# KIT,P&P TOP 2DS 24STRP RT (5.6’ / 6.3’)

***CATALOG NUMBER***

**74630**

Driver Side



***PRODUCT FEATURES***

**Passenger Side Door Lighting Kit On Topper For 2023+ RAM DS/DT 1500, 2500, and 3500 Trucks.**

- **This kit includes: (2) 24” strip light located on the driver’s side door.**
- **The new Timer Lighting Module (TLM) is also included for battery protection in the event that the lights are left on for too long.**
- **The light will turn on with opening any of the topper doors.**



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## Introduction / Comments:

Install Instructions For Interior Lighting In Topper For RAM 1500/HD (6.3’ & 8’)

**Note:**

Read all instructions prior to installation. Review the Adrian Steel **GENERAL PRECAUTIONS PAGES (56638**) before attempting installation. Only personnel familiar with using electrical best practices should perform this install. Reference **ELECTRICAL BEST PRACTICES MANUAL (54479)** before attempting installation.







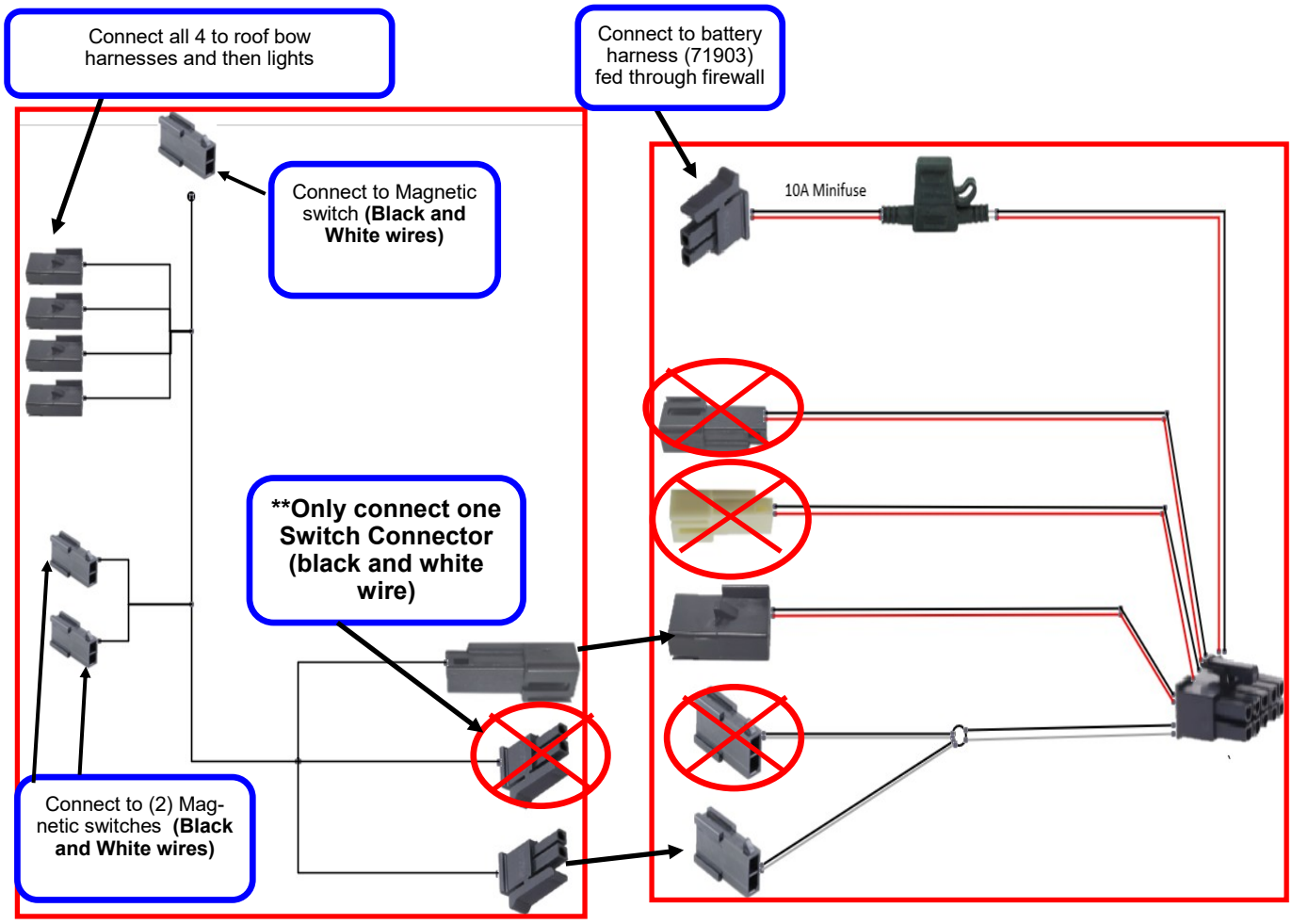
# Installation Instructions For Interior Lighting In Topper For RAM 1500/HD (6.3’ & 8’)

****Please read statement below before moving forward****

These plug and play kits are completely modular and can be configured in many different ways. Placement of lights will be determined by sales order drawings/customer ask. Therefore, these instructions are for the most standard configurations, and for reference only.

# Overall Harness Diagram

**71905 Harness** **71902 TLM Harness**




# Tools Required:





Screwdriver

Power drill, 3/8" step drill bit



# Components:

Please note all these components may not be used in every install.
Only install what you have. Refer to the order drawing.
Integrated Truck Solution Kit 73106 components are denoted with a red star.















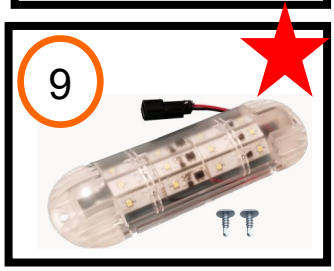


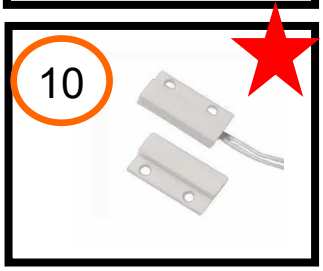


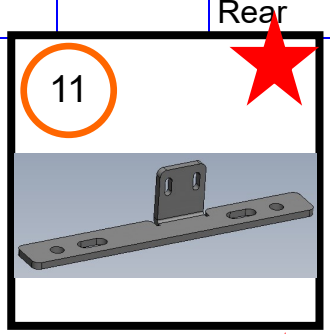


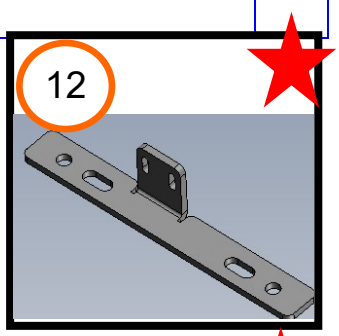


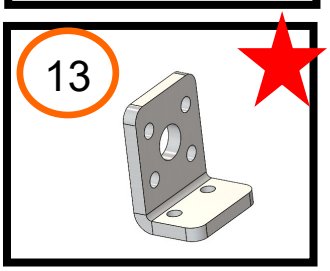


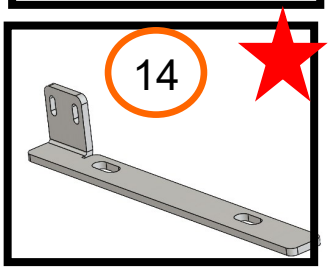


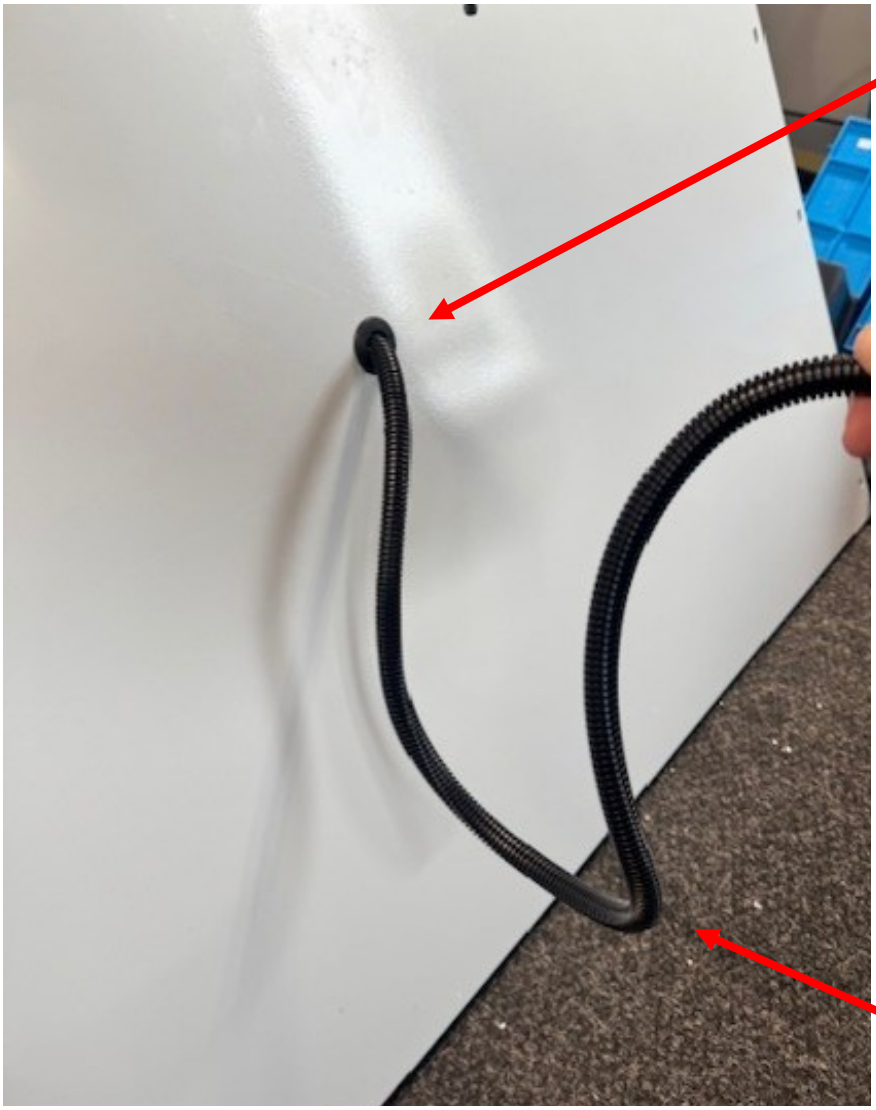




| | Part Number | Description | Qty |
|---|---|---|---|
| 1 | 71902 | TLM Module/Harness | 1 |
| 2 | 71903 | TLM To Battery Harness RAM | 1 |
| 3 | 71905 | TLM To Lights Harness | 1 |
| 4 | 63481 | Roof Bow Harness #1 | 3 |
| 5 | 63482 | Roof Bow Harness #2 | 1 |
| 6 | 65346 | 24” Strip Light | 4 |
| 7 | 65347 | 36” Strip Light | |
| 8 | 65348 | 48” Strip Light | |
| 9 | 63480 | Dome Light | 2 |
| 10 | 71907 | Magnetic Switches | 3 |
| 11 | 81550-W | Magnetic Switch Bracket DS | 1 |
| 12 | 81594-W | Magnetic Switch Bracket PS | 1 |
| 13 | 81552-B | Magnetic Switch Bracket | 3 |
| 14 | 81678-W | Magnetic Switch Bracket Rear | 1 |

**The purpose of plug and play lighting is to be completely modular. Due to this feature, refer to the order drawing for all exact lighting placements. These installation instructions are for most cases and for reference. Not all installs will have strobes, beacons, and lightbars. Reference the instructions for only what you are installing.**

# Best Practices to Follow when Routing Through Firewall:

- Create a drip loop with the harness being routed through the firewall as shown so that the water does not flow into the grommet.
- Make sure that the proper grommet for the hole being routed through is used so that there are no openings for water to get through.
- Use silicone after routing and apply around the grommet and wire to seal it. Make sure to let the silicone dry for 30 minutes to an hour.



# Light Kit's Offered (6.3' bed only):

## Part Numbers/Kit Contents:

**73106 Integrated Truck Solution:** ★
Includes: (2) 24" strip lights on both sides of the side doors and 3 dome lights in the top, on the roof bows. Refer to all components denoted with a ★ and quantity in blue parenthesis on page 3.

**73107 (1) 48" Rear strip light on the back door**
Includes: (1) 48" strip light, (1) roof bow harness #1, (1) TLM Module, (1) TLM to Battery Harness, (1) TLM to Lights Harness, (1) Magnetic Switches Bag

**73109 (1) 48" Strip light on the driver side only**
Includes: (1) 48" strip light, (1) roof bow harness #1, (1) TLM Module, (1) TLM to Battery Harness, (1) TLM to Lights Harness, (1) Magnetic Switches Bag

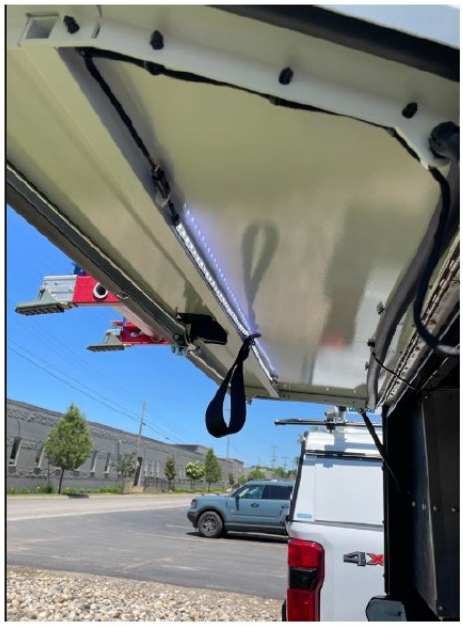
**73108 (1) 48" Strip light on the passenger side only**
Includes: (1) 48" strip light, (1) roof bow harness #2, (1) TLM Module, (1) TLM to Battery Harness, (1) TLM to Lights Harness, (1) Magnetic Switches Bag

**73110 (3) 48" Strip lights—rear, driver, and passenger side**
Includes: (3) 48" strip light, (1) roof bow harness #2, (2) roof bow harness #1, (1) TLM Module, (1) TLM to Battery Harness, (1) TLM to Lights Harness,
(1) Magnetic Switches Bag

**Driver's Side Strip Lights**



Rear Side



**Passenger's Side Strip Lights**



# Light Kit's Offered (8' bed only):

## Part Numbers/Kit Contents:

**74495 Integrated Truck Solution:** ★
Includes: (2) 36" strip lights on both sides of the side doors and 3 dome lights in the top, on the roof bows. Refer to all components denoted with a ★ and quantity in blue parenthesis on page 3.

**73107 (1) 48" Rear strip light on the back door**
Includes: (1) 48" strip light, (1) roof bow harness #1, (1) TLM Module, (1) TLM to Battery Harness, (1) TLM to Lights Harness, (1) Magnetic Switches Bag

**74498 (2) 36" Strip light on the driver side only**
Includes: (2) 36" strip light, (1) roof bow harness #1, (1) TLM Module, (1) TLM to Battery Harness, (1) TLM to Lights Harness, (1) Magnetic Switches Bag

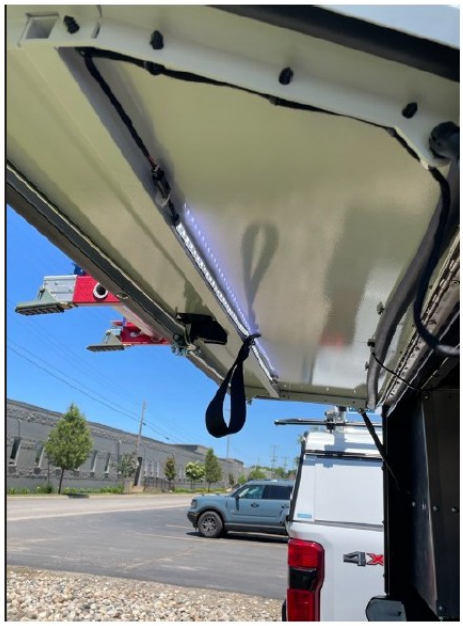
**74497 (2) 36" Strip light on the passenger side only**
Includes: (2) 36" strip light, (1) roof bow harness #2, (1) TLM Module, (1) TLM to Battery Harness, (1) TLM to Lights Harness, (1) Magnetic Switches Bag

**74499 (4) 36" Strip lights & (1) 48" Strip lights-rear, driver, and passenger side**
Includes: (4) 36" strip light, (1) 48" strip light, (1) roof bow harness #2, (2) roof bow harness #1, (1) TLM Module, (1) TLM to Battery Harness, (1) TLM to Lights Harness, (1) Magnetic Switches Bag

**Driver's Side Strip Lights**



Rear Side



**Passenger's Side Strip Lights**



# Light Kit’s Offered (6.3’ bed only):

## Part Numbers/Kit Contents:

**74629 (2) 24” Strip light with handle on driver side only:**
Includes: (2) 24” strip lights with handle, (1) roof bow harness #1, (1) TLM Module, (1) TLM to Battery Harness, (1) TLM to Lights Harness, (1) Magnetic Switches Bag

**74630 (2) 24” Strip light with handle on passenger side only:**
Includes: (2) 24” strip lights with handle, (1) roof bow harness #1, (1) TLM Module, (1) TLM to Battery Harness, (1) TLM to Lights Harness, (1) Magnetic Switches Bag

**74631 (4) 24” Strip light with handle & (1) 48” strip light**
Includes: (4) 24” strip lights with handles, (1) 48” strip light, (1) roof bow harness #1, (1) TLM Module, (1) TLM to Battery Harness, (1) TLM to Lights Harness, (1) Magnetic Switches Bag

***** Two 24” light strips will be used with topper door handle. Please ensure handle is secured in place first, then place light strips on topper door.**

**Driver’s Side Strip Lights**



**Passenger’s Side Strip Lights**



# Walk-In Topper Interior Lighting Kits Offered: (5.6/6.3ft bed)

## Part Numbers/Kit Contents:

**79983 Integrated Truck Solution:**
Includes: (4) 24” strip lights on both sides of the side doors and 2 dome lights in the top, on the roof bows.

**79984 (1) 48” Strip Light on Passenger Side Only**
Includes: (1) 48” strip light, (1) roof bow harness #2, (1) TLM Module, (1) TLM to Battery Harness, (1) TLM to Lights Harness, (1) Magnetic Switches Bag

**79985 (1) 48” Strip Light on Driver Side Only**
Includes: (1) 48” strip light, (1) roof bow harness #1, (1) TLM Module, (1) TLM to Battery Harness, (1) TLM to Lights Harness, (1) Magnetic Switches Bag

**81548 (1) 48” Strip Light on Rear Side Only**
Includes: (1) 48” strip light, (1) roof bow harness #2, (1) TLM Module, (1) TLM to Battery Harness, (1) TLM to Lights Harness, (1) Magnetic Switches Bag

**79986 (2) 48” Strip Lights on Driver & Passenger Side**
Includes: (2) 48” strip lights, (2) roof bow harness #1, (1) roof bow harness #2, (1) TLM Module, (1) TLM to Battery Harness, (1) TLM to Lights Harness, (1) Magnetic Switches Bag

Driver Side



Passenger Side



# Walk-In Topper Interior Lighting Kits Offered: (8ft bed)

## Part Numbers/Kit Contents:

**79987 Integrated Truck Solution**
Includes: (4) 36” strip lights on both sides of the side doors and 3 dome lights in the top, on the roof bows.

**79988 (2) 36” LED Light Strips on Passenger Side Only**
Includes: (2) 36” strip light, (1) roof bow harness #2, (1) TLM Module, (1) TLM to Battery Harness, (1) TLM to Lights Harness, (1) Magnetic Switches Bag

**79989 (2) 36” LED Light Strips on Drivers Side Only**
Includes: (2) 36” strip light, (1) roof bow harness #1, (1) TLM Module, (1) TLM to Battery Harness, (1) TLM to Lights Harness, (1) Magnetic Switches Bag

**79990 (4) 36” LED Light Strips on both Passenger and Driver Sides**
Includes: (4) 36” strip lights, (2) roof bow harness #1, (1) roof bow harness #2, (1) TLM Module, (1) TLM to Battery Harness, (1) TLM to Lights Harness, (1) Magnetic Switches Bag

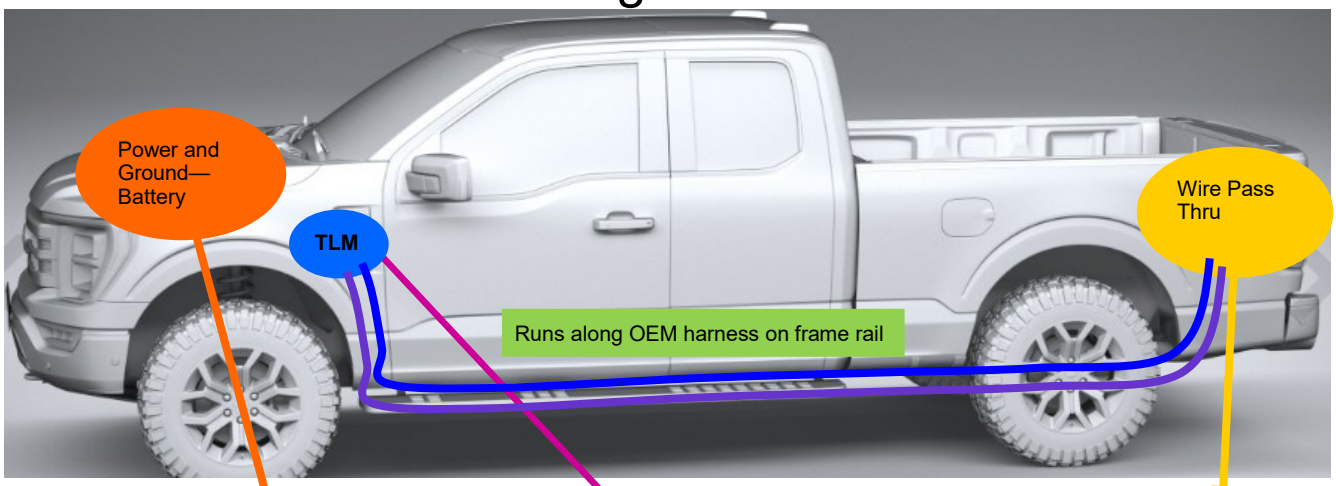
Driver Side



Passenger Side

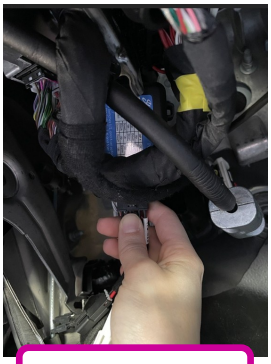


# Routing Overview:

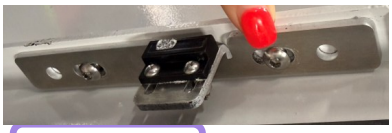


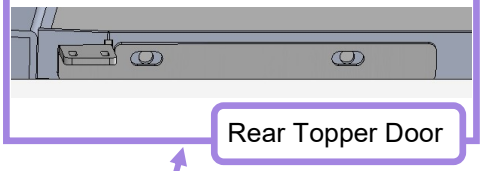






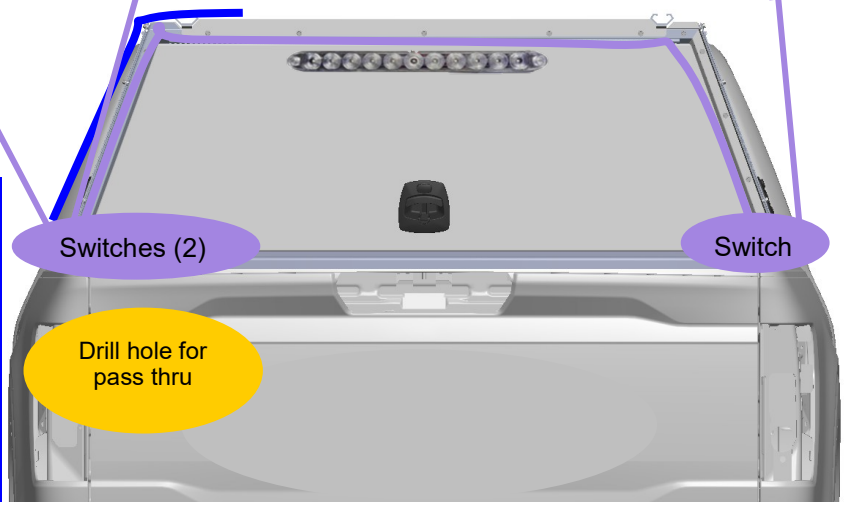






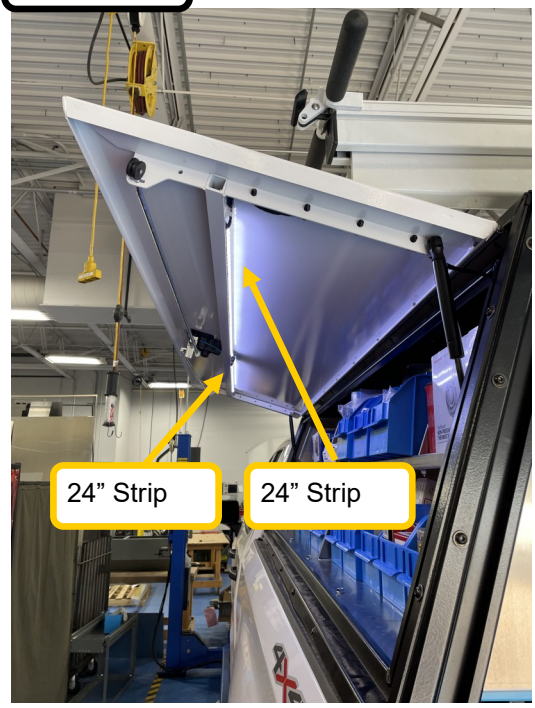



| Color | Key - Items |
|---|---|
| Orange | Power and Ground Location |
| Blue | Harness Routing From TLM To Topper |
| Purple | Switches And Switch Harness |
| Yellow | Bed Wire Pass Thru |

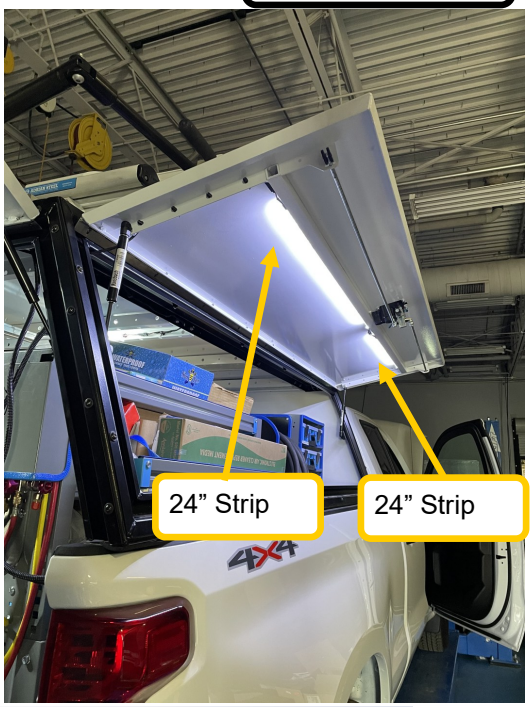
# Light Placements (6.3’):

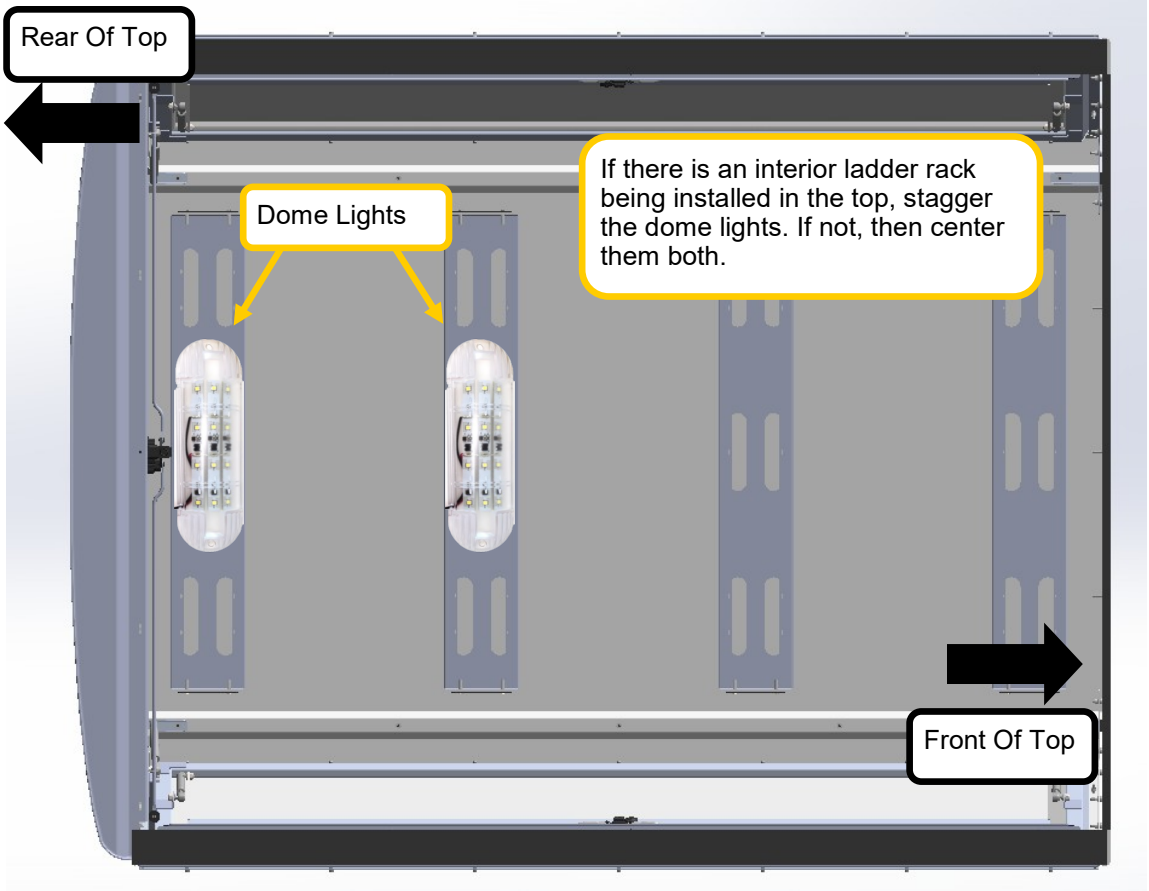
Please refer to the order drawing—not all lights will be used every install.
These are modular and created to work depending on customer needs.

Driver’s Side




Passenger’s Side



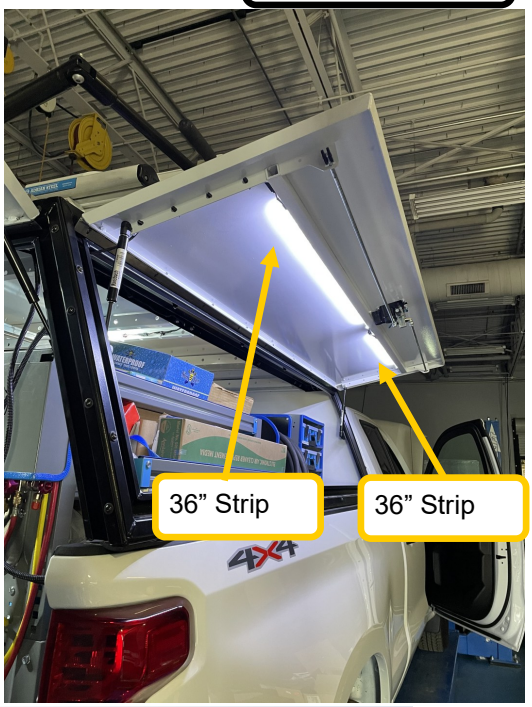
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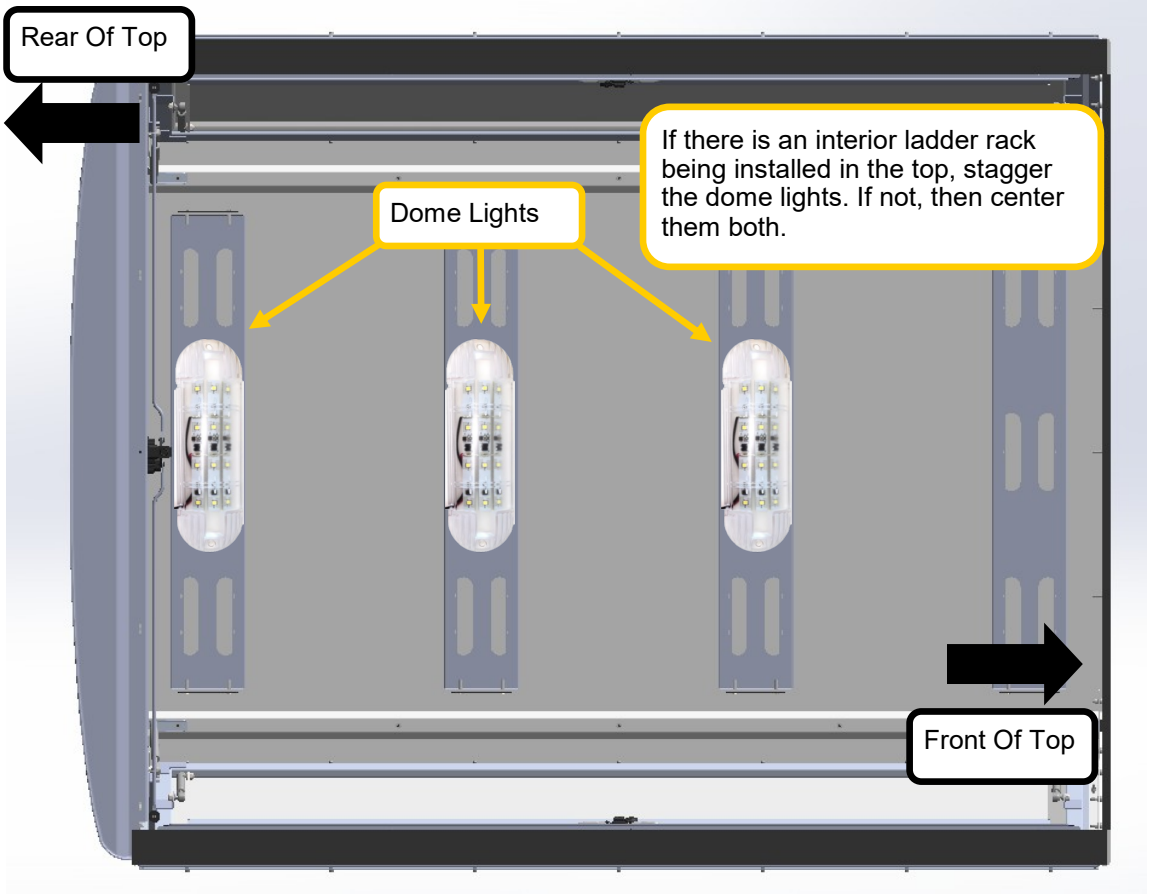
Please refer to the order drawing—not all lights will be used every install.
These are modular and created to work depending on customer needs.

Driver's Side



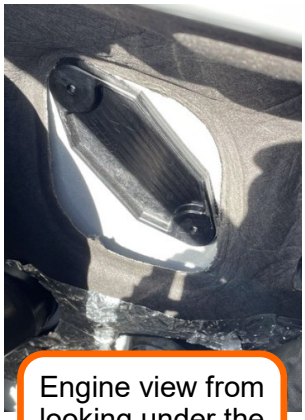

Passenger's Side





Engine view from inside vehicle



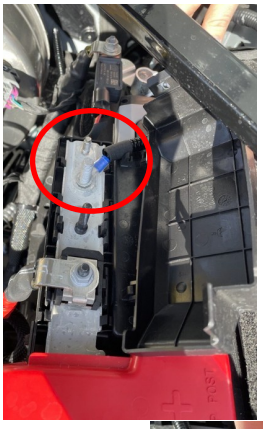
Engine view from looking under the hood

**Step 1:** Locate the firewall grommet from underneath the kick panel inside the cab on the driver's side.
Drill a 1/4" hole (to fit the grommet on the power harness) from inside the vehicle inside the cab.
**BE SURE TO CHECK THAT THE OPPOSING SIDE OF THE FIREWALL IS CLEAR BEFORE DRILLING.**
Route the power harness through the grommet.
Pulling harness onside the cab, on the driver side, under the hood.
Make a drip loop with the harness.

**Reference Pg. 4 for routing through the firewall.**



**Re-torque the nuts to 7Nm. DO NOT OVER TIGHTEN.**







**Step 2:** Pull the harness PN 71903 through the grommet towards the battery.

Locate the battery. First image shown to the left.

Remove the inline fuse in the fuse holder. Do not place fuse back into holder until after the install is complete.

Open the cap connected to the battery and connect the red wire ring terminal to the positive battery post circled in red. Once placing the cover back on, cut out a small piece for the harness to fit under. Circled in green..

Connect the black wire ring terminal to the OEM ground stud just right of the battery as shown circled in blue.

**Do not un-bolt the battery terminal clamps from the battery.**

After completely connecting the power harness to the battery, pull harness until taut from inside the cab. Once taut, secure the harness along the inside of the hood using zip ties.

**For Rev A follow the steps below:**





**Step 3:** Locate the Timer Low-Voltage Module (TLM) and harness — Part number: 71902

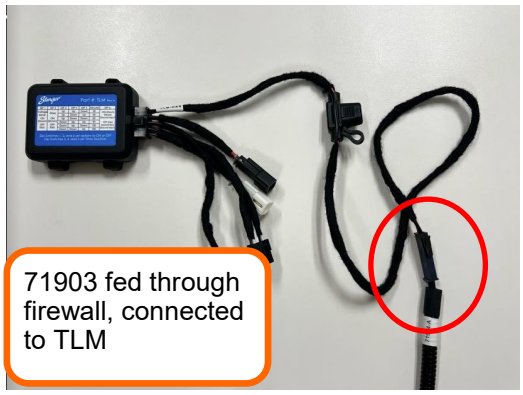
First, plug the harness into the module.

**Note:**
You will NOT use the cream colored connector or the matching black connector. You will be using the smaller black module output connector, one(1) switch harness connectors (black and white wires), and the black power supply connector.

*** Ensure that the fuse from the inline fuse holder has been removed until the end of the install.

Bring TLM to driver side, where power harness is fed through.

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71903 fed through firewall, connected to TLM



71905 and 71902 Connections

Please reference page 2 for the following connection information.

Locate the TLM to battery harness (71903) that has been routed through the firewall grommet and TLM power to light harness (71905).

On the 71903 harness, connect the black connector to the blunt red wire on the TLM. (Circled in red in first image, on top).

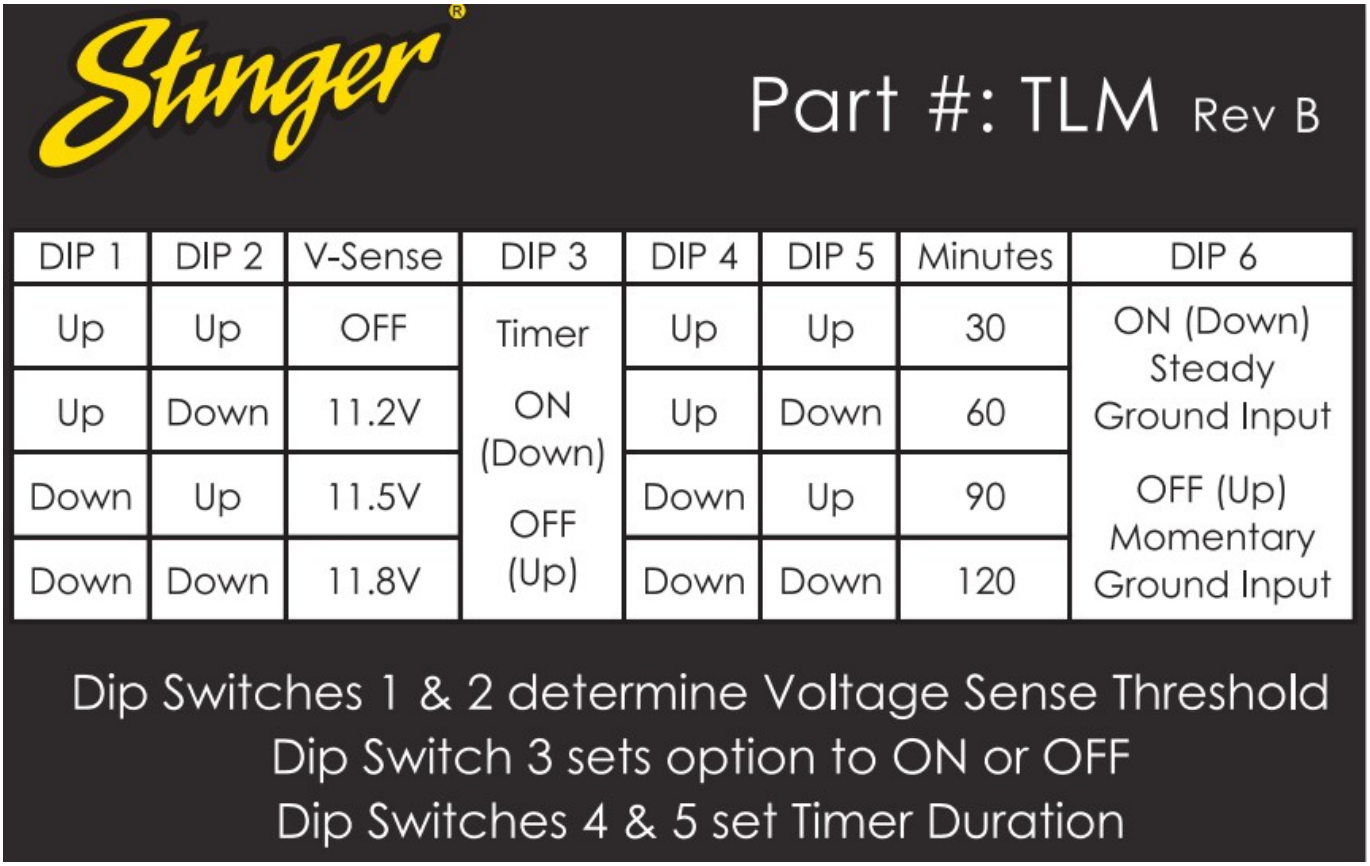
Plug the red and black connector on the 71905 to the mating connector on the 71902 (TLM), shown in the blue circle. Next, connect one of the switch connections (black and white wires) to one of the mating connections on TLM. Circled in yellow. The rest of the connectors will not be used.

***** You do NOT need to connect both switch connections.**
To set the dip switch to 90 minutes (default) follow the chart below:
If customer would like a time different that 90 minutes, use the dip switches to set the time. Chart is as follows: **TLM REV A**

| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Down | Down | Down | Up | Up | Down |

| DIP 1 | DIP 2 | DIP 3 | DIP 4 | DIP 5 | Minutes | DIP 6 |
|---|---|---|---|---|---|---|
| Voltage Sense ON (Down) OFF (Up) | Timer ON (Down) OFF (Up) | Up | Up | Down | 30 | ON (Down) Steady Ground Input |
| | | Up | Down | Up | 45 | |
| | | Up | Down | Down | 60 | |
| | | Down | Up | Up | 90 | OFF (Up) Momentary Ground Input |
| | | Down | Up | Down | 120 | |
| | | Down | Down | Up | 150 | |

# TLM Rev B:

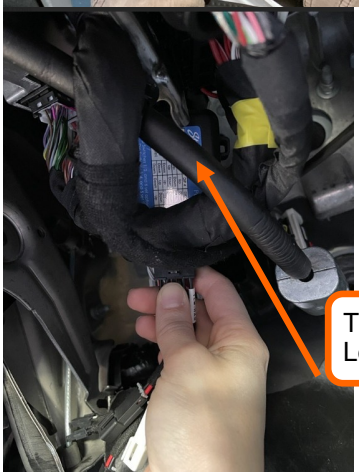



Please set dip switches in the following order:

(This is set for 90 minutes, if customer would like 30,60, or 120 minutes please refer to the chart above to set dip switches accordingly)

| 1 | 2 | V-Sense | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Down | Down | 11.8 | Down | Down | Up | Down |




**Step 4:** Locate the driver's side door sill area.

Use a trim tool to remove the trim panels in the driver's step well and dash/kick panel.

Use the adhesive tape supplied in the kit to stick the TLM to the side of the module up under the kick panel. Refer to the picture to the left for the TLM placement.

Secure the TLM and wires with zip ties to OEM harnesses.

Be sure the TLM is secured.

*** Picture is for location reference only.





**Step 5:**
Lift the carpet and locate the OEM grommet.
Route the wiring harness (71905) to the OEM grommet under the carpet. Use the images to the left for reference.

From below the vehicle, drill to fit 3/4" grommet supplied in the kit.



**Step 6:**
Route the harness under the carpet and through the grommet.
Follow the frame to the rear of the vehicle. Use the images as reference.



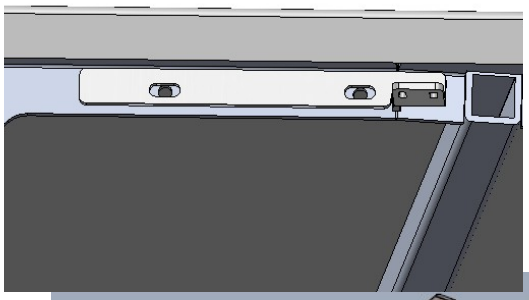


**Step 7:** Locate the rear driver's side bed area. There is an oval shaped grommet for a pass thru. Using a 3/8" step drill bit, drill a hole into the plastic grommet and route the harnesses through the hole. Insert the bigger grommet supplied in the Brake Light kit into the bed frame pass through, this will be used for the interior light harness and Brake Light harness together.
Tuck any excess wiring into the empty cavity underneath the bed frame.
Use the supplied Tek screw and P-clip to secure the wire harness to the frame.



Excess wiring tucked under the bed frame

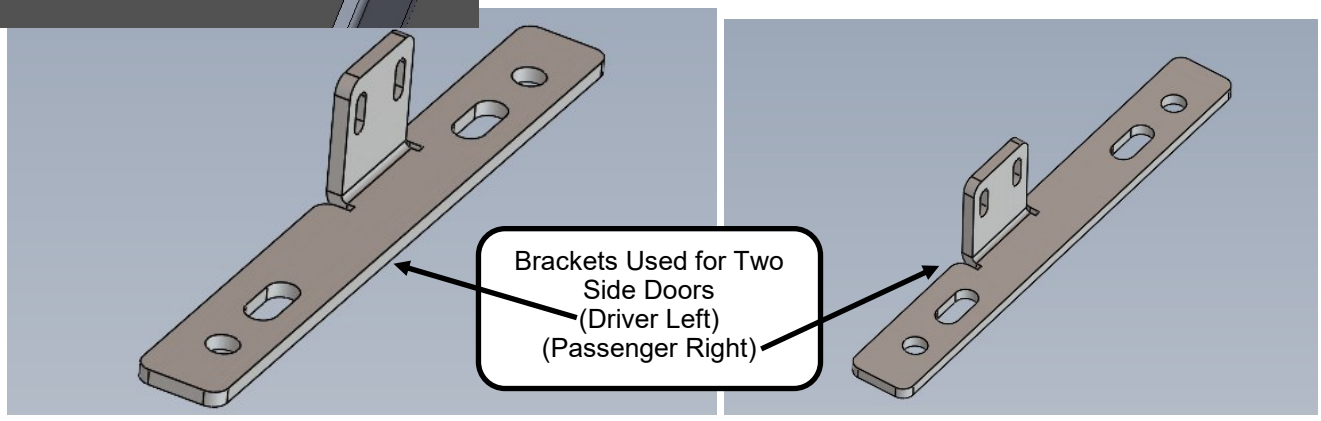
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**Step 8:**
Locate BAG71907, magnetic switches PN 71907 and magnetic switch brackets.

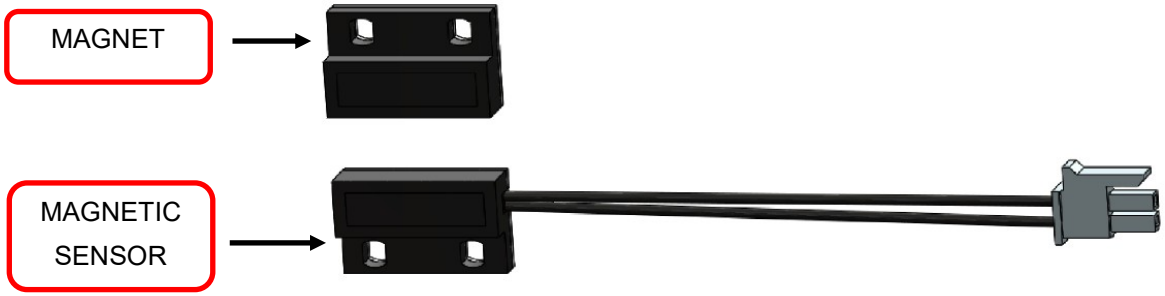
There are two unique mounting brackets, these will be used for side doors.

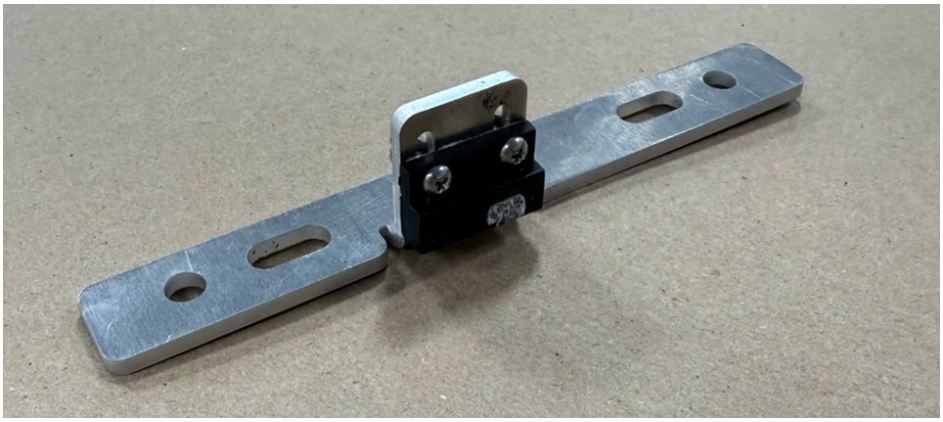
Note: They are very similar, pay close attention to what one you have.




---

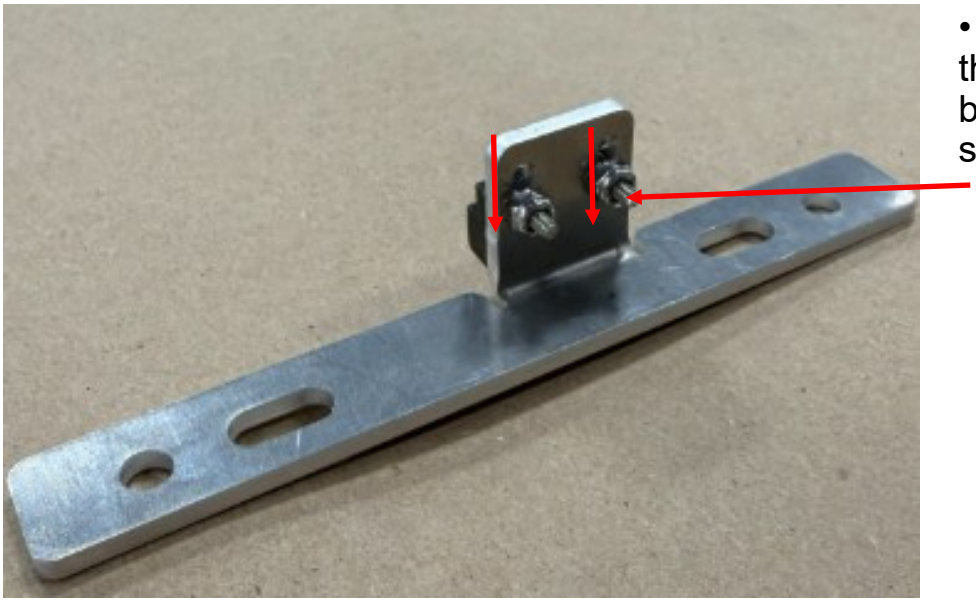
**Step 9:**
71907 will have 3 magnets and 3 magnetic sensors. Use the image as reference.



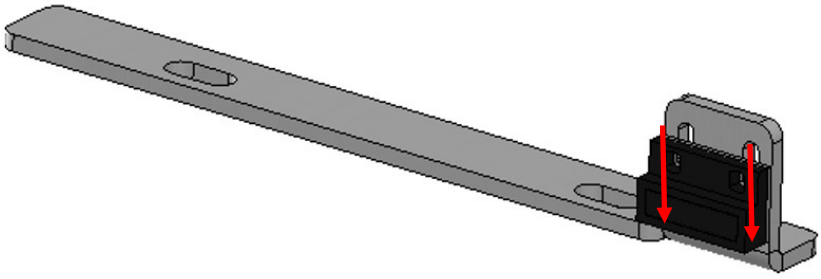


**Step 10:**

• Place magnet so that it matches the image.



• Mount the bolts so that they are on the bottom edge of the slot.



• The rear door is the same mounting as the side doors with the magnet all the way down.




**Step 11: Install Magnetic Switch Brackets**

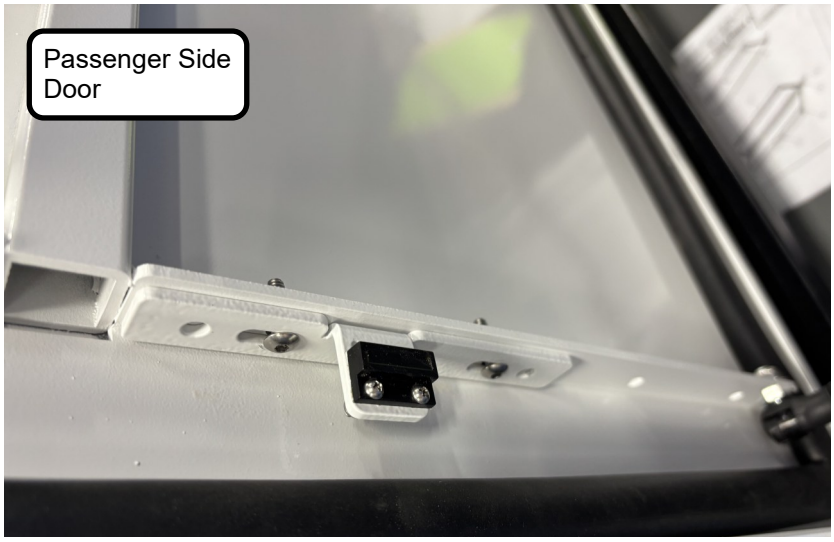
Using an alcohol wipe, clean brackets. After they are dry, locate bracket for the driver side door.

For the driver side, mount the bracket so that the slightly shorter side goes towards the tube extrusion/upwards.

Line the bolt heads up to the **middle of the slot** for best alignment.

Use the image to the left as reference.

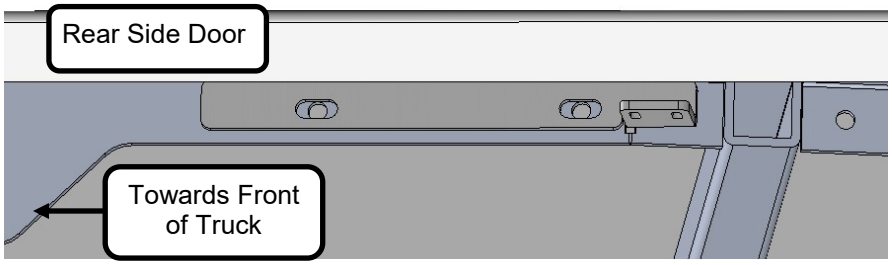
**Secure mount with 10-24x.75 button head cap screws and 10-24 hex nuts.**




For the passenger side, the shorter side of the bracket will be closer to the tube extrusion/away from truck.

Line bracket up with first two holes after metal brace make sure to have the bolts in the **middle of the slot** for best alignment.

Use the image to the left as reference.




For the rear side, place bracket on the left outermost side of the topper door.

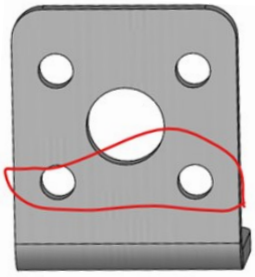
Secure bracket to metal brace with magnet attachment towards the back of the truck or away from the truck.





**Step 12:**
Identify the door shocks on the topper doors. Both the driver and passenger sides should have pre-existing holes on the shock mounts for placing the magnetic switch.

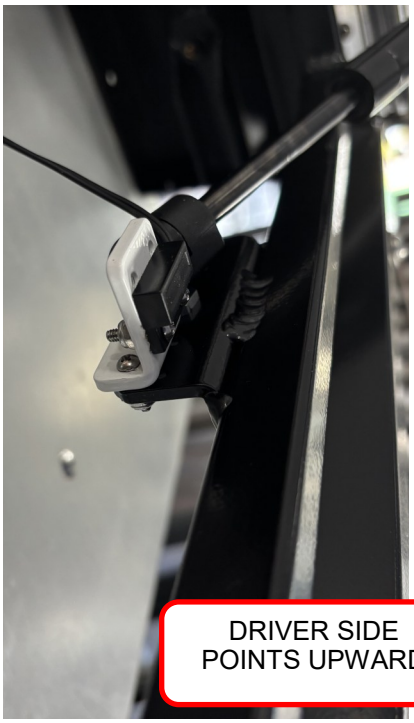
Start by cleaning the shock mount using an alcohol pad and remove any plastic film covering the back of switch.



**For mounting of switch:**

**If there is an option of holes use the holes circled in the image.**

**If there is just two holes use the holes provided.**



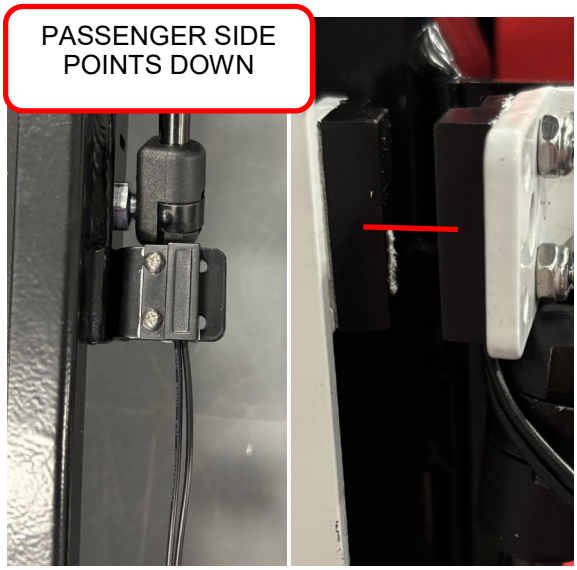

**Step 13:**
Locate driver's side door shock mounts. There will be two magnetic switches mounted to each side of the driver's side door shock mount.

Position the magnetic switch along with its wires and connector. To have the wires point upward toward the shocks.

Place switch centered on the mount for easiest alignment.

Using a screw driver secure the magnetic switches in proper position. Make sure to mount the switch to the lower two holes.

Use the provided images as reference.




**Step 14:**
Locate passenger side door shock mount. Secure magnetic switch on passenger side mount with wires facing upward.

Make sure magnetic switches are face to face with one another! If they are not aligned they will not function properly. Refer to image for proper alignment.

Make use of the slots throughout the bracket assembly to adjust the magnets to align as closely as possible.

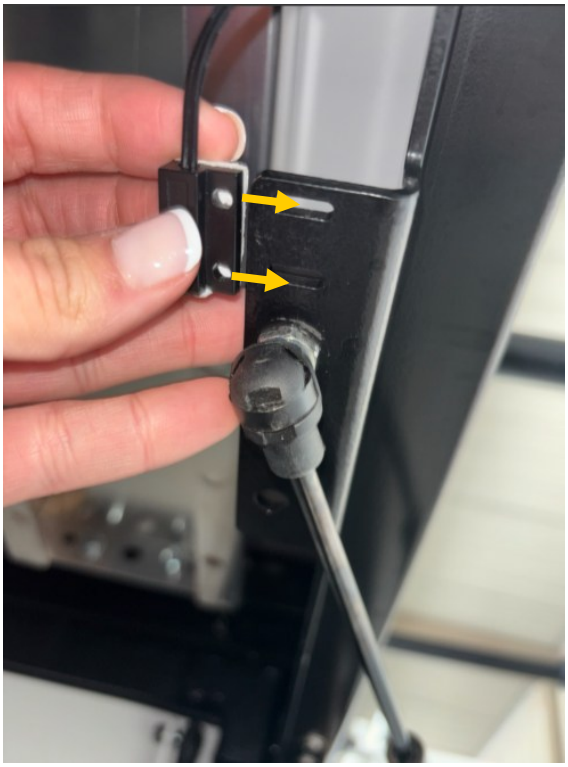
# Walk-In Topper Magnetic Switch Instructions:

## Please follow the next two pages for mounting magnetic switches for the walk-in topper.

- BAG0989
- Bracket Part Number 77230



# Walk-In Topper Magnet Bracket Install

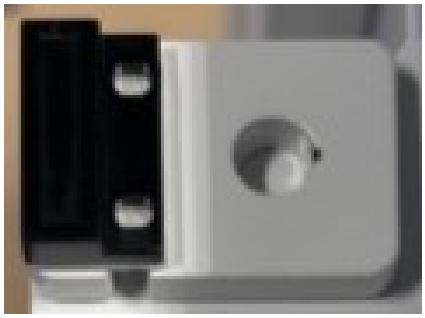


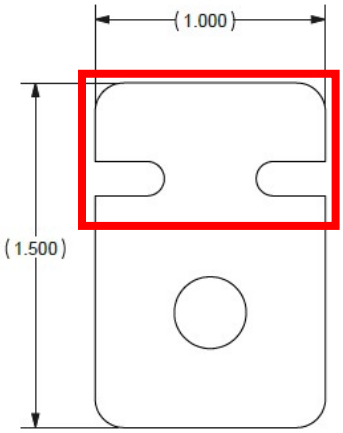
- Install Driver/Passenger side doors the same as the above pages.
- Mount magnetic switch sensor on the top part of door frame on the topper. Use the image to the left as reference.
- Plug in mating connector end to magnetic switch sensor to 71905. Circled in image on the bottom left.
- Place sensor end aligned with the holes.
- Secure sensor in place by removing sticky back paper, and use provided fasteners to mount in place. Be sure to clean the area with alcohol wipe before install.
- Use images below as reference for mounting the magnetic switch sensor.
- Secure harnesses using stud mounted zip ties.





# Walk-In Topper Magnet Bracket Install






- Use the small bracket for the rear walk-in doors and use BAG0989 to secure it.
- Locate the 77230 bracket spacer and the magnet switch.
- Peel the sticky off the magnet and stick it to the bracket as shown in the images to the left. Make sure the holes in the magnet line up with the ones on the bracket.
- Locate the screws and place the bracket with the magnet switch on it and secure it to the top of the walk-in door as pictured below.
- Make sure the magnet switches line up so that they will properly work.
- Test functionality of magnetic switches.

Place the magnet in the location of the red rectangle. Make sure the holes line up.



**NOTE: The hole in the small bracket is not for mounting. This hole was designed for paint line purposes.**

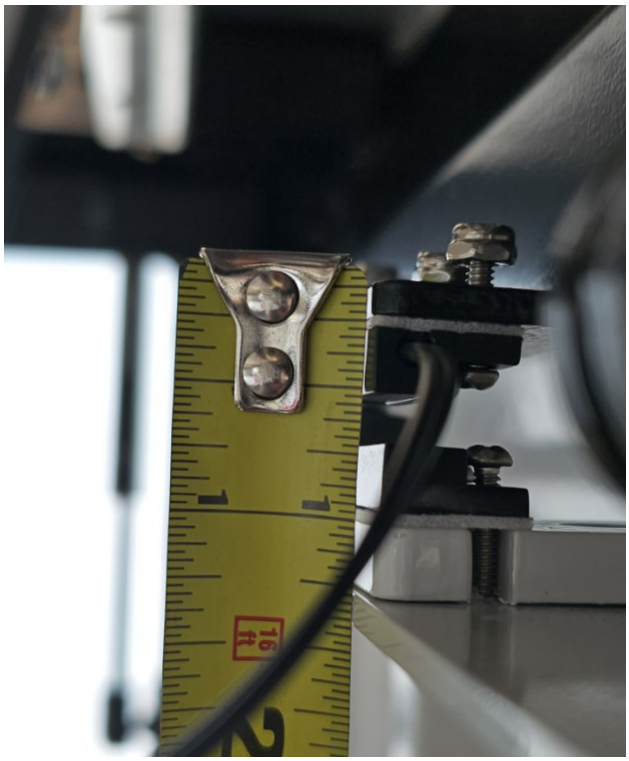
**After install check:** Shut the topper door and ensure the magnetic switches are aligned. The two magnets must meet, face-to-face when the door is shut.

Line the bracket with the magnet switch with these holes.



# Walk-In Topper Magnet Bracket Install Cont.

Note: The brackets should be lined up as shown below. They should also be spaced apart as shown on the measuring tape in the photo.





# Mounting **Kit 81548's** Rear Door Light Kit

Mount [1] 48" light strip on the inside of the topper similar to the images below.







*** Be sure to place strip light high enough on inner wall to avoid making contact with door roller when closed. Image above for reference

# CONTAINMENT FOR MAGNETIC SWITCHES

## Route Harness 71905

- Route harness **71905** through the assembly following the standard routing path.

## Connect Rear Door Magnetic Switch

- Identify the **shorter magnetic switch lead**.
- Route the shorter lead to the **rear door** location.

**Plug the shorter magnetic switch connector into the rear door magnetic switch.**

## Extend Passenger Side Harness

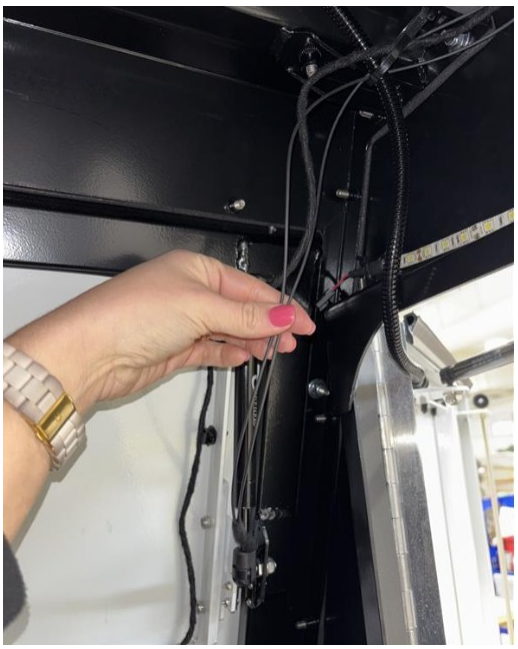
- Locate the magnetic switch harness on the **passenger side**.
- Cut the harness at the appropriate location to allow for wire extension.
- Strip the wire ends.
- Add the required extra wire length using butt connectors.
- Crimp all butt connectors securely.

**Route the extended harness to the final magnetic switch mounting location.**

## Final Inspection

- Verify all connectors are fully seated.
- Confirm wiring is secured away from sharp edges and moving parts.

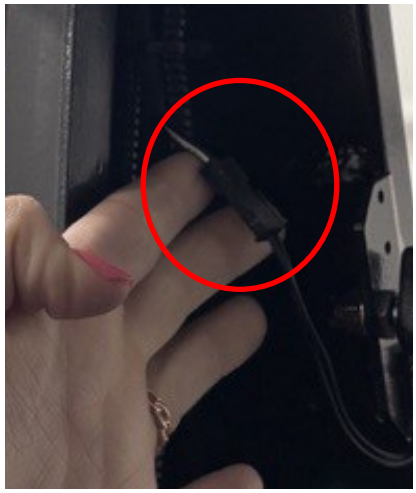
Check that harness routing does not interfere with door operation











**Step 16:**
**A)** After routing 71905 underneath the vehicle, towards the rear, secure the bundle in the middle of the roof bows closest to the doors.

Route the longest lead of magnetic switch harness to the **driver side** switch mount. Image to the left.

When routing keep the harness tucked up into the area with the harness. Use stud mounts to secure harness, if there is no stud mounts to connect to, use sticky back mounting.

Connect end of magnetic switch to matting connector end on harness. (Shown in Red)



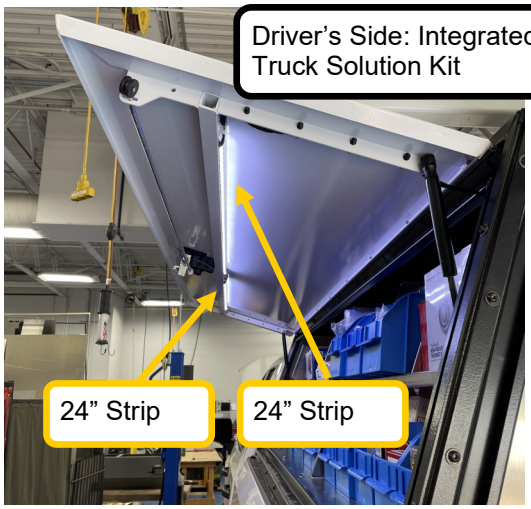
**B)** With the two short leads plug one end into the rear magnetic sensor, the other add 80371 extension harness to it to reach the passenger side magnetic sensor. (Shown in Red)

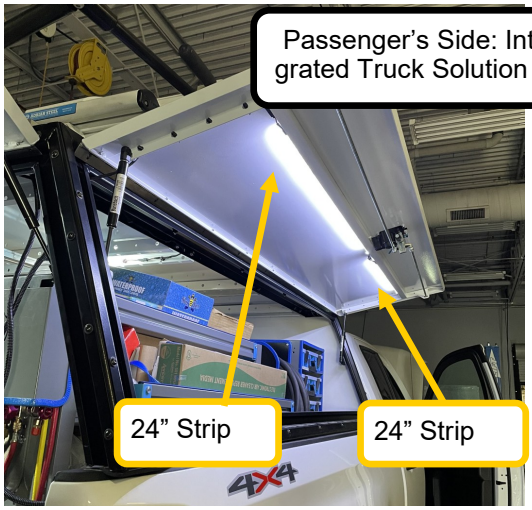


80371








Driver's, Passenger, or Rear Door: Other Interior Light Kits

**Step 17 (6.3' only):** Install the lights.
Locate the lights for the install. This will vary with customers so grab only what is called out on the sales order per vehicle.

***Please note:** if there is an added door handle strap, the lights will need to be installed as high up on the channel as possible, to avoid the nut and bolt clamping on the light strip.

Open the topper doors that are requiring lights. Locate the square tube running horizontal across the door. The side facing the interior of the top will be the side you will secure the lights to.

**Using the alcohol pads provided in the boxes, clean the entire inside wall of the square tube where the lights will stick to before installing. Be sure to let the tube dry.**

**Be sure to have the larger connector end of the lights towards the rear for connecting into the roof bow harnesses.**

**If installing the integrated Truck Solution (73106):**
Connect (2) 24" strips together, and remove sticky tape on the back.

On the drivers side, install (2) 24" strip lights as center as possible between the front and rear sides of the door.

For the passenger side, install (2) 24" strips, following the same instructions as above.

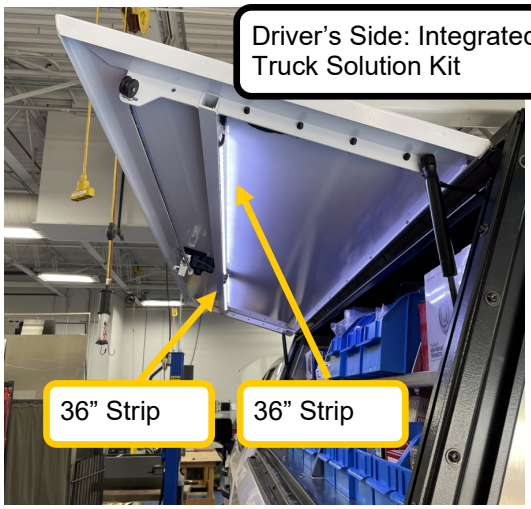


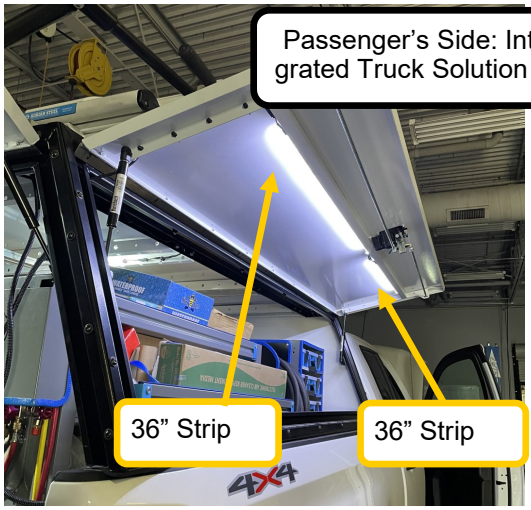

Follow the same mounting location/procedure for any other strip lights being mounted (48" or 36"). Lights will mount on the interior side of the channel that runs along the door.

Only install the lights on the sides that are needed. Not every door will always have lights. These will vary on customer asks. Refer to page 4 for kit part numbers and components.

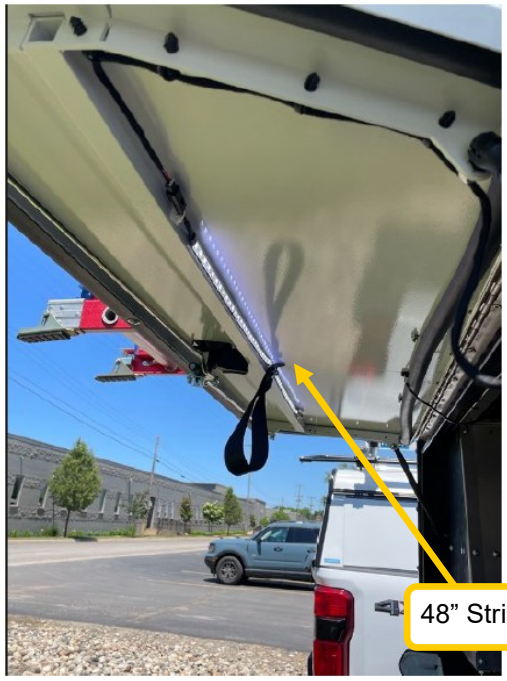
**Be sure to have the larger connector end of the lights towards the rear for connecting into the roof bow harnesses.**

**Place a small sticky back square zip tie mount at each end of the strips to secure the connector to the topper.**




Driver's, Passenger, or Rear Door: Other Interior Light Kits




**Step 17 (8' only):** Install the lights.
Locate the lights for the install. This will vary with customers so grab only what is called out on the sales order per vehicle.

***Please note:** if there is an added door handle strap, the lights will need to be installed as high up on the channel as possible, to avoid the nut and bolt clamping on the light strip.

Open the topper doors that are requiring lights. Locate the square tube running horizontal across the door. The side facing the interior of the top will be the side you will secure the lights to.

**Using the alcohol pads provided in the boxes, clean the entire inside wall of the square tube where the lights will stick to before installing. Be sure to let the tube dry.**

**Be sure to have the larger connector end of the lights towards the rear for connecting into the roof bow harnesses.**

**If installing the integrated Truck Solution (74495):**
Connect (2) 36" strips together, and remove sticky tape on the back.

On the drivers side, install (2) 36" strip lights as center as possible between the front and rear sides of the door.

For the passenger side, install (2) 36" strips, following the same instructions as above.

Follow the same mounting location/procedure for any other strip lights being mounted (48"). Lights will mount on the interior side of the channel that runs along the door.

Only install the lights on the sides that are needed. Not every door will always have lights. These will vary on customer asks. Refer to page 4 for kit part numbers and components.

**Be sure to have the larger connector end of the lights towards the rear for connecting into the roof bow harnesses.**

**Place a small sticky back square zip tie mount at each end of the strips to secure the connector to the topper.**

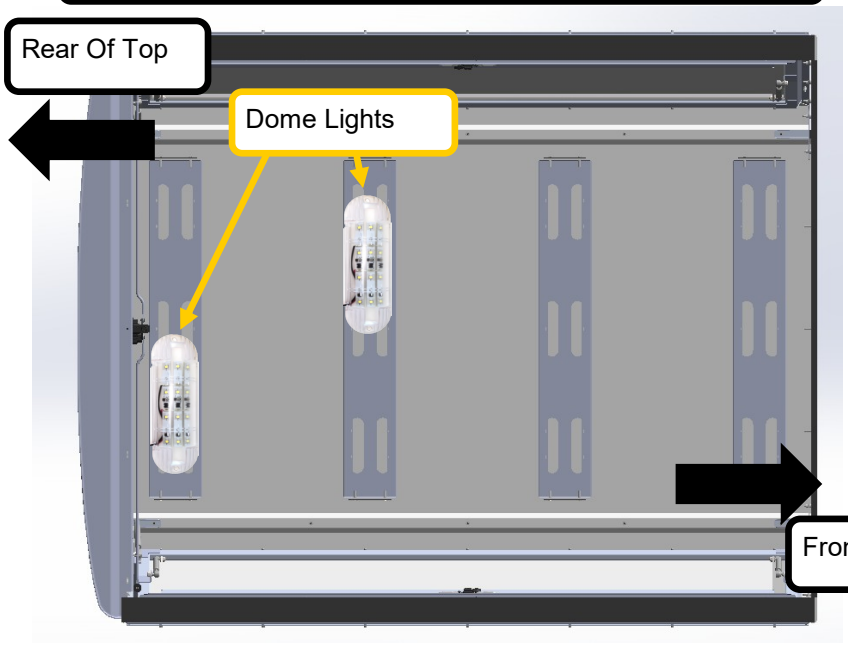
**Step 18 (6.3' only):**
**For the Integrated Truck Solution (73106)**
Locate the (2) dome lights.

**Be sure to clean the area that the lights will stick to carefully before installing. Use the alcohol pad provided in the boxes and let it dry before installing.**

If there will be an interior ladder rack installed, stagger the dome lights on the roof bows like shown. If not then please center the lights.

Note: Don't use the self tapper screws. Drill 2 holes and use nuts and bolts to secure Dome Lights.

Integrated Truck Solution Kit With Interior Ladder Rack



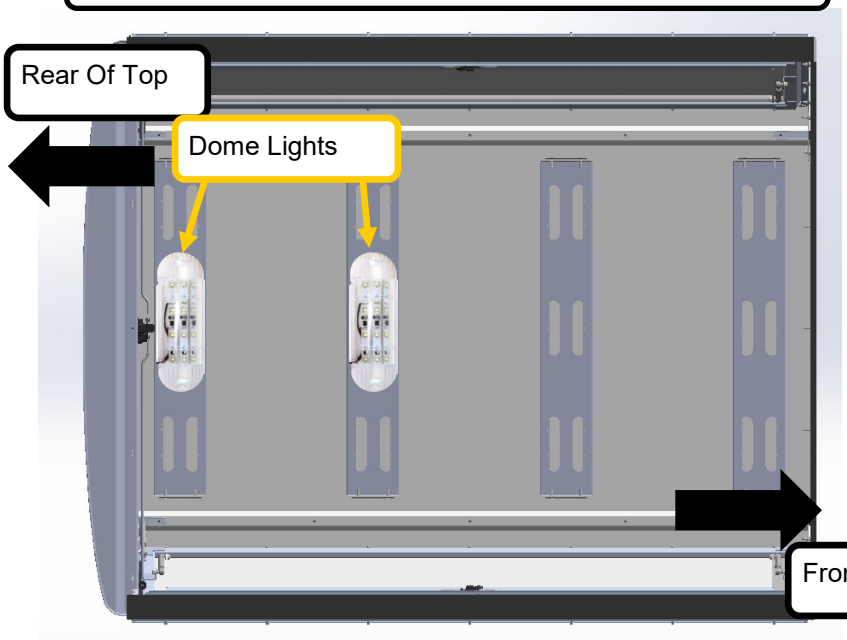

**Place dome light on roof bow as shown in images below:**



Please secure dome lights with (FAS-0022 10-24X0.75) screw, (FAS-0029 10-24) nut, and (FAS-0027) washer on roof bow.



Integrated Truck Solution Kit With No Interior Ladder



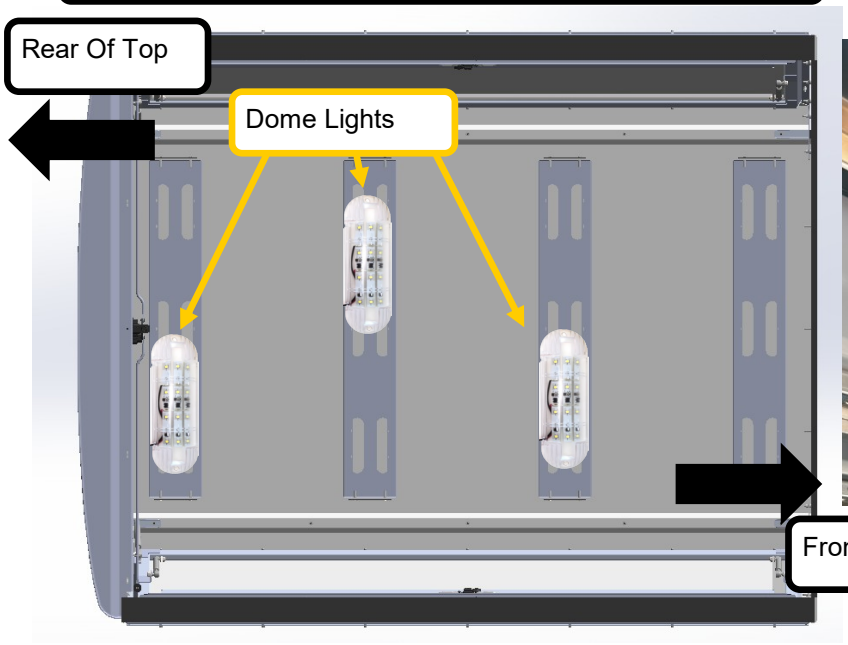
**Step 18 (8' only):**
**For the Integrated Truck Solution (74495)**
Locate the (3) dome lights.

**Be sure to clean the area that the lights will stick to carefully before installing. Use the alcohol pad provided in the boxes and let it dry before installing.**

If there will be an interior ladder rack installed, stagger the dome lights on the roof bows like shown. If not then please center the lights.

Note: Don't use the self tapper screws. Drill 2 holes and use nuts and bolts to secure Dome Lights.

Integrated Truck Solution Kit With Interior Ladder Rack

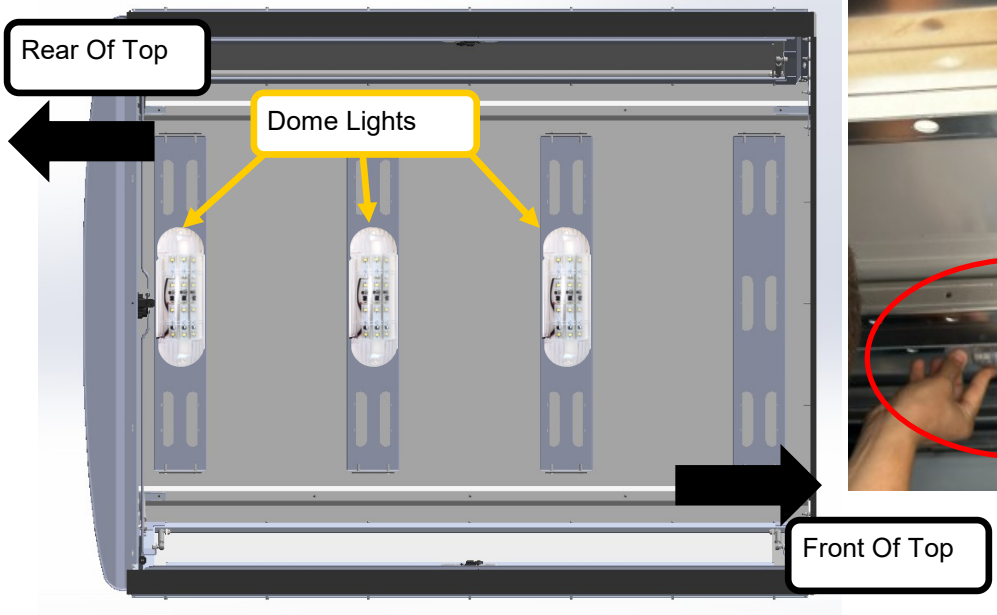



**Place dome light on roof bow as shown in images below:**

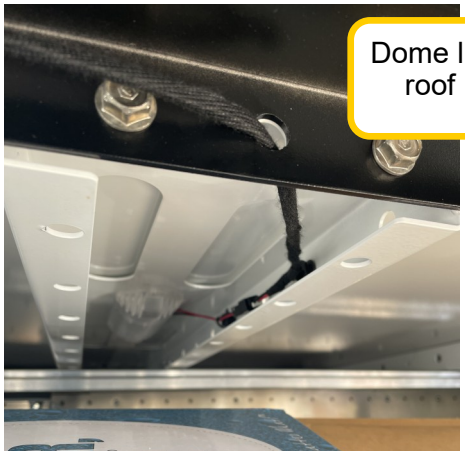


Please secure dome lights with (FAS-0022 10-24X0.75) screw, (FAS-0029 10-24) nut, and (FAS-0027) washer on roof bow.

Integrated Truck Solution Kit With No Interior Ladder















## Step 19: Roof Bow Harness Routing

Use roof bow harness #1 (63481) for routing the 2 dome lights and the strip lights on the driver's side door.

Use roof bow harness #2 (63482) for routing to the strip lights on the passenger side.

Utilize the existing holes in the doors and roof bows for securing the zip ties to. Clean topper surface in corner areas with alcohol pads. Begin to secure the harness using provided self adhesive tie mounts where necessary.

*****IMPORTANT:**
Ensure while securing wiring to avoid all sharp edges. (Shown in image 3, circled in red). When wiring from the light strips to the roof bow, avoid sharp edges at the ends.

When both side doors are open, allow very little slack on the wire, ensuring it is taut. However, while pulling wiring taut on the strip lights ensure the doors open and close without damaging the wires.

Route the harnesses to the TLM harness (71905) and plug them in.

Secure all the wires with zip ties and tuck neatly as possible between the first roof bow and the rear door edge.

Be sure all wiring is secured with zip ties.





**Step 20:** *** Testing of magnetic switches ***

Continue to route power to light harness PN 71905 to magnetic switches mounted on door shock mounts.

After plugging in the magnetic switches, be sure to secure the excess wiring using provided cable ties.

Once magnetic switches and all lights are plugged in, lights should be on.

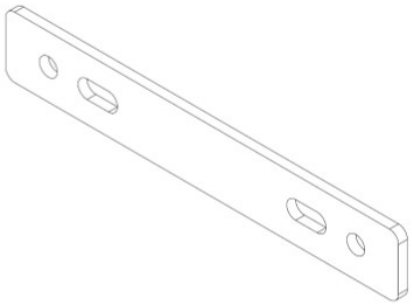
To test and see if the magnetic switches are close enough to one another, open the tailgate of the truck and shut all of the topper doors.

Once all of the topper doors are shut, all of the lights should be off. If one topper door is open, the lights will remain on. In order for the lights to turn off, all of the topper doors must be shut.

Magnetic switches should be no more than 1/4" away from one another.

If the lights do NOT turn off when all of the doors are shut, preform next step below.

---





**Step 21:** Locate magnetic switch bracket spacer PN 73414-W.

Place one **or two bracket(s)** behind the pre-existing bracket on the topper door. This can be placed behind one bracket and then tested again.

Utilizing hardware provided, secure bracket behind magnetic switch bracket. This is to ensure the magnetic switches are close enough for connectivity.

A spacer may be placed behind all magnetic switch brackets on the rear door and two side doors if deemed necessary.

Magnetic switches mounted on topper door must be **NO MORE** than 0.3" apart from each when the door is shut.







**Insert the fuses into the inline-fuse holders on the TLM harness (71905) and the power harness (71903).**

**The install is now complete.**

**Check that the lights come on when any of the 3 doors open.**

# TOPPER INTERIOR LIGHTING: ISSUE & SOLUTIONS



If lights do not turn off when topper door is closed or do not turn on when topper doors are opened, please follow the checklist below.

## OEM BATTERY VOLTAGE

- ☐ Check OEM battery voltage. Ensure battery voltage is 11.8 volts or higher. If TLM reads a battery voltage of 11.8 volts for 20 seconds or more, it will shut off until it reads an increase in voltage.
- ☐ If voltage is low, charge the vehicle battery.

## TLM DIP SWITCHES

- ☐ Check TLM located under driver/passenger side footwell.
- ☐ The time set will be customer specific.
- ☐ Ensure Voltage Sense is ON (down), Timer is ON (down), and Steady Ground Input is ON (Down).
- ☐ Setting TLM to 90 minutes is as follows:

| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Down | Down | Down | Up | Up | Down |

## MAGNETIC SWITCH PLACEMENT/LOCATION

- ☐ Magnetic Switches mounted on topper doors must be **no** more than 0.3 inches apart from one another when topper door is shut.
- ☐ If the space between magnetic switches is too far, place spacer between topper door brackets.
- ☐ Magnetic switches mounted on door shocks must be mounted properly:
  - Driver Side: Magnetic Switch sensor wires must be mounted downward
  - Passenger/Rear Side: Magnetic Switch sensor must be mounted upward

## MAGNETIC SWITCH FUNCTIONALITY/RESET

- ☐ Shut all topper doors to reset magnetic switch connection once timer shuts off lights.
- ☐ If topper lights do not turn on/off, unplug and test one sensor at a time, to see if there is a sensor malfunction.
- ☐ **If the topper lights turn off after 5 seconds of turning on, vehicle battery has low voltage.**
- ☐ **If the topper lights turn off after 10 seconds of turning on, there is an issue with the dip switches on the TLM.**

***** Be sure to always check that there is proper connection at all connectors, and that there is no issue in any wiring harnesses.**

PART NUMBER
13905-0

## ITEM DESCRIPTION: WIRE TIE, NYLON 40Lb, 8.5” BLACK



MANUFACTURER: WAYTEK, INC. or equivalent
MANUFACTURERS PART NUMBER: 21093M or 21093C

SPECIFICATIONS: STANDARD CABLE TIE
BLACK, NYLON
8-1/2” LONG
TENSILE STRENGTH: 40.0 LBS
21093M = 1,000 quanity
21093C = 100 quanity

SPECIAL NOTES: PART NUMBER IS BLACK.

# SUPPLIED BY: THIS ITEM IS ADRIAN AVAILABLE!

## PURCHASED PRODUCT DATA SHEET (PPDS)

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ADRIAN STEEL
VAN AND PICKUP EQUIPMENT

**906 JAMES STREET**
**ADRIAN, MI 49221**
**517-265-6194**
**WWW.ADRIANSTEEL.COM**

**⚠ CAUTION ⚠**

**WHEN INSTALLING EQUIPMENT IN OR ON VEHICLES CHECK FOR FUEL TANKS, FUEL LINES, CONTROL LINES AND ELECTRICAL WIRING BEFORE DRILLING! ALWAYS USE DRILL BITS WITH INTEGRAL STOPS WHENEVER POSSIBLE!**

| DRAWN BY | DATE DRAWN |
|---|---|
| MDG | 10/26/2006 |
| ECN NUMBER | ECN DATE |
| 18021 | 11/13/2015 |
| PART WEIGHT | REV. LEVEL |
| 0.01 LBS. | D |

PART NUMBER
**13905-0**

PART NUMBER
**26618-0**

## ITEM DESCRIPTION: SILICONE, 1oz. TUBE



SPECIFICATIONS:
SU5005 RTV SILICONE
1oz. TUBE
CLEAR OR EQUIVILENT
SELF PIERCING CAP

SPECIAL NOTES:

## SUPPLIED BY: THIS ITEM IS ADRIAN AVAILABLE!

## PURCHASED PRODUCT DATA SHEET (PPDS)

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ADRIAN STEEL
VAN AND PICKUP EQUIPMENT
906 JAMES STREET
ADRIAN, MI 49221
517-265-6194
WWW.ADRIANSTEEL.COM

**⚠ CAUTION ⚠**

WHEN INSTALLING EQUIPMENT IN OR ON VEHICLES CHECK FOR FUEL TANKS, FUEL LINES, CONTROL LINES AND ELECTRICAL WIRING BEFORE DRILLING! ALWAYS USE DRILL BITS WITH INTEGRAL STOPS WHENEVER POSSIBLE!

| DRAWN BY | DATE DRAWN |
|---|---|
| JLC | 7/21/2001 |
| ECN NUMBER | ECN DATE |
| 16551 | 7/22/2014 |
| PART WEIGHT | REV. LEVEL |
| 0.02 LBS. | C |

PART NUMBER
**26618-0**

PART NUMBER
**26618-0**

## ITEM DESCRIPTION: SILICONE, 1oz. TUBE



SPECIFICATIONS:
SU5005 RTV SILICONE
1oz. TUBE
CLEAR OR EQUIVILENT
SELF PIERCING CAP

SPECIAL NOTES:

## SUPPLIED BY: THIS ITEM IS ADRIAN AVAILABLE!

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906 JAMES STREET
ADRIAN, MI 49221
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**⚠ CAUTION ⚠**

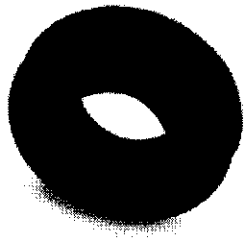
WHEN INSTALLING EQUIPMENT IN OR ON VEHICLES CHECK FOR FUEL TANKS, FUEL LINES, CONTROL LINES AND ELECTRICAL WIRING BEFORE DRILLING! ALWAYS USE DRILL BITS WITH INTEGRAL STOPS WHENEVER POSSIBLE!

| DRAWN BY | DATE DRAWN |
|---|---|
| JLC | 7/21/2001 |
| ECN NUMBER | ECN DATE |
| 16551 | 7/22/2014 |
| PART WEIGHT | REV. LEVEL |
| 0.02 LBS. | C |

PART NUMBER
**26618-0**

PART NUMBER
35735-0

## ITEM DESCRIPTION: GROMMET,RUBBER,1/2"ID



MANUFACTURER: WAYTEK
MANUFACTURERS PART NUMBER: 24516

SPECIFICATIONS: RUBBER GROMMET ¾" O.D, ½" I.D.

SPECIAL NOTES: NONE

## SUPPLIED BY: THIS ITEM IS INSTALLER SUPPLIED!

## PURCHASED PRODUCT DATA SHEET (PPDS)

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517-265-6194
WWW.ADRIANSTEEL.COM

**⚠CAUTION⚠**

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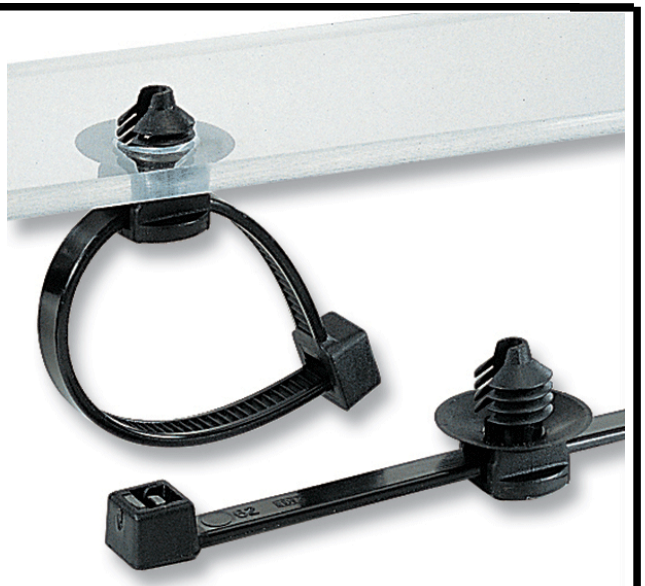
| DRAWN BY | DATE DRAWN |
|---|---|
| APG | 2/11/2008 |
| ECN NUMBER | ECN DATE |
| 11012 | 2/11/2008 |
| PART WEIGHT | REV. LEVEL |
| 0.00 LBS. | A |

PART NUMBER
35735-0

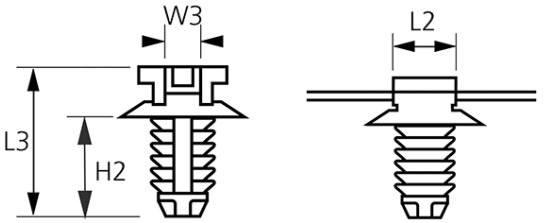
# PURCHASED COMPONENT KEY FEATURES

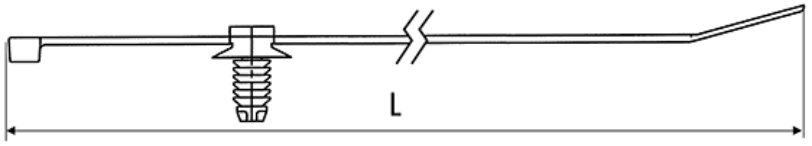
| DESCRIPTION OF REQUIREMENTS |
|---|
| DIMENSIONAL REQUIREMENTS (AS SHOWN ON DRAWING)<br>**N/A** |
| LOAD/RATING REQUIREMENT<br>**N/A** |
| MATERIAL REQUIREMENT<br>**N/A** |
| PACKAGING REQUIREMENT<br>**N/A** |
| OTHER REQUIREMENTS<br>• **Roof Bow #1** ***(Cargo area, first Roof bow after partition)***<br>• ***(5x) WIRE TIE W/CHRISTMAS TREE***<br>• ***1100mm Length*** |



***(5x)***




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## TOLERANCES & INSPECTION

*UNLESS OTHERWISE SPECIFIED*

**ALL BEND ANGLES ARE 90 DEGREES**

**ALL DIMENSIONS ARE IN INCHES.**

**REFERENCE DIMENSIONS (X.XXX) DO NOT REQUIRE INSPECTION**

| FEATURES | HOLES/SLOTS | ANGLES |
|---|---|---|
| 0.0 = ± .125 | 0.0 = ± .062 | 0° = ± 2° |
| 0.00 = ± .062 | 0.00 = ± .031 | 0.0° = ± 1° |
| 0.000 = ± .031 | 0.000 = ± .015 | |

**Material Thickness: per ASTM Std.**
**Weld Callouts per AWS**

## RELEASE & REVISIONS

**INITIAL ECN:** 24359

**CURRENT ECN:** 24359

ECN DESCRIPTION:

**QE8539 RELEASE MODULAR DOME LIGHTING**

REVISED BY: **MJF**

## PURCHASED COMPONENT

REFERENCED SUPPLIER AND/OR MANUFACTURER
**ECHOMASTER FLEET SOLUTIONS**

REFERENCED SUPPLIER AND/OR MANUFACTURER PART NUMBER
**P-HARRB1**

COLOR (ONLY LIST IF COLOR SPECIFIC)

COMODITY ITEM (Y/N) (YES = ALL DIMENSIONS AND NOTES ARE REFERANCE) (NOTE: DIMENSIONS AND FEATURES MAY VARY FOR A COMODITY ITEM.)
**YES**

## PART / PRODUCT IDENTIFICATION

**ADRIAN STEEL**

**ADRIAN STEEL COMPANY**
**906 JAMES STREET, ADRIAN, MI 49221**

REVISION LEVEL **A**

MAT'L USED: **PURCHASED**

DESIGNED BY: **MJF**

DESCRIPTION: **ROOF BOW HARNESS #1**

WEIGHT (Lbs.): **.50**

SEGMENT CODE: **EAU**

PART NUMBER: **63481**

# PURCHASED COMPONENT KEY FEATURES

| DESCRIPTION OF REQUIREMENTS |
|---|
| DIMENSIONAL REQUIREMENTS (AS SHOWN ON DRAWING)<br>**N/A** |
| LOAD/RATING REQUIREMENT<br>**N/A** |
| MATERIAL REQUIREMENT<br>**N/A** |
| PACKAGING REQUIREMENT<br>**N/A** |
| OTHER REQUIREMENTS<br>**Note:**<br>**Connector / Terminal Configuration:**<br>**• MALE 2 PIN ON ONE END**<br>**• FEMALE 2 PIN ON THE OPPOSITE END.** |

**BOM:**

| Item | Qty. | Description |
|---|---|---|
| 1 | 1 | 24" WHITE LED STRIP LIGHT W/ADHESIVE |
| 2 | 2 | 4" ZIP TIE |
| 3 | 2 | CABLE TIE MOUNT |
| 4 | 1 | ALCOHOL PAD |




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| FEATURES | HOLES/SLOTS | ANGLES |
|---|---|---|
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| 0.00 = ± .062 | 0.00 = ± .031 | 0.0° = ± 1° |
| 0.000 = ± .031 | 0.000 = ± .015 | |

Material Thickness: per ASTM Std.
Weld Callouts per AWS

## RELEASE & REVISIONS

INITIAL ECN: **24697**

CURRENT ECN: **25778**

ECN DESCRIPTION:
**Revise Modular Lights With New 3M Adhesive**

REVISED BY: **JLT**

## PURCHASED COMPONENT

REFERENCED SUPPLIER AND/OR MANUFACTURER
**AAMP**

REFERENCED SUPPLIER AND/OR MANUFACTURER PART NUMBER
**CL-24BLED rev.B**

COLOR (ONLY LIST IF COLOR SPECIFIC)

COMODITY ITEM (Y/N) (YES = ALL DIMENSIONS AND NOTES ARE REFERANCE)
(NOTE: DIMENSIONS AND FEATURES MAY VARY FOR A COMODITY ITEM.)
**YES**

## PART / PRODUCT IDENTIFICATION

**ADRIAN STEEL®**

ADRIAN STEEL COMPANY
906 JAMES STREET, ADRIAN, MI 49221

REVISION LEVEL **B**

MAT'L USED:

DESIGNED BY: **J. TYNER**

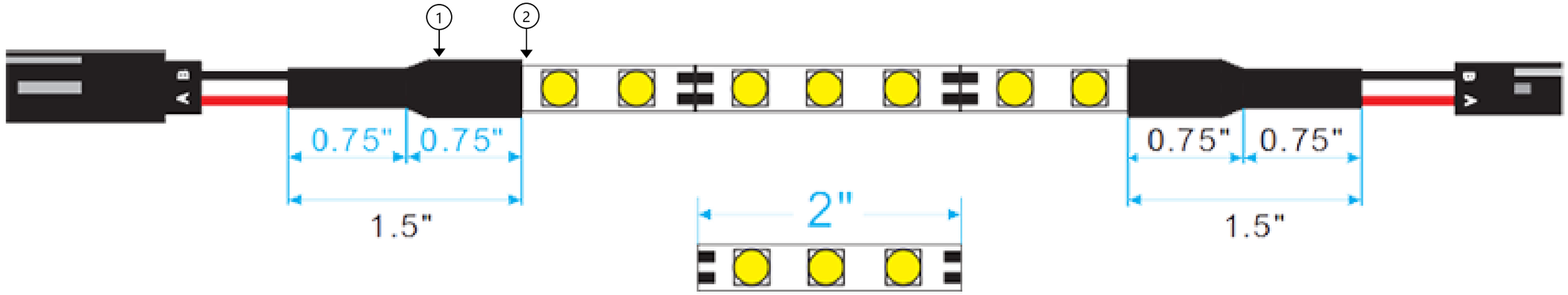
DESCRIPTION: **MODULE DOME LED STRIP 24"**

WEIGHT (Lbs.): **0.2**

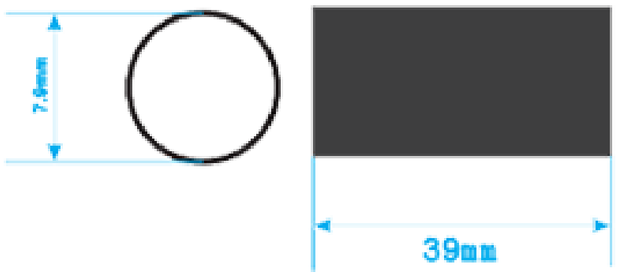
SEGMENT CODE: **EAU**

PART NUMBER: **65346**

| Notes | |
|---|---|
| 1 | 3:1 Adhesive Heat Shrink to be placed over LED Solder Joints |
| 2 | 5925 Adhesive Liner Edges to be exposed next to heat shrink |




12"=6X
24"=12X
36"=18X
48"=24X




| Revisions | | | |
|---|---|---|---|
| Rev. | Date | Author | Description |
| A | 11/1/21 | Bennet Fisher | Initial Drawing |
| B | 7/27/2022 | Bennet Fisher | Adhesive changed to VHB 5925 |

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN MILLIMETERS [INCHES]
TOLERANCES: ±5MM

**PROPRIETARY AND CONFIDENTIAL**

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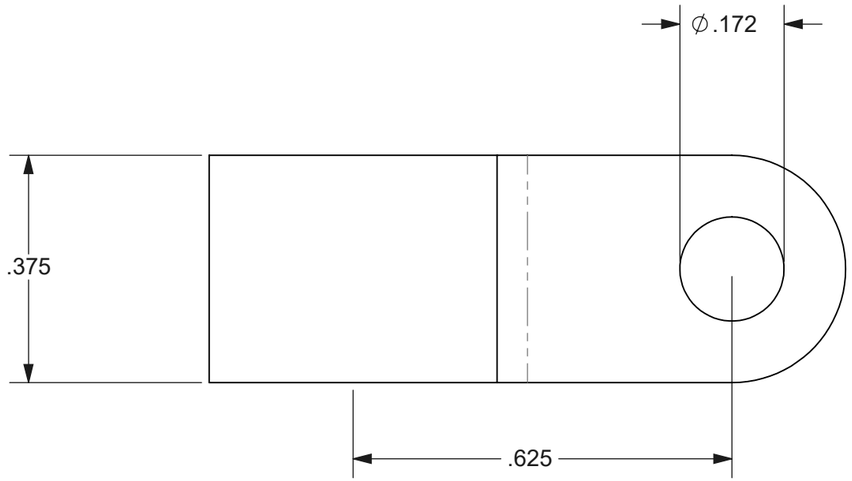
| | Name | Date |
|---|---|---|
| Designed By | Bennet Fisher | 11/1/21 |
| Engineering Approval | | |
| Manufacturing Approval | | |
| Revision Approval | | |
| Quality Assurance | | |

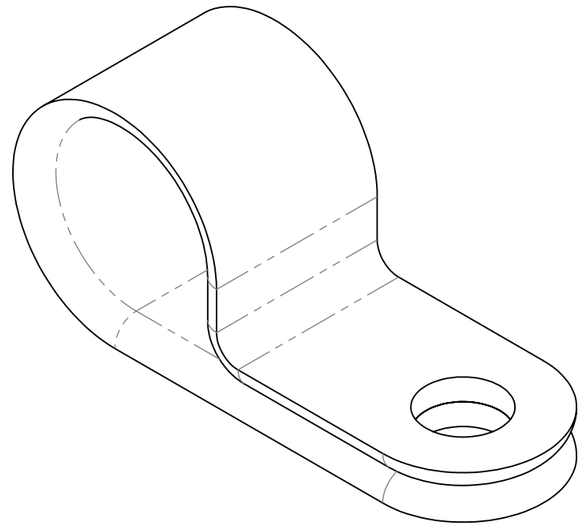
AAMP
ADVANCING VEHICLE TECHNOLOGY

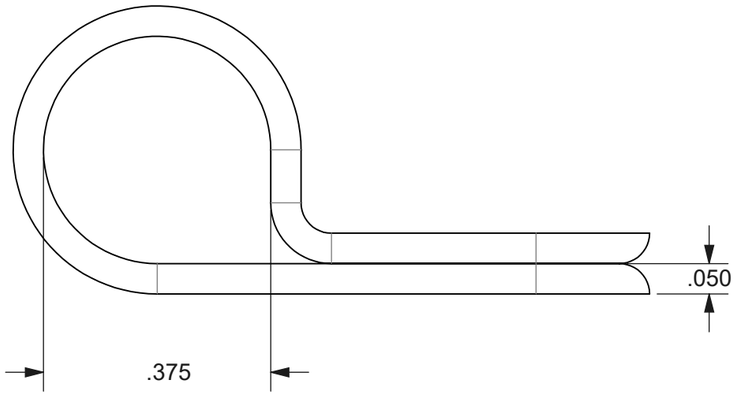
| | |
|---|---|
| Part Number: CL-24BLED | Revision: B |
| Description: 24" LED Strip | Sheet: 1 |

# PURCHASED COMPONENT KEY FEATURES

| DESCRIPTION OF REQUIREMENTS |
|---|
| DIMENSIONAL REQUIREMENTS (AS SHOWN ON DRAWING) **N/A** |
| LOAD/RATING REQUIREMENT **N/A** |
| MATERIAL REQUIREMENT **N/A** |
| PACKAGING REQUIREMENT **N/A** |
| OTHER REQUIREMENTS **N/A** |






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## TOLERANCES & INSPECTION

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**REFERENCE DIMENSIONS (X.XXX) DO NOT REQUIRE INSPECTION**

| FEATURES | HOLES/SLOTS | ANGLES |
|---|---|---|
| 0.0 = ± .125 | 0.0 = ± .062 | 0° = ± 2° |
| 0.00 = ± .062 | 0.00 = ± .031 | 0.0° = ± 1° |
| 0.000 = ± .031 | 0.000 = ± .015 | |

**Material Thickness: per ASTM Std.**
**Weld Callouts per AWS**

## RELEASE & REVISIONS

INITIAL ECN: **25297**

CURRENT ECN: **25334**

ECN DESCRIPTION:

**UPDATE SUPPLIER TO SAY EQUIVALENT**

REVISED BY:

## PURCHASED COMPONENT

REFERENCED SUPPLIER AND/OR MANUFACTURER
**MCMASTER-CARR OR EQUIVALENT**

REFERENCED SUPPLIER AND/OR MANUFACTURER PART NUMBER
**8876T38 OR EQUIVALENT**

COLOR (ONLY LIST IF COLOR SPECIFIC)
**BLACK**

COMODITY ITEM (Y/N) (YES = ALL DIMENSIONS AND NOTES ARE REFERANCE)
(NOTE: DIMENSIONS AND FEATURES MAY VARY FOR A COMODITY ITEM.)
**NO**

## PART / PRODUCT IDENTIFICATION

**ADRIAN STEEL®**

**ADRIAN STEEL COMPANY**
**906 JAMES STREET, ADRIAN, MI 49221**

REVISION LEVEL **B**

MAT'L USED:

DESIGNED BY: **E.BURKE**

DESCRIPTION: **Nylon Plastic Loop Clamp**

WEIGHT (Lbs.): **0.001**

SEGMENT CODE: **HDW**

PART NUMBER: **66843**

# PURCHASED COMPONENT KEY FEATURES

| DESCRIPTION OF REQUIREMENTS |
|---|
| DIMENSIONAL REQUIREMENTS (AS SHOWN ON DRAWING)<br>**N/A** |
| LOAD/RATING REQUIREMENT<br>**N/A** |
| MATERIAL REQUIREMENT<br>**N/A** |
| PACKAGING REQUIREMENT<br>**N/A** |
| OTHER REQUIREMENTS<br>**TIMER LIGHTING MODULE FOR INTERIOR PLUG AND PLAY LIGHTING ON TOPPERS** |







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## TOLERANCES & INSPECTION

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**ALL DIMENSIONS ARE IN INCHES.**

**REFERENCE DIMENSIONS (X.XXX) DO NOT REQUIRE INSPECTION**

| FEATURES | HOLES/SLOTS | ANGLES |
|---|---|---|
| 0.0 = ± .125 | 0.0 = ± .062 | 0° = ± 2° |
| 0.00 = ± .062 | 0.00 = ± .031 | 0.0° = ± 1° |
| 0.000 = ± .031 | 0.000 = ± .015 | |

**Material Thickness: per ASTM Std.**
**Weld Callouts per AWS**

## RELEASE & REVISIONS

INITIAL ECN: **26830**

CURRENT ECN: **27950**

ECN DESCRIPTION:

**Update to REV B**

REVISED BY: **JJC**

## PURCHASED COMPONENT

REFERENCED SUPPLIER AND/OR MANUFACTURER
**Stinger**

REFERENCED SUPPLIER AND/OR MANUFACTURER PART NUMBER
**71902**

COLOR (ONLY LIST IF COLOR SPECIFIC)

COMODITY ITEM (Y/N) (YES = ALL DIMENSIONS AND NOTES ARE REFERANCE)
(NOTE: DIMENSIONS AND FEATURES MAY VARY FOR A COMODITY ITEM.)
**NO**

## PART / PRODUCT IDENTIFICATION

**ADRIAN STEEL®**

**ADRIAN STEEL COMPANY**
**906 JAMES STREET, ADRIAN, MI 49221**

REVISION LEVEL **B**

MAT'L USED: **PURCHASED**

DESIGNED BY: **E.BURKE**

DESCRIPTION: **TIMER LIGHTING MODULE**

WEIGHT (Lbs.): **0.2**

SEGMENT CODE: **ELE**

PART NUMBER: **71902**









# TLM

## Timer/Low Voltage Module

### INSTALLATION MANUAL

# Thank you for purchasing the TLM

## WHAT'S INCLUDED:

- Timer/Low Voltage Module
- Module Harness
- Cable Ties

## COMPATIBLE ACCESSORIES:

- Vehicle-specific harness (P-VTM-xxx)
- Switch harness (VTM-SWx)
- High current harness (VTM-RLY)

## FEATURES:

- Selectable timer durations - 30, 60, 90, and 120 minutes
- Selectable Low Voltage Sense shut off - 11.8V, 11.5V, and 11.2V
- Timer and Low Voltage sense work independently of each other
- Inputs for 2 momentary switches or a steady ground input
- 10A max current output

# OPERATING INSTRUCTIONS:

| DIP 1 | DIP 2 | V-Sense | DIP 3 | DIP 4 | DIP 5 | Minutes | DIP 6 |
|---|---|---|---|---|---|---|---|
| Up | Up | OFF | Timer | Up | Up | 30 | ON (Down) Steady Ground Input |
| Up | Down | 11.2V | ON (Down) | Up | Down | 60 | |
| Down | Up | 11.5V | OFF (Up) | Down | Up | 90 | OFF (Up) Momentary Ground Input |
| Down | Down | 11.8V | | Down | Down | 120 | |

**DIP 1-2**
If Voltage Sense feature is turned ON, low voltage shut down will occur when the input voltage to the TLM module drops below the V-Sense setting. To eliminate false triggers, there is a 20 second delay before shut down.
If Voltage Sense is turned OFF, input voltage level will not be monitored.

NOTE: Voltage Sense takes precedence over Timer.

**DIP 3**
If the Timer feature is turned ON and switch input is activated, output voltage will be provided for specified timer duration.

**DIP 4-5**
Switch settings will determine how long output will be active after the switch input is activated.

NOTE: If an invalid time is selected (e.g. Up, Up, Up or Down, Down, Down) the output will turn off 10 seconds after the switch input is activated.

**DIP 6**
Steady Ground Input Applications:
Applying ground to the switch input will activate the output, removing ground from switch input will disable the output. If ground is applied once again, the output will be re-activated, and the timer will reset/start over.

Momentary Ground Input Applications:
Applying a pulsed ground to the switch input will activate the output, a seond pulsed ground to the switch input will disable the output. If a pulsed ground is applied once again, the output will be re-activated, and the timer will reset/start over.

## Steady Ground Input Applications

| Trigger Input | Switch Input | Output | Voltage Sense (ON) | Timer (ON) |
|---|---|---|---|---|
| Active | N/A | ON | Monitoring Input Voltage | N/A |
| Not Active | N/A | OFF | N/A | N/A |
| Not Active | Activated (Input Grounded) | ON | Monitoring Input Voltage | Timer Starts |
| Not Active | Deactivated (Ground Removed) | OFF | N/A | Timer Off |
| Not Active | Activated (Input Grounded) | ON | Monitoring Input Voltage | Timer Starts |

## Momentary Ground Input Applications

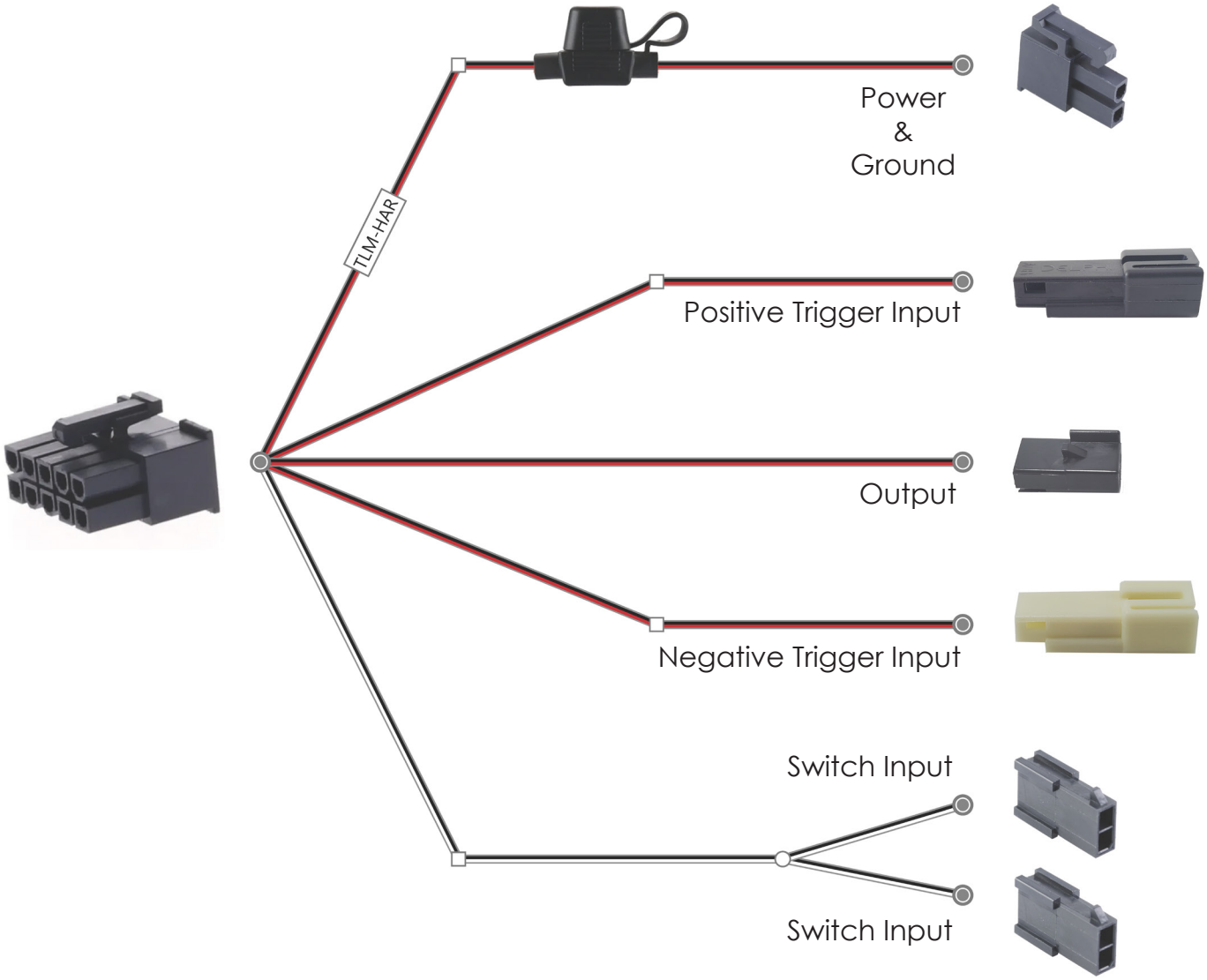
| Trigger Input | Switch Input | Output | Voltage Sense (ON) | Timer (ON) |
|---|---|---|---|---|
| Active | N/A | ON | Monitoring Input Voltage | N/A |
| Not Active | N/A | OFF | N/A | N/A |
| Not Active | Activated (Pulsed) | ON | Monitoring Input Voltage | Timer Starts |
| Not Active | Activated (Pulsed) | OFF | N/A | Timer Off |
| Not Active | Activated (Pulsed) | ON | Monitoring Input Voltage | Timer Starts |

In the tables above "Trigger Input" refers to the Positive Trigger Input and Negative Trigger Input of the module.

If a Trigger Input is active, its function takes precedence. Attempting to activate the Switch Input while a Trigger Input is active will have no effect on the modules output.

# WIRING DIAGRAMS:

## TLM Harness

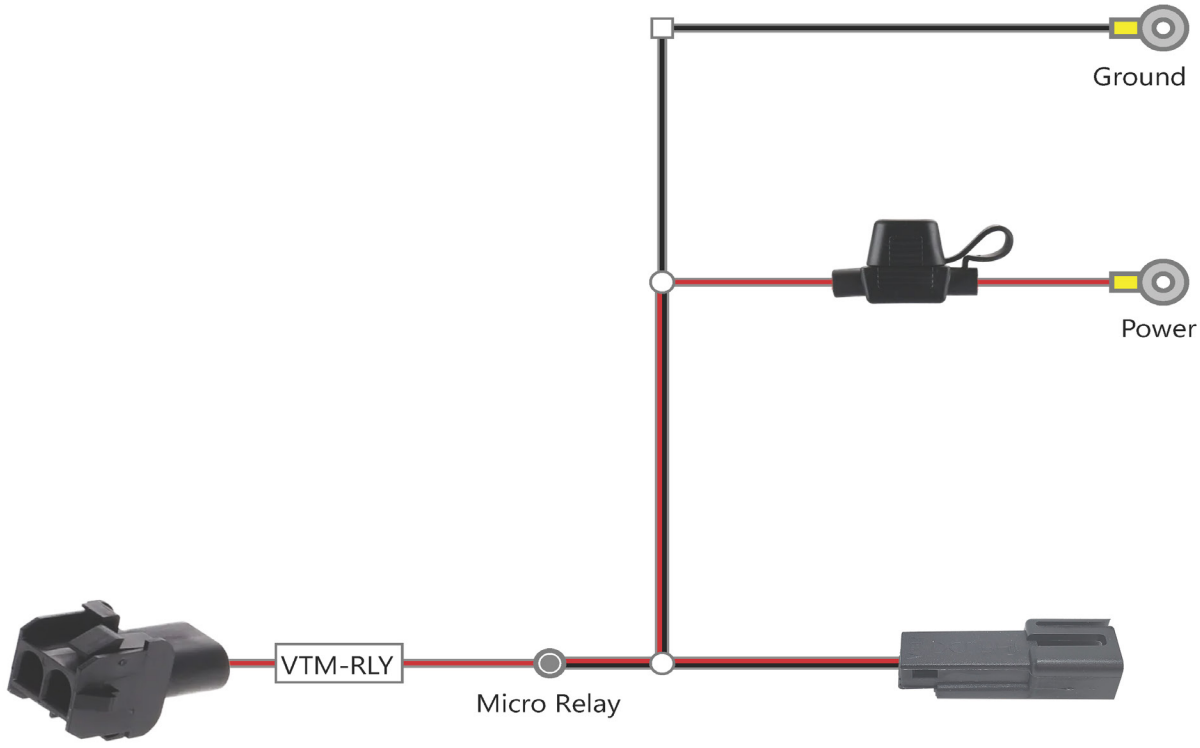



If necessary, connectors may be removed for hardwire applications.

Positive Trigger Input: Applying 12V to Red wire will activate output
Negative Trigger Input: Applying ground to Black wire will activate output
Switch Input: Closing loop between switch input wire leads will activate output

# VTM-RLY (Optional Harness)

For larger current demands, use the optional VTM-RLY and connect to power and ground, along with the TLM harness. VTM-RLY supports up to 15A.




VTM-RLY Output connects to P-VTMxxx harness for vehicle lighting

VTM-RLY Input connects to the output from the TLM harness

## Troubleshooting Table:

| | | |
|---|---|---|
| Output does not activate when Positive or Negative Trigger Input is activated | Check fuse on TLM harness | Replace fuse if it is bad |
| | Check power and ground connections | Fix loose or bad wire connection |
| | Confirm module has power and ground at its input | Replace module or damaged harness if necessary |
| Output does not activate when Switch Input is activated | Confirm DIP 6 on module matches switch type being used | Change DIP 6 setting to match switch type |
| | Confirm switch being used is not defective | Replace bad switch if necessary |
| Switch Input - Irregular behavior | Output does not turn off with switch | Check DIP 6 and confirm it matches switch type |
| | | Confirm switch is not damaged or defective; replace if necessary |
| | Output activates for 5 seconds then turns off | Input voltage to module is below Voltage Sense setting |




**Phone – 866-931-8021 (option 3)**

**E-Mail – support@stingersolutions.com**

**StingerSolutions.com**



**REV. B**

# PURCHASED COMPONENT KEY FEATURES

| DESCRIPTION OF REQUIREMENTS |
|---|
| DIMENSIONAL REQUIREMENTS (AS SHOWN ON DRAWING)<br>**N/A** |
| LOAD/RATING REQUIREMENT<br>**N/A** |
| MATERIAL REQUIREMENT<br>**N/A** |
| PACKAGING REQUIREMENT<br>**N/A** |
| OTHER REQUIREMENTS<br>**PLUG AND PLAY POWER HARNESS FOR TOPPER SILVERADO AND RAM KITS**<br>**POWER FROM BATTERY TO TLM MODULE** |




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**REFERENCE DIMENSIONS (X.XXX) DO NOT REQUIRE INSPECTION**

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|---|---|---|
| 0.0 = ± .125 | 0.0 = ± .062 | 0° = ± 2° |
| 0.00 = ± .062 | 0.00 = ± .031 | 0.0° = ± 1° |
| 0.000 = ± .031 | 0.000 = ± .015 | |

**Material Thickness: per ASTM Std.**
**Weld Callouts per AWS**

## RELEASE & REVISIONS

INITIAL ECN: **26830**

CURRENT ECN: **26830**

ECN DESCRIPTION:

**RELEASE FOR MARKET FILL**

REVISED BY: **EMB**

## PURCHASED COMPONENT

REFERENCED SUPPLIER AND/OR MANUFACTURER
**AAMP**

REFERENCED SUPPLIER AND/OR MANUFACTURER PART NUMBER
**71903**

COLOR (ONLY LIST IF COLOR SPECIFIC)

COMODITY ITEM (Y/N) (YES = ALL DIMENSIONS AND NOTES ARE REFERANCE) (NOTE: DIMENSIONS AND FEATURES MAY VARY FOR A COMODITY ITEM.)
**NO**

## PART / PRODUCT IDENTIFICATION

**ADRIAN STEEL®**

**ADRIAN STEEL COMPANY**
**906 JAMES STREET, ADRIAN, MI 49221**

REVISION LEVEL **A**

MAT'L USED: **PURCHASED**

DESIGNED BY: **E.BURKE**

DESCRIPTION: **HARN,POWER TLM BATTERY 4'**

WEIGHT (Lbs.): **0.2**

SEGMENT CODE: **ELE**

PART NUMBER: **71903**

## Bill of Materials

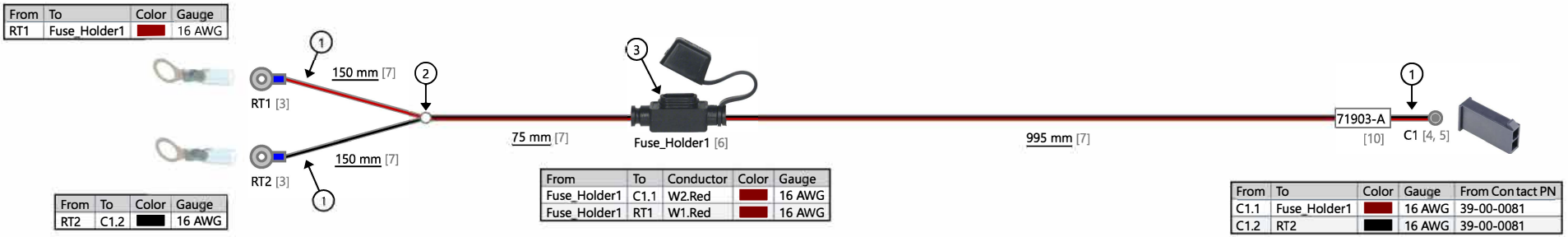
| Id | Type | Manufacturer | Part Number | Quantity |
|---|---|---|---|---|
| 1 | Wire | | 16 AWG Red GXL | 1220 mm |
| 2 | Wire | | 16 AWG Black GXL | 1220 mm |
| 3 | Ring Terminal | Molex | 19164-0027 | 2 |
| 4 | Connector | Molex | 46993-0211 | 1 |
| 5 | Contact | Molex | 39-00-0081 | 2 |
| 6 | Splice | | ATM Fuse Holder | 1 |
| 7 | Corrugated Tubing | | 0.25" Nylon Split Wall | 1370 mm |
| 8 | Fuse | Littelfuse | 297010.WXNV | 1 |
| 9 | Cable Tie | Hellerman nTyton | T30LL0M4 | 5 |
| 10 | Label | | Heat Shrink Style Label | 1 |

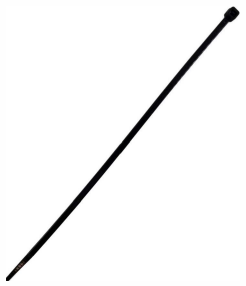
## Coverings

| Id | Assembly |
|---|---|
| [7] | |

## Notes

1. Lock tape loom behind connector with Tesa 51036
2. Tape knuckle with Tesa 51036
3. Install 10A Mini Fuse



[9]

## Revisions

| Rev. | Date | Author | Description |
|---|---|---|---|
| A | 10/29/2023 | Bennet Fisher | Initial Drawing |

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN MILLIMETERS [INCHES]
TOLERANCES: ±5MM

**PROPRIETARY AND CONFIDENTIAL**

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| | Name | Date |
|---|---|---|
| Designed By | Bennet Fisher | 10/29/2023 |
| Engineering Approval | | |
| Manufacturing Approval | | |
| Revision Approval | | |
| Quality Assurance | | |

AAMP
ADVANCING VEHICLE TECHNOLOGY

| | |
|---|---|
| Part Number: 71903-A | Revision: A |
| Description: HARN, PWR TLM BATTERY 4' | Sheet: 1 |

# PURCHASED COMPONENT KEY FEATURES

| DESCRIPTION OF REQUIREMENTS |
|---|
| DIMENSIONAL REQUIREMENTS (AS SHOWN ON DRAWING)<br>**N/A** |
| LOAD/RATING REQUIREMENT<br>**N/A** |
| MATERIAL REQUIREMENT<br>**N/A** |
| PACKAGING REQUIREMENT<br>**N/A** |
| OTHER REQUIREMENTS<br>**PLUG AND PLAY TIMER LIGHTING MODULE**<br>**POWER HARNESS TO LIGHTS** |




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PRINTED DOCUMENT IS UNCONTROLLED



## TOLERANCES & INSPECTION

*UNLESS OTHERWISE SPECIFIED*

**ALL BEND ANGLES ARE 90 DEGREES**

**ALL DIMENSIONS ARE IN INCHES.**

**REFERENCE DIMENSIONS (X.XXX) DO NOT REQUIRE INSPECTION**

| FEATURES | HOLES/SLOTS | ANGLES |
|---|---|---|
| 0.0 = ± .125 | 0.0 = ± .062 | 0° = ± 2° |
| 0.00 = ± .062 | 0.00 = ± .031 | 0.0° = ± 1° |
| 0.000 = ± .031 | 0.000 = ± .015 | |

**Material Thickness: per ASTM Std.**
**Weld Callouts per AWS**

## RELEASE & REVISIONS

INITIAL ECN: **26830**

CURRENT ECN: **26830**

ECN DESCRIPTION:

**RELEASE FOR MARKET FILL**

REVISED BY: **EMB**

## PURCHASED COMPONENT

REFERENCED SUPPLIER AND/OR MANUFACTURER
**AAMP**

REFERENCED SUPPLIER AND/OR MANUFACTURER PART NUMBER
**71905**

COLOR (ONLY LIST IF COLOR SPECIFIC)

COMODITY ITEM (Y/N) (YES = ALL DIMENSIONS AND NOTES ARE REFERANCE)
(NOTE: DIMENSIONS AND FEATURES MAY VARY FOR A COMODITY ITEM.)
**NO**

## PART / PRODUCT IDENTIFICATION

**ADRIAN STEEL®**

**ADRIAN STEEL COMPANY**
**906 JAMES STREET, ADRIAN, MI 49221**

REVISION LEVEL **A**

MAT'L USED: **PURCHASED**

DESIGNED BY: **E.BURKE**

DESCRIPTION: **HARN,POWER TLM LIGHT SIF1**

WEIGHT (Lbs.): **0.2**

SEGMENT CODE: **ELE**

PART NUMBER: **71905**

## Bill of Materials

| Id | Type | Manufacturer | Part Number | Quantity |
|---|---|---|---|---|
| 1 | Wire | | 20 AWG White-Black | 10520 mm |
| 2 | Wire | | 20 AWG Black | 10520 mm |
| 3 | Wire | | 16 AWG Red GXL | 11470 mm |
| 4 | Wire | | 16 AWG Black GXL | 11470 mm |
| 5 | Connector | Aptiv | 12047663 | 1 |
| 6 | Contact | Aptiv | 12047581 | 2 |
| 7 | Lock | Aptiv | 12047665 | 1 |
| 8 | Connector | Molex | 43025-0210 | 2 |
| 9 | Contact | Molex | 43030-0001 | 4 |
| 10 | Connector | Molex | 43020-0201 | 3 |
| 11 | Contact | Molex | 43031-0001 | 6 |
| 12 | Connector | Aptiv | 12047662 | 4 |
| 13 | Contact | Aptiv | 12047767 | 8 |
| 14 | Lock | Aptiv | 12047664 | 4 |
| 15 | Splice | | Generic Splice | 6 |
| 16 | Heat Shrink | CYG | CB-DWT-3/16 | 6 |
| 17 | Corrugated Tubing | | 0.25" Nylon Split Wall | 6960 mm |
| 18 | Tape | Tesa | 51608 | |
| 19 | Cable Tie | HellermannTyton | T30LL0M4 | 35 |
| 20 | Cable Tie with Mount | Hellermann Tyton | T50RTM250HSM4 | 10 |
| 21 | Cable Tie Mount | Panduit | SGABM25-AV-C300 | 10 |
| 22 | Label | | Heat Shrink Style Label | 1 |

## Coverings

| Id | Assembly |
|---|---|
| [17] | |
| [18] | |

## Notes

1. Lock tape end of loom with 51608

| From | To | Color | Gauge | From Contact PN |
|---|---|---|---|---|
| C1.A | S3 | | 16 AWG | 12047581 |
| C1.B | S4 | | 16 AWG | 12047581 |

| From | To | Color | Gauge | From Contact PN |
|---|---|---|---|---|
| C2.1 | S1 | | 20 AWG | 43030-0001 |
| C2.2 | S2 | | 20 AWG | 43030-0001 |

| From | To | Color | Gauge | From Contact PN |
|---|---|---|---|---|
| C3.1 | S1 | | 20 AWG | 43030-0001 |
| C3.2 | S2 | | 20 AWG | 43030-0001 |

| From | To | Color | Gauge |
|---|---|---|---|
| S3 | C1.A | | 16 AWG |
| S3 | C6.A | | 16 AWG |
| S3 | C7.A | | 16 AWG |
| S3 | C8.A | | 16 AWG |
| S3 | C9.A | | 16 AWG |
| S4 | C1.B | | 16 AWG |
| S4 | C6.B | | 16 AWG |
| S4 | C7.B | | 16 AWG |
| S4 | C8.B | | 16 AWG |
| S4 | C9.B | | 16 AWG |

| From | To | Color | Gauge |
|---|---|---|---|
| S1 | C2.1 | | 20 AWG |
| S1 | C3.1 | | 20 AWG |
| S1 | S5 | | 20 AWG |
| S2 | C2.2 | | 20 AWG |
| S2 | C3.2 | | 20 AWG |
| S2 | S6 | | 20 AWG |

| From | To | Color | Gauge |
|---|---|---|---|
| S5 | C4.1 | | 20 AWG |
| S5 | C5.1 | | 20 AWG |
| S5 | C10.1 | | 20 AWG |
| S5 | S1 | | 20 AWG |
| S6 | C4.2 | | 20 AWG |
| S6 | C5.2 | | 20 AWG |
| S6 | C10.2 | | 20 AWG |
| S6 | S2 | | 20 AWG |

| From | To | Color | Gauge | From Contact PN |
|---|---|---|---|---|
| C7.A | S3 | | 16 AWG | 12047767 |
| C7.B | S4 | | 16 AWG | 12047767 |

| From | To | Color | Gauge | From Contact PN |
|---|---|---|---|---|
| C9.A | S3 | | 16 AWG | 12047767 |
| C9.B | S4 | | 16 AWG | 12047767 |

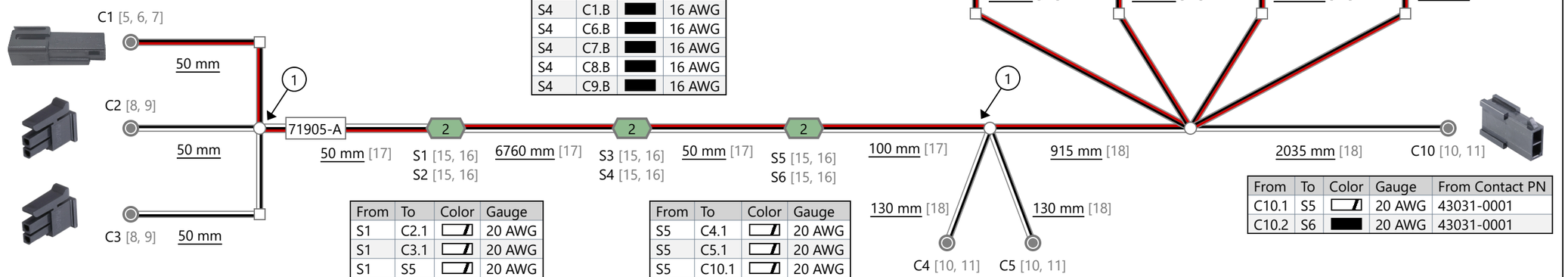
| From | To | Color | Gauge | From Contact PN |
|---|---|---|---|---|
| C6.A | S3 | | 16 AWG | 12047767 |
| C6.B | S4 | | 16 AWG | 12047767 |

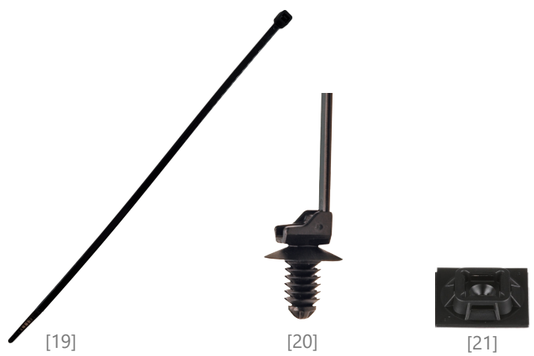
| From | To | Color | Gauge | From Contact PN |
|---|---|---|---|---|
| C8.A | S3 | | 16 AWG | 12047767 |
| C8.B | S4 | | 16 AWG | 12047767 |

| From | To | Color | Gauge | From Contact PN |
|---|---|---|---|---|
| C10.1 | S5 | | 20 AWG | 43031-0001 |
| C10.2 | S6 | | 20 AWG | 43031-0001 |

| From | To | Color | Gauge | From Contact PN |
|---|---|---|---|---|
| C5.1 | S5 | | 20 AWG | 43031-0001 |
| C5.2 | S6 | | 20 AWG | 43031-0001 |

| From | To | Color | Gauge | From Contact PN |
|---|---|---|---|---|
| C4.1 | S5 | | 20 AWG | 43031-0001 |
| C4.2 | S6 | | 20 AWG | 43031-0001 |





[19]


[20]


[21]

## Revisions

| Rev. | Date | Author | Description |
|---|---|---|---|
| | 10/29/2023 | Bennet Fisher | Initial Drawing |
| | 12/29/2023 | Bennet Fisher | Added fourth 12047662 (C9) connector, modified length to C10 |
| A | 1/16/2024 | Bennet Fisher | Modified lengths to C4, C5, and C10 |

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN MILLIMETERS [INCHES]
TOLERANCES: ±5MM

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| | Name | Date |
|---|---|---|
| Designed By | Bennet Fisher | 10/29/2023 |
| Engineering Approval | | |
| Manufacturing Approval | | |
| Revision Approval | | |
| Quality Assurance | | |

Stinger® Commercial

| | |
|---|---|
| Part Number: 71905 | Revision: A |
| Description: TLM - Switch & Light Extension Harness | Sheet: 1 |

# PURCHASED COMPONENT KEY FEATURES

| DESCRIPTION OF REQUIREMENTS |
|---|
| DIMENSIONAL REQUIREMENTS (AS SHOWN ON DRAWING)<br>**N/A** |
| LOAD/RATING REQUIREMENT<br>**N/A** |
| MATERIAL REQUIREMENT<br>**N/A** |
| PACKAGING REQUIREMENT<br>**N/A** |
| OTHER REQUIREMENTS<br>**PLUG AND PLAY MAGNETIC SWITCHES FOR TOPPER INTERIOR LIGHTING**<br><br>**BAG INCLUDES:**<br>**3 MAGNETIC SWITCH SETS WITH WIRE LEADS AND CONNECTORS** |



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PRINTED DOCUMENT IS UNCONTROLLED



## TOLERANCES & INSPECTION

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REFERENCE DIMENSIONS (X.XXX) DO NOT REQUIRE INSPECTION

| FEATURES | HOLES/SLOTS | ANGLES |
|---|---|---|
| 0.0 = ± .125 | 0.0 = ± .062 | 0° = ± 2° |
| 0.00 = ± .062 | 0.00 = ± .031 | 0.0° = ± 1° |
| 0.000 = ± .031 | 0.000 = ± .015 | |

Material Thickness: per ASTM Std.
Weld Callouts per AWS

## RELEASE & REVISIONS

INITIAL ECN: 26830

CURRENT ECN: 26830

ECN DESCRIPTION:

RELEASE FOR MARKET FILL

REVISED BY: EMB

## PURCHASED COMPONENT

REFERENCED SUPPLIER AND/OR MANUFACTURER
AAMP

REFERENCED SUPPLIER AND/OR MANUFACTURER PART NUMBER
71907

COLOR (ONLY LIST IF COLOR SPECIFIC)

COMODITY ITEM (Y/N) (YES = ALL DIMENSIONS AND NOTES ARE REFERANCE)
(NOTE: DIMENSIONS AND FEATURES MAY VARY FOR A COMODITY ITEM.)
NO

## PART / PRODUCT IDENTIFICATION

ADRIAN STEEL®

ADRIAN STEEL COMPANY
906 JAMES STREET, ADRIAN, MI 49221

REVISION LEVEL
A

MAT'L USED: PURCHASED

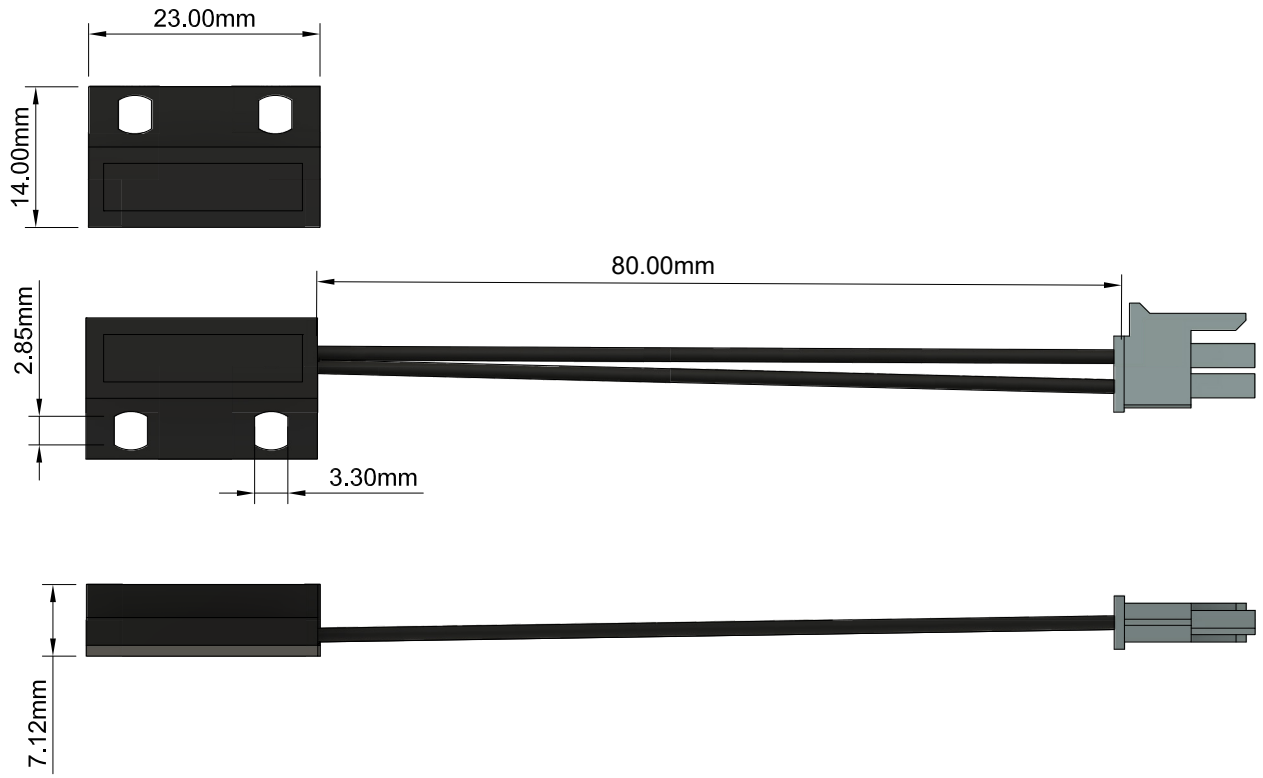
DESIGNED BY: E.BURKE

DESCRIPTION: TLM MAGNETIC SWITCH P&P

WEIGHT (Lbs.): 0.02

SEGMENT CODE: ELE

PART NUMBER: 71907




Magnetic Switch Type: N.O. (Normally Open)
Housing: Black ABS 15E1
Wire: 22AWG Black
Operating Distance: 15-20mm
Working Current: 0.5A
Operating Voltage: 0-110Vdc
IP Rating: IP67
Operating Temperature: -40 ~ 110°C
Reed Operating Temperature: -40 ~ 125°C
ABS Operating Temperature: -40 ~ 110°C
Package: 3pcs/kitted set

| Dept. | Technical reference | Created by Bennet Fisher 4/12/2024 | Approved by |
|---|---|---|---|
| | | Document type | Document status |
| | | Title: Magnetic Switch Part # 71907 | DWG No. |
| | | | Rev. / Date of Issue / Sheet 1/1 |

OKI Open up your dreams

# Reed Switch

Issue Date: Mar. 25, 2008

# ORD324

## ■Features

- In order to achieve high electrical capacity and long, uses iridium with high harness and high melting point.
- When power is turned on maximum voltage can reach 200V.
- To maintain the contact stability of the contacts, the contacts are sealed in a glass tube filled with inert gas.

## ■Applications

- Position detection machine
- Rotation detection machine
- Vehicle electrical equipment
- Civil products

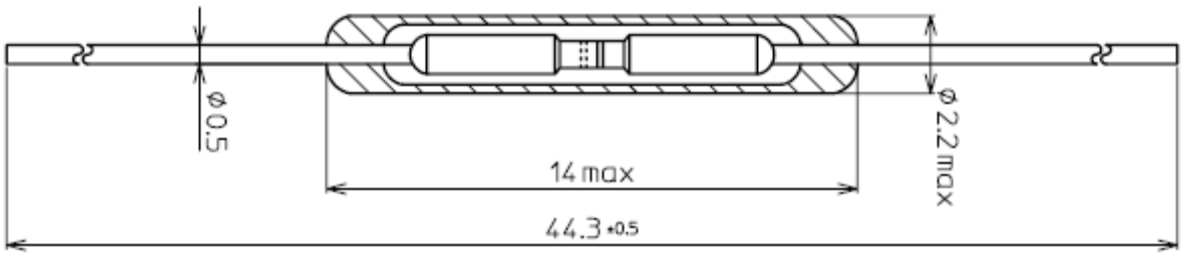
## ■Appearance



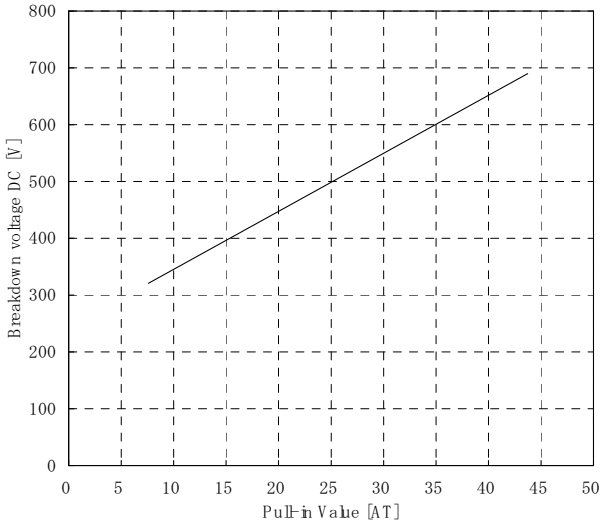
## ■Features

| Contact material / contact form | Iridium / 1A | Unit |
|---|---|---|
| Pull in value (PI) | 10 ~ 40 | AT |
| Disconnect value (DO) | 5 min | AT |
| Contact resistance value (CR) | 100max | mΩ |
| Withstand voltage between contacts | 250min | Vdc |
| Insulation resistance | $1 \times 10^{10}$ min | Ω |
| Electrostatic capacity between contacts | 0.3max | pF |
| Contact rating | 10 | W |
| Maximum switching voltage | 200 | Vdc |
| Maximum switching current | 0.5 | A |
| Maximum power current | 1 | A |
| Release time | 0.4max | ms |
| Bounce time | 0.3max | ms |
| Recovery time | 0.05max | ms |
| Shock proof | 100G-6ms | --- |
| Vibration resistance | 50G (10 ~ 2kHz) | --- |
| Operating temperature range | -40 ~ +125 | °C |
| Life (5Vdc-1mA, impedance load) | $1 \times 10^{8}$ | --- |

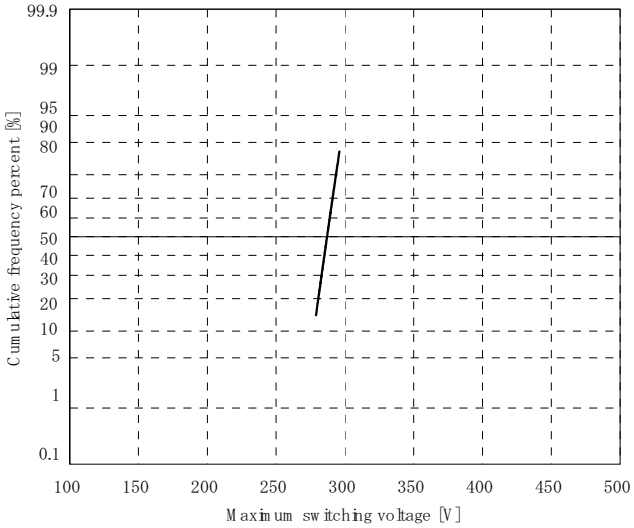
## ■Dimensions (unit: mm)



## ■Withstand voltage between contacts




## ■Maximum switching voltage




## ■Life test data: 5Vdc-1mA

