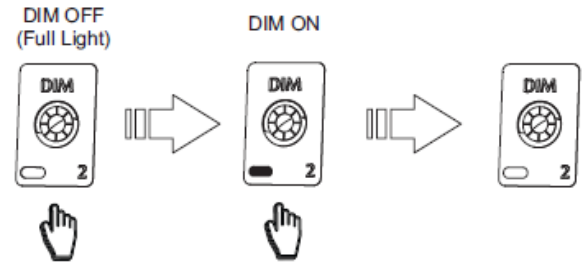
Pattern Control

- Pattern control is only activated after the power button has been pressed.
- Upon pressing power ON, the attached product will enter a warning pattern as indicated on the pattern display.
- By pressing the LEFT, RIGHT, or WARN buttons, the pattern display will change, **BUT NOT** the product.
- To complete the change, press the ENABLE button. The product pattern will then change to match the display and the ENABLE indicator will change from blinking to solid.
- If the ENABLE button is not pressed within 30 seconds, the pattern display will return to the previously enabled pattern.
- There may be more than one variation of each pattern. To select these other variations, repeat the press on the LEFT, RIGHT, or WARN button until the desired pattern is found. Then press the ENABLE button to change the pattern of the product.



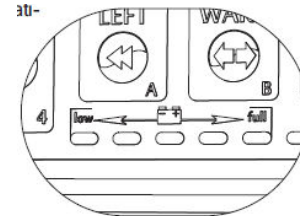
DIM Mode Control

- In order to dim the light output for nighttime operation, press the DIM button. The DIM indicator will activate solid.
- To deactivate the dim mode, press the DIM button again. The indicator will turn off.
- If you turn off the control box by pressing the power button, the dim mode is deactivated.
- 54xxx Series Arrows will automatically dim without input from the control box.



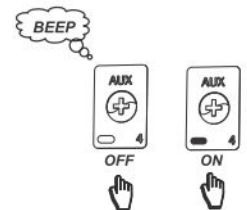
Battery Indicator Function

- With the power OFF, press the ENABLE button.
- The first 5 pattern indicator LEDs will light up, giving a visual representation of the battery level.
- The battery indicator function will time out after 60 seconds.
- The display only shows approximately 11.4Vdc to 13.5Vdc.



AUX Output Control

- **Do not overload** the channel. The AUX channel is capable of supporting 10 amps or less.
- Pressing the AUX button will supply positive power to the AUX output (see Wiring Harness Install section). The AUX indicator will also activate.
- The AUX output is independent of the warning system, and can be activated without pressing the power button.
- To turn off the power to the AUX output, press the AUX button again.



Troubleshooting

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

- Ensure both the control box and the warning light are getting power and are properly grounded.
- Ensure the 12-position connector is fully inserted into the control box.
- Check for loose strands of wire at the 12-position connector.
- If your auxiliary device isn't working, check the fuse in the back of the control box.
- If your auxiliary device isn't working, check that it is properly grounded.
- Check all connections for breakage or corrosion.
- Check to see if the fuse has blown within the vehicle. If it has, replace 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 vehicle's battery is charged and that the charging system is functional.

CALL SWS Warning Lights Inc. (1-877-357-0222) FOR FURTHER ASSISTANCE