

Introduction / Comments:

Install Instructions For Interior Lighting In Topper For Silverado EV

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 Silverado EV
Customer Specific: PG&E

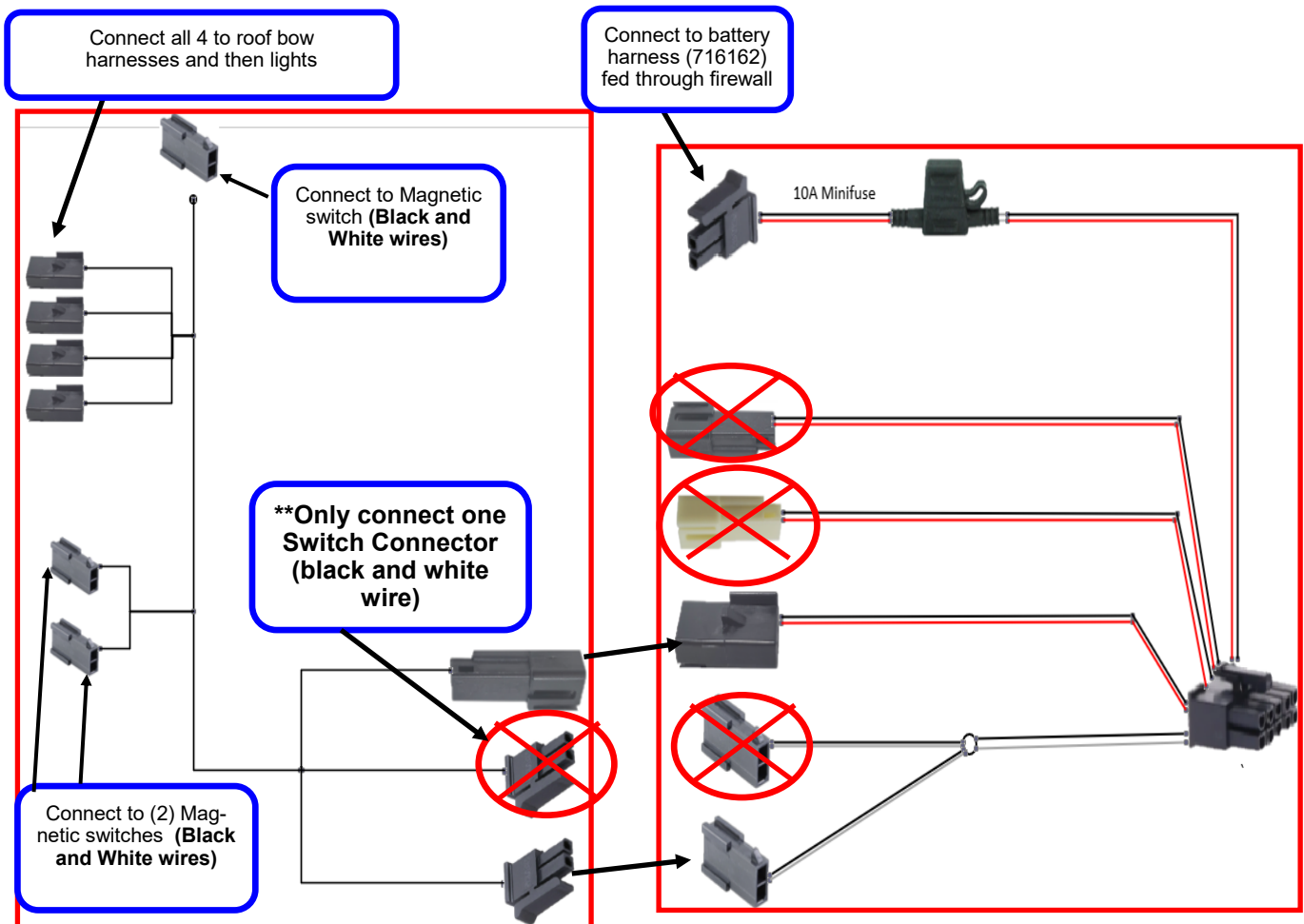
****Please read statement below before moving forward****

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:



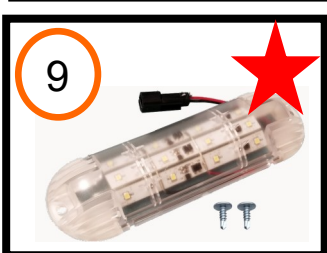
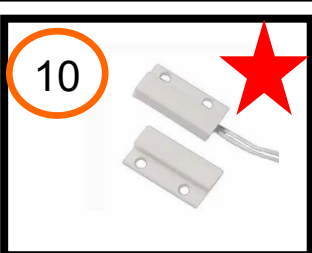
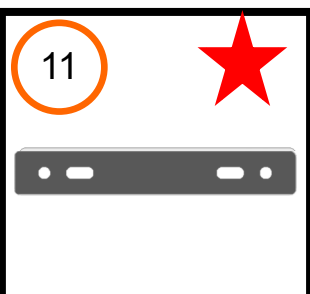
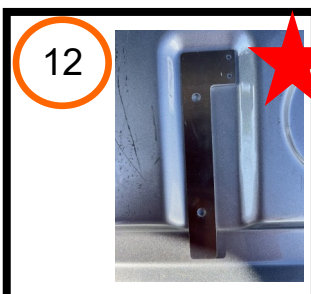
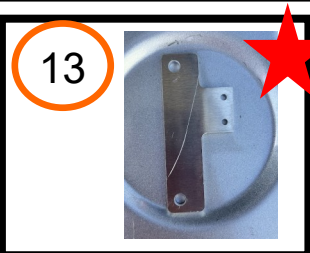
Screwdriver

Power drill, 1" step drill bit



Components:

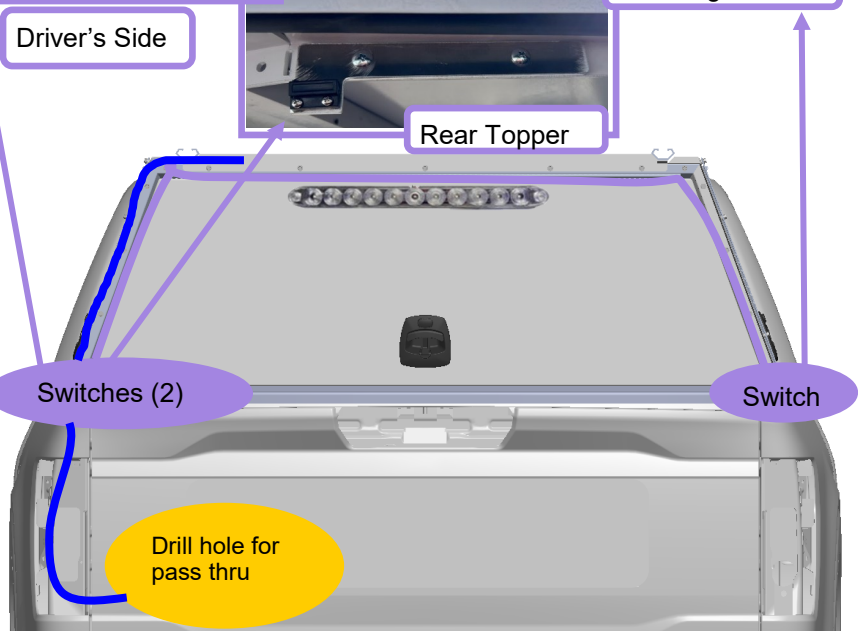
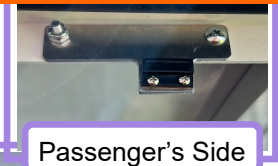
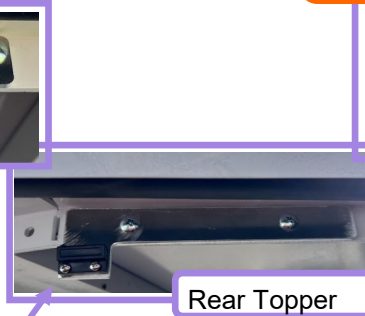
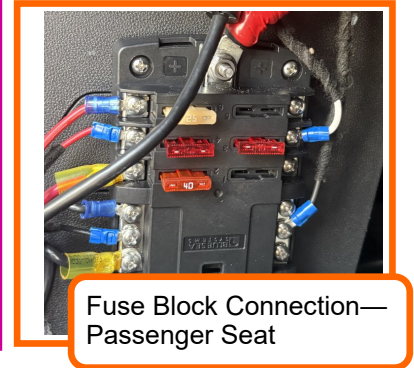
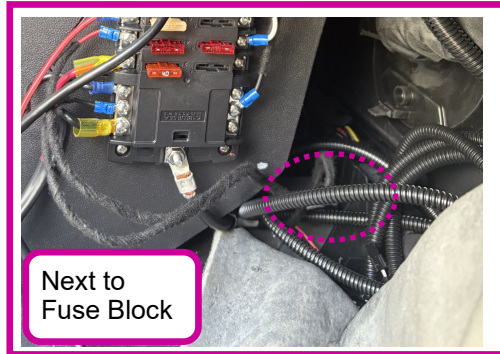
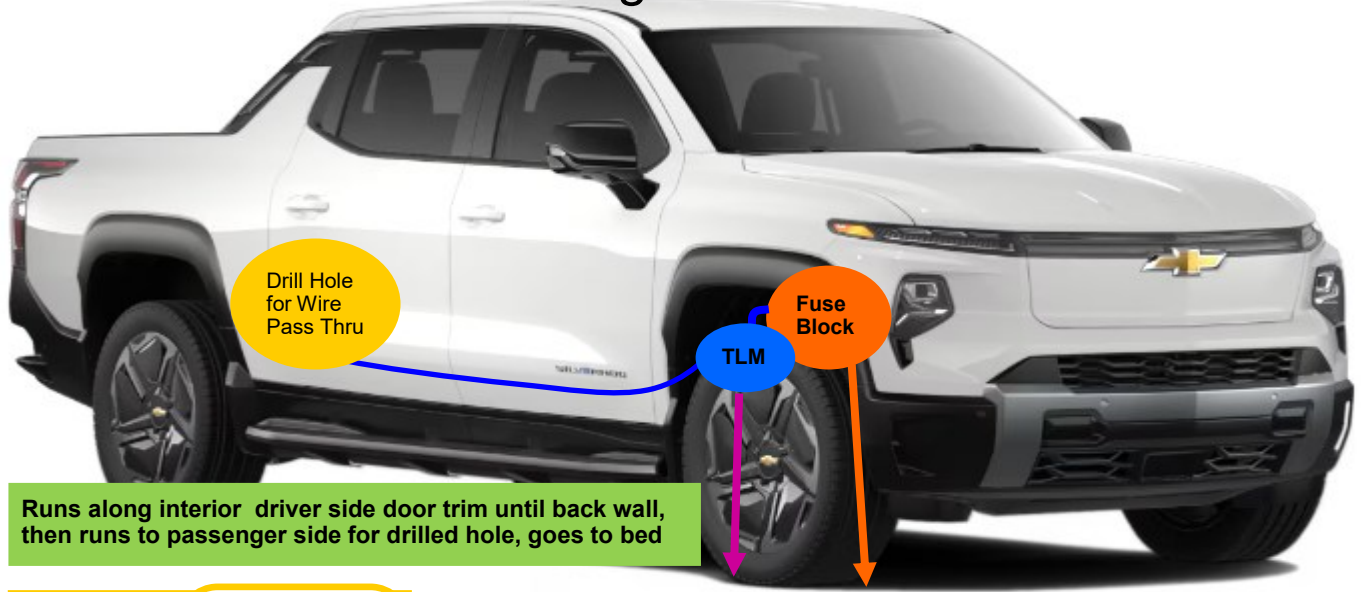
Please note all these components may not be used in every install.
Only install what you have. Refer to the order drawing.
Integrated Truck Solution Kit 80114 components are denoted with a red star.

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.

Harness pictures are for reference only.

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

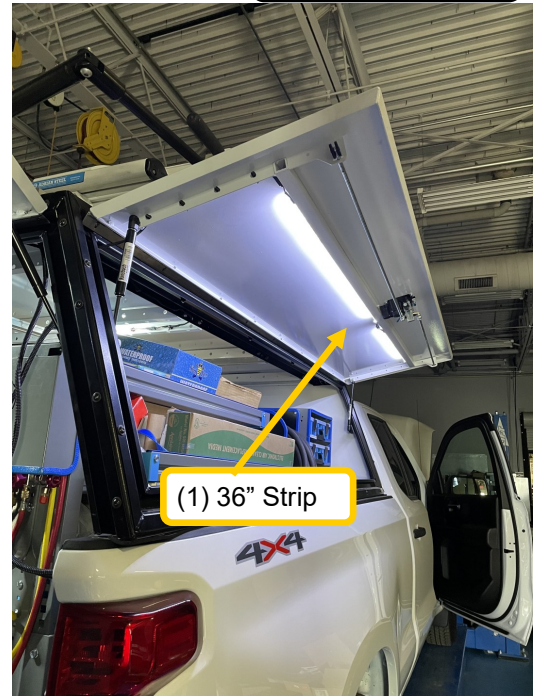
Light Placements:

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.

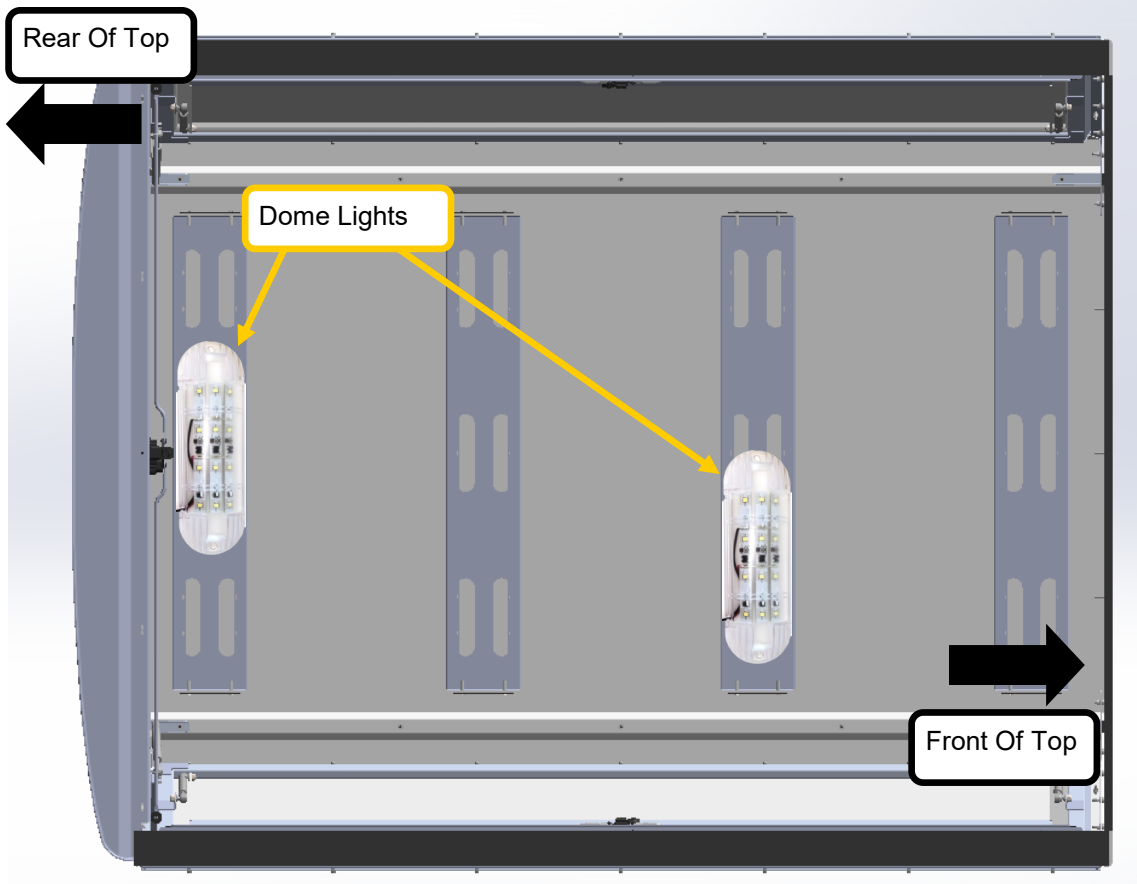
Driver's Side



Passenger's Side



Rear Of Top



Front Of Top

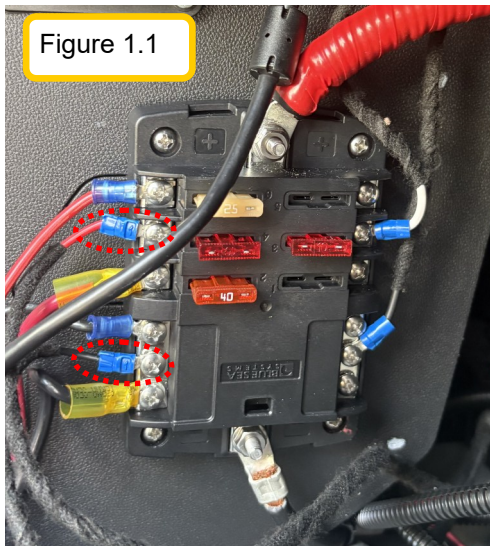


Figure 1.1

Step 1: Connection to Power

Locate Aux Fuse Block you installed earlier.

Locate PG&E TLM Power Harness 81077.

Connect the ring terminals from the harness to the Fuse Block as shown in Figure 1.1.

The White wire goes to the Positive side.

The Black wire goes to the Negative side.



Step 2: Connect to TLM

Once ring terminals are secure on Fuse Block, connect to the TLM.

Figure 1.2 shows the connection to the TLM but does not show the same harness you will be installing for this upfit. The connection to the TLM remains the same.

For TLM Rev A follow the steps below:



Step 3:

Locate the TLM Power Harness for the Lighting P# 71905

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.

Please reference page 2 for the following connection information.

Plug the red and black connector on the 71905 to the mating connector on the 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:

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:



Part #: TLM Rev B

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

Dip Switches 1 & 2 determine Voltage Sense Threshold
 Dip Switch 3 sets option to ON or OFF
 Dip Switches 4 & 5 set Timer Duration

If topper lighting consists of only **1 Light Strip**, place 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

If topper lighting consists of only **more than 1 Light Strip (all other light kits)**, place 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
Up	Down	11.2	Down	Down	Up	Down

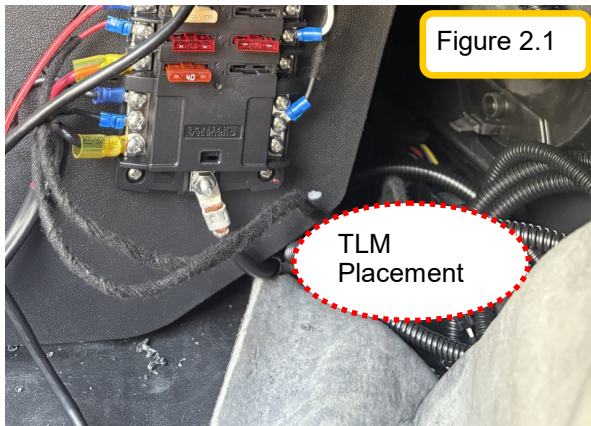


Figure 2.1

Step 4:

Locate a secure area to zip-tie the TLM to once the 71905 connections have been made.

Refer to Figure 2.1 to the left for the TLM placement.

Secure the TLM and wires with zip ties.

*** Picture is for location reference only.

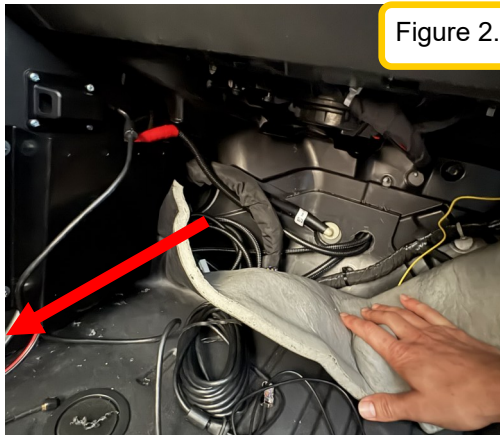


Figure 2.2

Step 5: Routing

With the TLM plugged in, route the harnessing rearward towards the underside of the passenger's seat

Once you reach underneath the passenger's seat, continue routing rearwards towards the underside of the backseat.

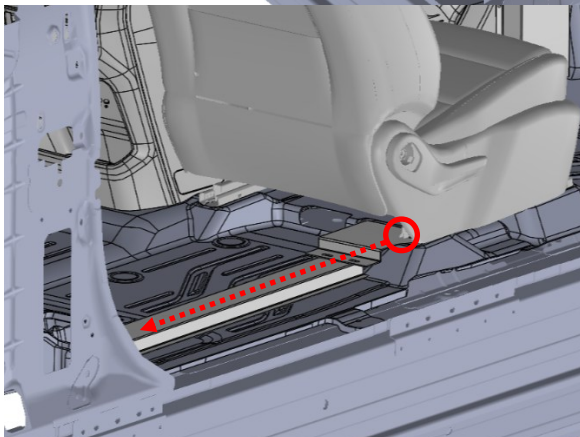
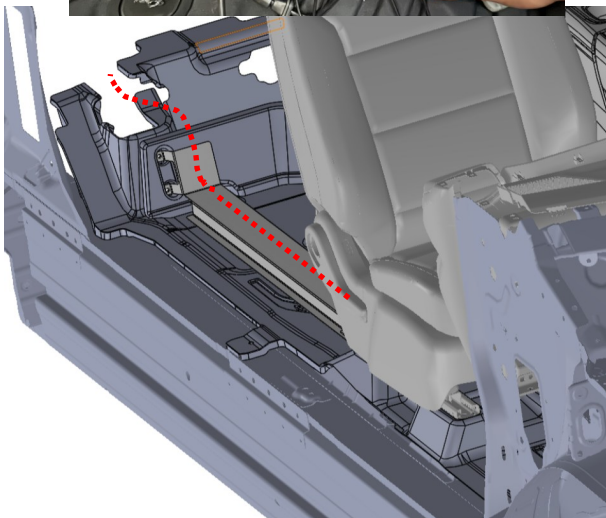
Locate the Wire Cover Tray P# 81566.

Start by removing the 3 bolts circled shown in Figure 4.2. 1 bolt is the rear seat bolts for the passenger seat

Lineup the Wire Cover Tray P#81566 to reinstall the 3 bolts you just removed.

Begin routing the rear strobe harness under 81566. Figure 4.2

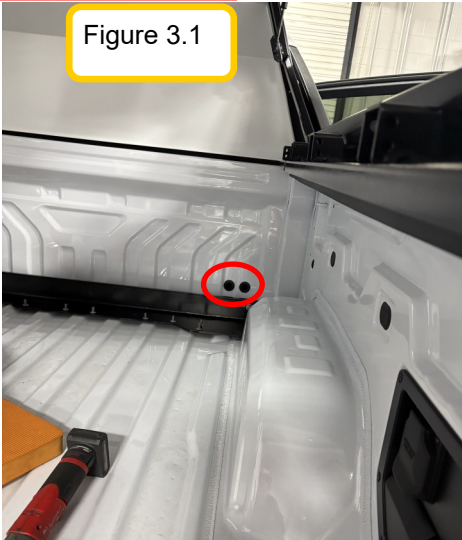
Once routed completely through 81566, move to the bed of the vehicle



DO NOT, UNDER ANY CIRCUMSTANCES, DRILL INTO THE FLOOR OF THE EV. THE VEHICLE'S HIGH-VOLTAGE BATTERY SPANS THE ENTIRE FLOOR OF THE EV!

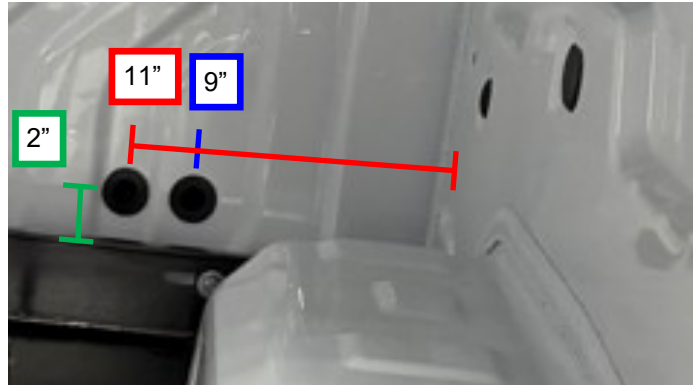


Figure 3.1



Step 7: Drilling:

At the front most, passenger side corner of the bed. Locate the (2) drill spots for the grommets you will need to make. The inner most grommet will be 11" from the outside wall of the bed to the middle of the grommet. The outer most grommet will be 9" from the outside wall of the bed to the middle of the grommet. Ensure the grommets are also up at least 2" from the top of the bracket for the slide out. Using a Step Bit or a hole saw drill the two holes. Figure 3.1



Step 8: Routing

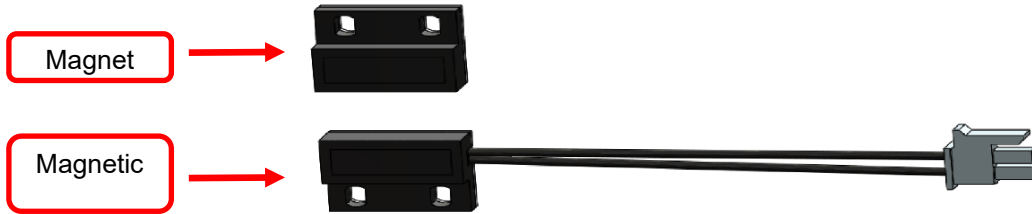
Once harness has been routed through pass through one of the grommets continue routing straight up in the pillar of the topper as shown in Figure 3.2

Utilize the stud mounted zip-ties and Christmas tree zip-ties to route to the rear of the vehicle as shown.

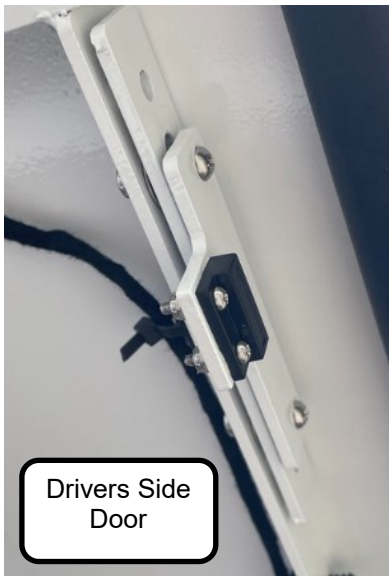
Once routing has been completed back to the rear of the vehicle move to the mag switch brackets.

Step 9:

71907 will have 3 magnets and 3 magnetic sensors.
Use the image below as reference



Step 10: Install Magnetic Switch Brackets



Using an alcohol wipe, clean brackets. After they are dry, locate one bracket for an exterior door. This first bracket will be for the driver side.

Peel off plastic on backside of magnet. Place fasteners in magnet and secure magnet on bracket using both fasteners provided. For the driver side, the tab of the bracket will be on the left side for proper alignment.

Place spacer bracket behind bracket with mounted magnet. Secure spacer and bracket to outside edge of topper. Line bracket up with first two holes after metal brace. Use the image to the left as reference.

Secure mount with 10-24x0.75" button head cap screws and 10-24 hex nuts.



For the passenger side, the tab of the bracket will be on the right side for proper alignment.

Place spacer bracket behind bracket with mounted magnet. Secure spacer and bracket to outside edge of topper. Line bracket up with first two holes after metal brace.

Use the image to the left as reference.



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

Secure after metal brace. Face bracket with tab pointing away from the vehicle.



Step 11:

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.



Step 12:

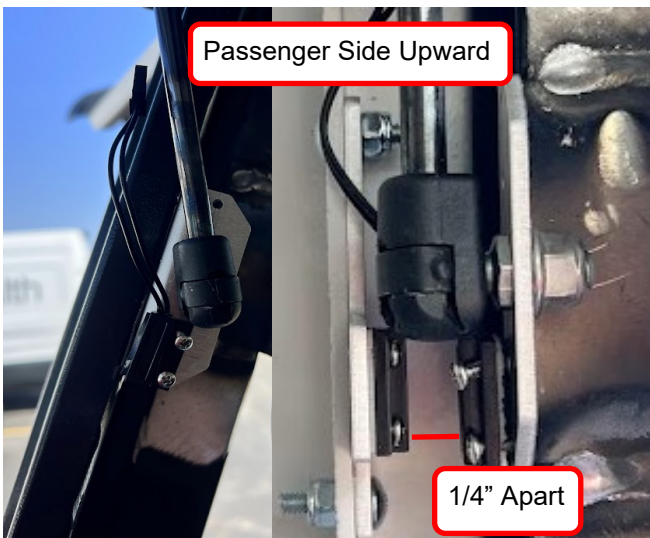
Locate driver side door shock mounts. There will be two magnetic switches mounted to each side of the driver side door shock mount.

Position the magnetic switch along with its wires and connector. Secure two switches to the door shock, one magnetic switch with wires facing upward, and the other with wires facing downward.

Using a screw driver secure the magnetic switches are in proper position.

Use the provided image as reference.

Rear Side Upward



Passenger Side Upward

Step 13:

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.



Step 14:

After mounting magnetic switches, begin to pull harness through grommet in truck bed. Connect magnetic switches to harness.

Pull the wiring upward to secure along the inside with zip ties.

Using zip-tie sticky backs, secure harness along inside of topper. Continue routing the harnesses in the corner of the topper, to the top front of the first roof bow. (Shown in Red)

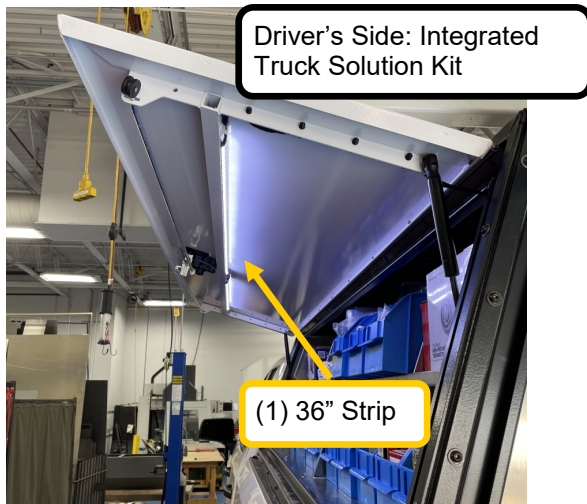
Step 15:

The harness end with connectors should end up between the first roof bow and the door frame on the driver side. See picture below for reference. Use the holes in the roof bows to secure wiring with zip ties.

Be sure to not route any wires through holes in roof bows.

Be sure to clean all surfaces with alcohol wipes before placing sticky backs.





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



Step 17: 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 (80114):

Remove sticky tape on the back of both (2) 36" light strips.

On the drivers side, install (1) 36" strip lights as center as possible between the front and rear sides of the door.

For the passenger side, install (1) 36" strips, following the same instructions as above.

Follow the same mounting location/procedure for any other strip lights being mounted (other than 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.

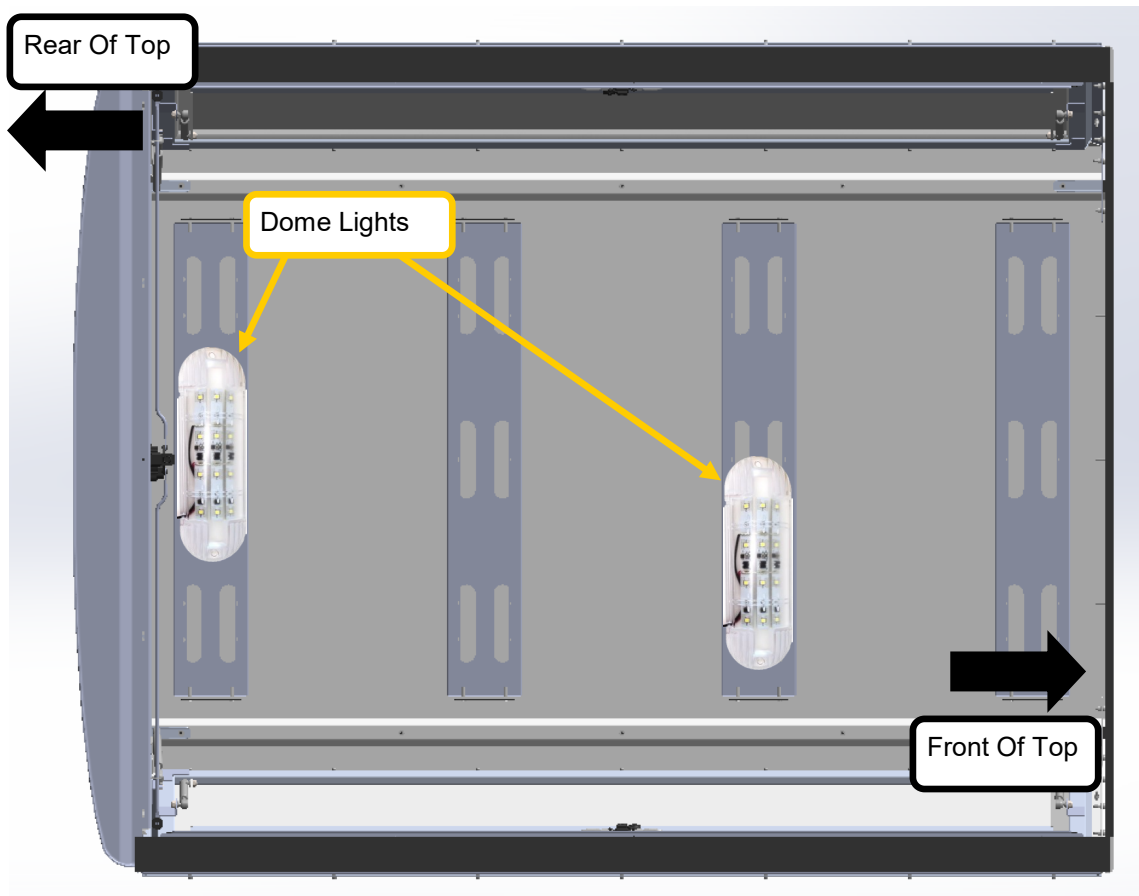
Place a small sticky back square zip tie mount at each end of the strips to secure the connector to the topper.

Step 18:
For the Integrated Truck Solution (80114)
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.

The rear-most dome light can be centered on the topper. The dome light nearest to the front of the topper must be **offset to the PASSENGER SIDE. SEE FIGURE BELOW FOR PLACEMENT**

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





Dome light on roof bow



Dome light on roof bow



Strip light on doors—
use existing holes for
zip ties

Watch for
Sharp Edge



Leave extra wiring
for opening the door



Tuck excess wiring be-
tween door and roof bow.
Secure with zip ties

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 1/4th of an inch away from one another.

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



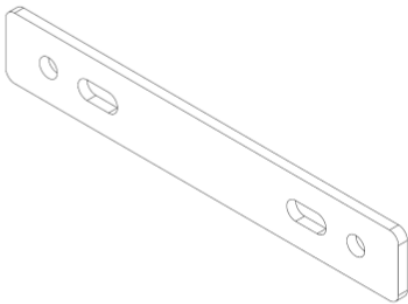
Step 21: Locate magnetic switch bracket spacer PN 73414-W.

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 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.





BEFORE SILICONING, make sure all other installs have been done on this vehicle that may use the drilled grommet, since it's the only way to access the driver-side bed from the cab. If so, then silicone the drilled grommet.

Insert the fuses into the inline-fuse holders on the TLM harness (71905) and the power harness (76162).

THE INSTALL IS NOW COMPLETE

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

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 quantity
 21093C = 100 quantity

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

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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
MDG

DATE DRAWN
10/26/2006

ECN NUMBER
18021

ECN DATE
11/13/2015

PART WEIGHT
0.01 LBS.

REV. LEVEL
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!

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WIRING BEFORE DRILLING! ALWAYS USE
DRILL BITS WITH INTEGRAL STOPS
WHENEVER POSSIBLE!**

DRAWN BY
JLC

DATE DRAWN
7/21/2001

ECN NUMBER
16551

ECN DATE
7/22/2014

PART WEIGHT
0.02 LBS.

REV. LEVEL
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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LINES, CONTROL LINES AND ELECTRICAL
WIRING BEFORE DRILLING! ALWAYS USE
DRILL BITS WITH INTEGRAL STOPS
WHENEVER POSSIBLE!**

DRAWN BY
JLC

DATE DRAWN
7/21/2001

ECN NUMBER
16551

ECN DATE
7/22/2014

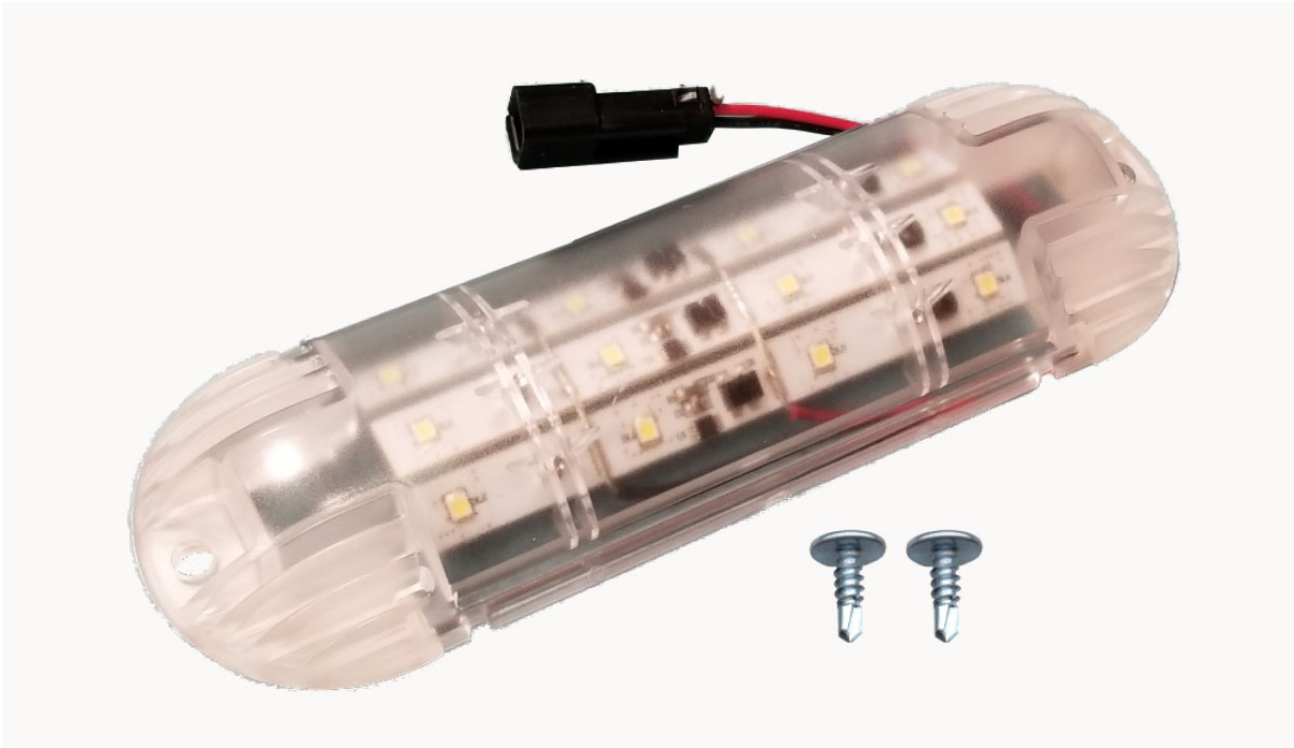
PART WEIGHT
0.02 LBS.

REV. LEVEL
C

PART NUMBER
26618-0

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
(1) LED LIGHT WITH 12 LED GROUPED IN THREE ROWS
(2) TEK SCREWS INCLUDED



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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: 25886
ECN DESCRIPTION:
UPDATE SUPPLIER PART #
REVISED BY: A. ELLISON

PURCHASED
COMPONENT

REFERENCED SUPPLIER AND/OR MANUFACTURER
OBERTON ELECTRONICS / ECHOMASTER FLEET SOLUTIONS
REFERENCED SUPPLIER AND/OR MANUFACTURER PART NUMBER
8018-6000 / STL40489-3
COLOR (ONLY LIST IF COLOR SPECIFIC)
COMODITY ITEM (Y/N) (YES = ALL DIMENSIONS AND NOTES ARE REFERENCE) (NOTE: DIMENSIONS AND FEATURES MAY VARY FOR A COMODITY ITEM.)

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Sheet 1 of 1

PART / PRODUCT IDENTIFICATION

 ADRIAN STEEL®		ADRIAN STEEL COMPANY 906 JAMES STREET, ADRIAN, MI 49221	REVISION LEVEL B
MAT'L USED:	PURCHASED	DESIGNED BY: A. ELLISON	
DESCRIPTION: MODULE DOME LED LIGHT			
WEIGHT (Lbs.):	.50	SEGMENT CODE: EAU	PART NUMBER: 63480

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

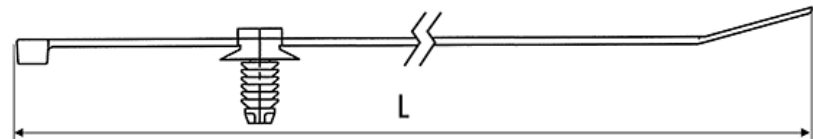
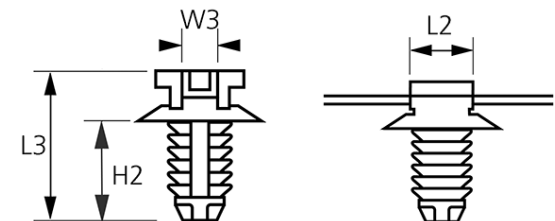
- **Roof Bow #1 (Cargo area, first Roof bow after partition)**
- **(5x) WIRE TIE W/CHRISTMAS TREE**
- **1100mm Length**



P-HARRB1



(5x)



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DETRIMENTAL TO THE INTERESTS OF ADRIAN STEEL COMPANY

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 REFERENCE)
(NOTE: DIMENSIONS AND FEATURES MAY VARY FOR A COMODITY ITEM.)

YES

PRINTED DOCUMENT IS UNCONTROLLED

Sheet 1 of 1

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)

N/A

LOAD/RATING REQUIREMENT

N/A

MATERIAL REQUIREMENT

N/A

PACKAGING REQUIREMENT

N/A

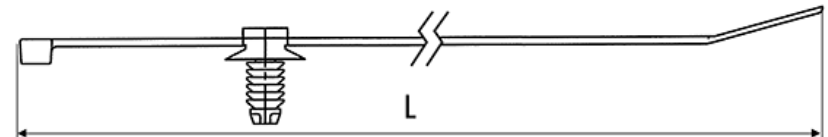
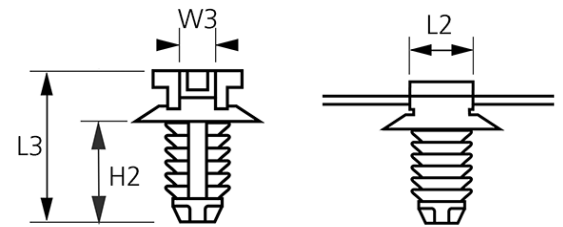
OTHER REQUIREMENTS

- **Roof Bow #3**
- **(5x) WIRE TIE W/CHRISTMAS TREE**
- **2570mm Length**



P-HARRB3

(5x)



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DETRIMENTAL TO THE INTERESTS OF ADRIAN STEEL COMPANY

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-HARRB3

COLOR (ONLY LIST IF COLOR SPECIFIC)

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

YES

PRINTED DOCUMENT IS UNCONTROLLED

Sheet 1 of 1

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 #3**

WEIGHT
(Lbs.):

.50

SEGMENT
CODE: **EAU**

PART NUMBER: **63483**

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															
Note: Connector / Terminal Configuration: • MALE 2 PIN ON ONE END • FEMALE 2 PIN ON THE OPPOSITE END. BOM: <table><tr><th>Item</th><th>Qty.</th><th>Description</th></tr><tr><td>1</td><td>1</td><td>36" WHITE LED STRIP LIGHT W/ADHESIVE</td></tr><tr><td>2</td><td>2</td><td>4" ZIP TIE</td></tr><tr><td>3</td><td>2</td><td>CABLE TIE MOUNT</td></tr><tr><td>4</td><td>1</td><td>ALCOHOL PAD</td></tr></table>	Item	Qty.	Description	1	1	36" WHITE LED STRIP LIGHT W/ADHESIVE	2	2	4" ZIP TIE	3	2	CABLE TIE MOUNT	4	1	ALCOHOL PAD
Item	Qty.	Description													
1	1	36" WHITE LED STRIP LIGHT W/ADHESIVE													
2	2	4" ZIP TIE													
3	2	CABLE TIE MOUNT													
4	1	ALCOHOL PAD													



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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:	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-36BLED rev.B
COLOR (ONLY LIST IF COLOR SPECIFIC)
COMODITY ITEM (Y/N) (YES = ALL DIMENSIONS AND NOTES ARE REFERENCE) (NOTE: DIMENSIONS AND FEATURES MAY VARY FOR A COMODITY ITEM.)
YES

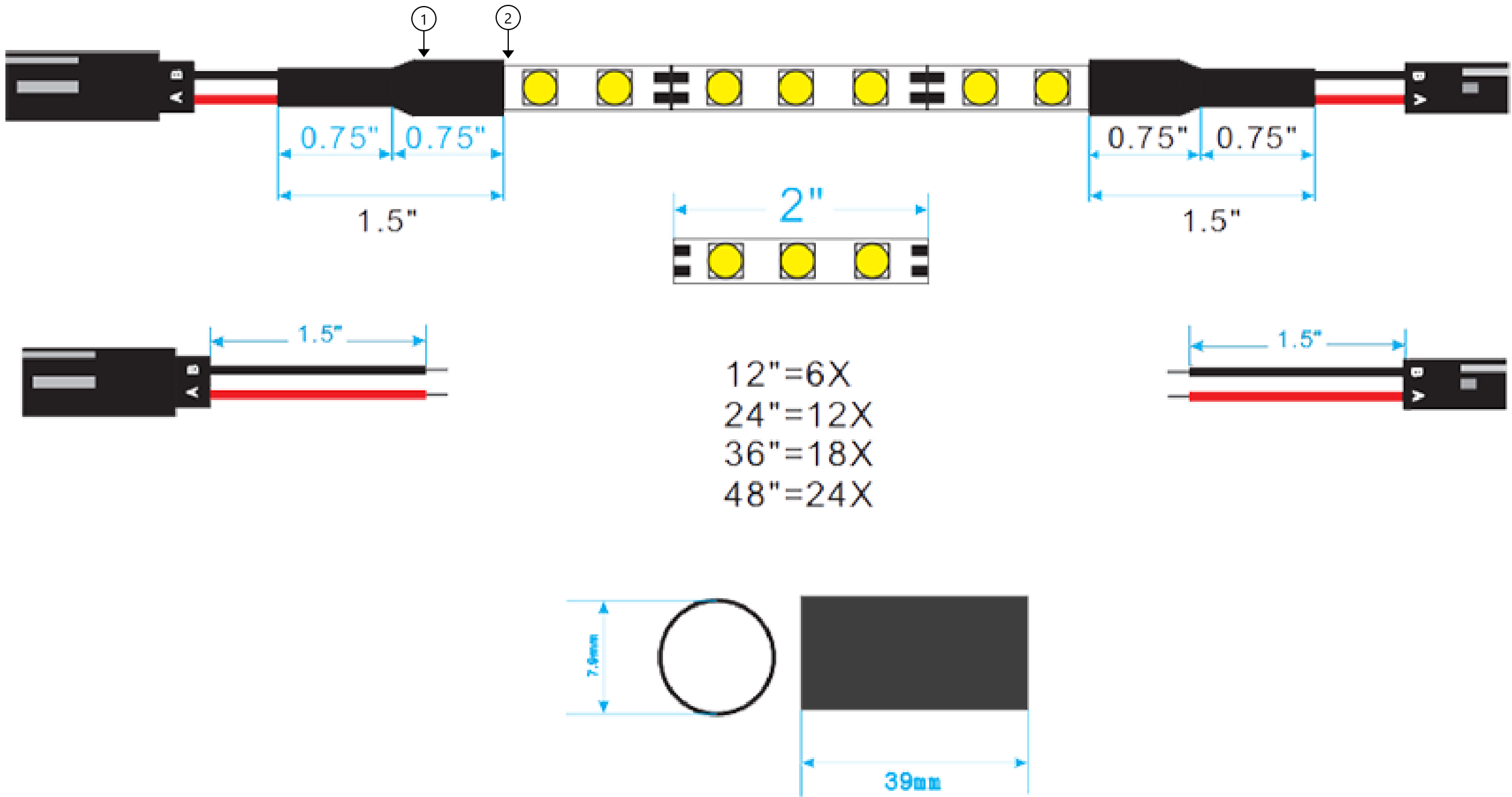
PRINTED DOCUMENT IS UNCONTROLLED

Sheet 1 of 1

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 36"			
WEIGHT (Lbs.): 0.3	SEGMENT CODE: EAU	PART NUMBER: 65347	

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

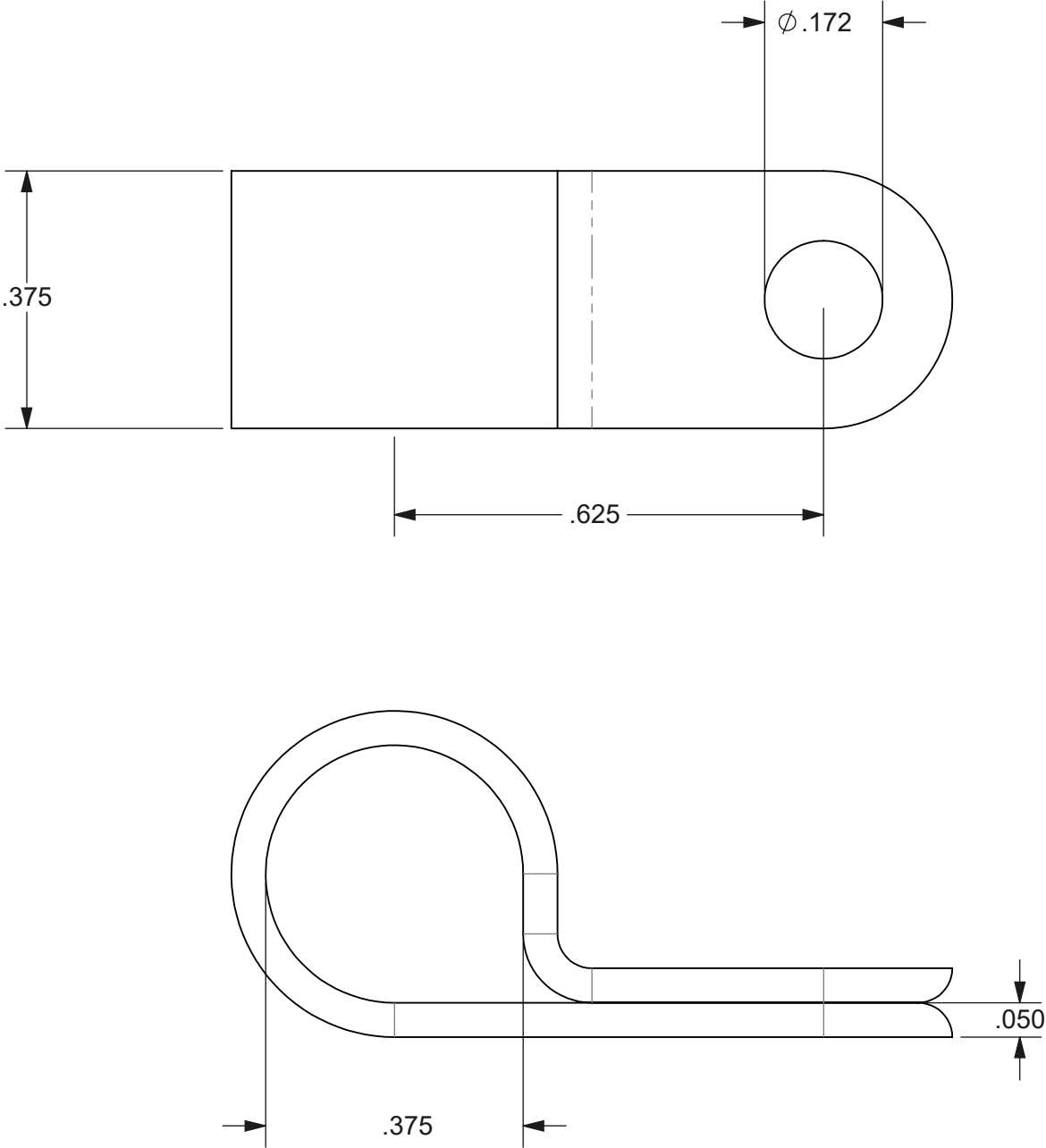


Revisions			
Rev.	Date	Author	Description
A	11/1/21	Bennet Fisher	Initial Drawing
B	7/27/2022	Bennet Fisher	Adhesive changed to VHB 5925

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MILLIMETERS [INCHES] TOLERANCES: ±5MM PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF AAMP GLOBAL. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF AAMP GLOBAL IS PROHIBITED.		Name	Date	 — ADVANCING VEHICLE TECHNOLOGY —	
	Designed By	Bennet Fisher	11/1/21		
	Engineering Approval				
	Manufacturing Approval				
	Revision Approval			Part Number: CL-36BLED	
Quality Assurance				Description: 36" LED Strip	
				Revision: B 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

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: 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 REFERENCE)
(NOTE: DIMENSIONS AND FEATURES MAY VARY FOR A COMODITY ITEM.)
NO

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Sheet 1 of 1

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)
N/A
LOAD/RATING REQUIREMENT
N/A
MATERIAL REQUIREMENT
N/A
PACKAGING REQUIREMENT
N/A
OTHER REQUIREMENTS
TIMER LIGHTING MODULE FOR INTERIOR PLUG AND PLAY LIGHTING ON TOPPERS



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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
0.0 = ± .125
0.00 = ± .062
0.000 = ± .031
HOLES/SLOTS
0.0 = ± .062
0.00 = ± .031
0.000 = ± .015
ANGLES
0° = ± 2°
0.0° = ± 1°
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
AAMP
REFERENCED SUPPLIER AND/OR MANUFACTURER PART NUMBER
71902
COLOR (ONLY LIST IF COLOR SPECIFIC)
NO
COMODITY ITEM (Y/N) (YES = ALL DIMENSIONS AND NOTES ARE REFERENCE) (NOTE: DIMENSIONS AND FEATURES MAY VARY FOR A COMODITY ITEM.)
NO

PRINTED DOCUMENT IS UNCONTROLLED			Sheet 1 of 1
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

Stinger[®]



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 ON (Down) OFF (Up)	Up	Up	30	ON (Down) Steady Ground Input
Up	Down	11.2V		Up	Down	60	
Down	Up	11.5V		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 second 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.

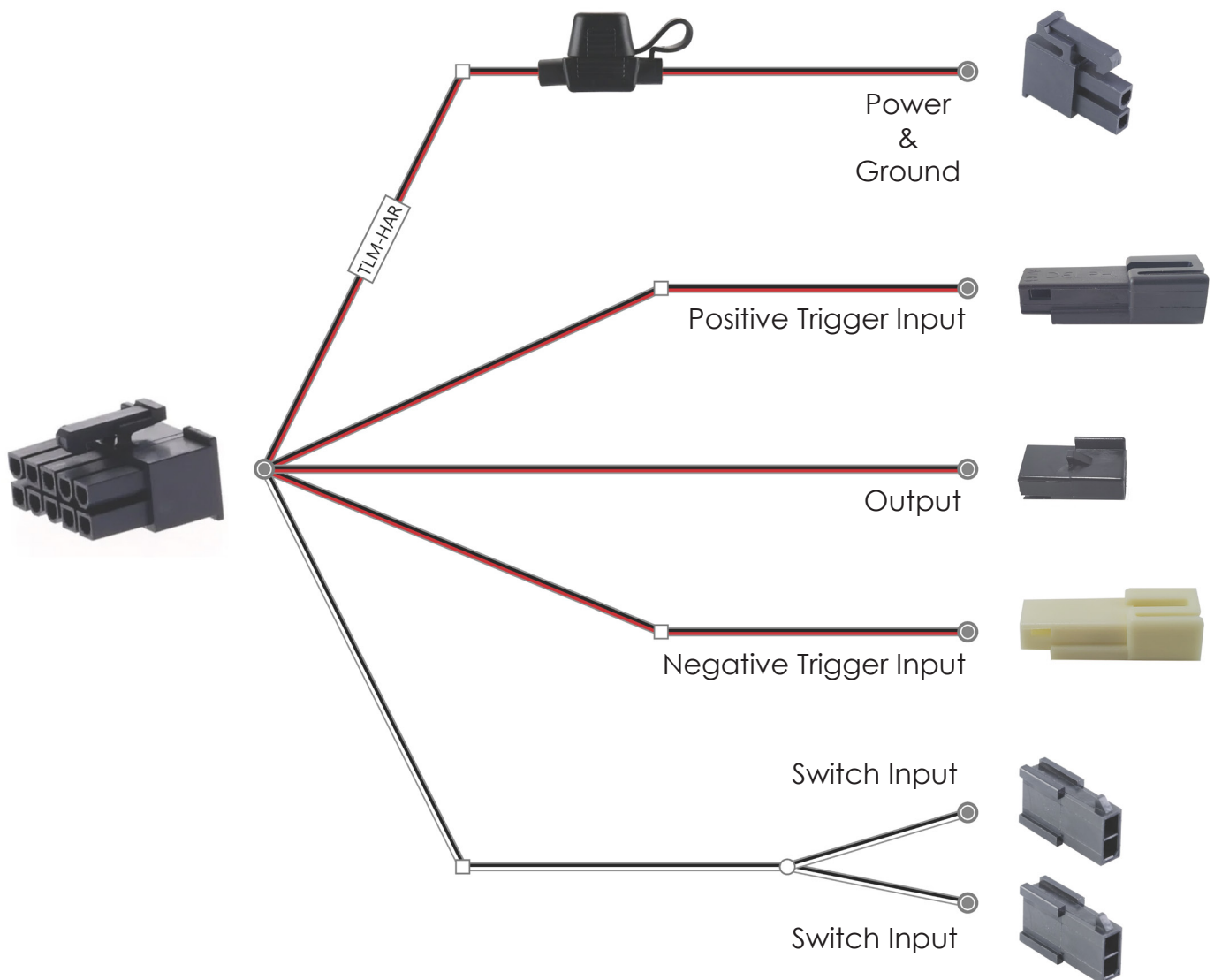
If a Trigger Input is active, its function takes precedence. Attempting to activate the Switch Input while a Trigger Input is active will have no effect on the modules output.





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

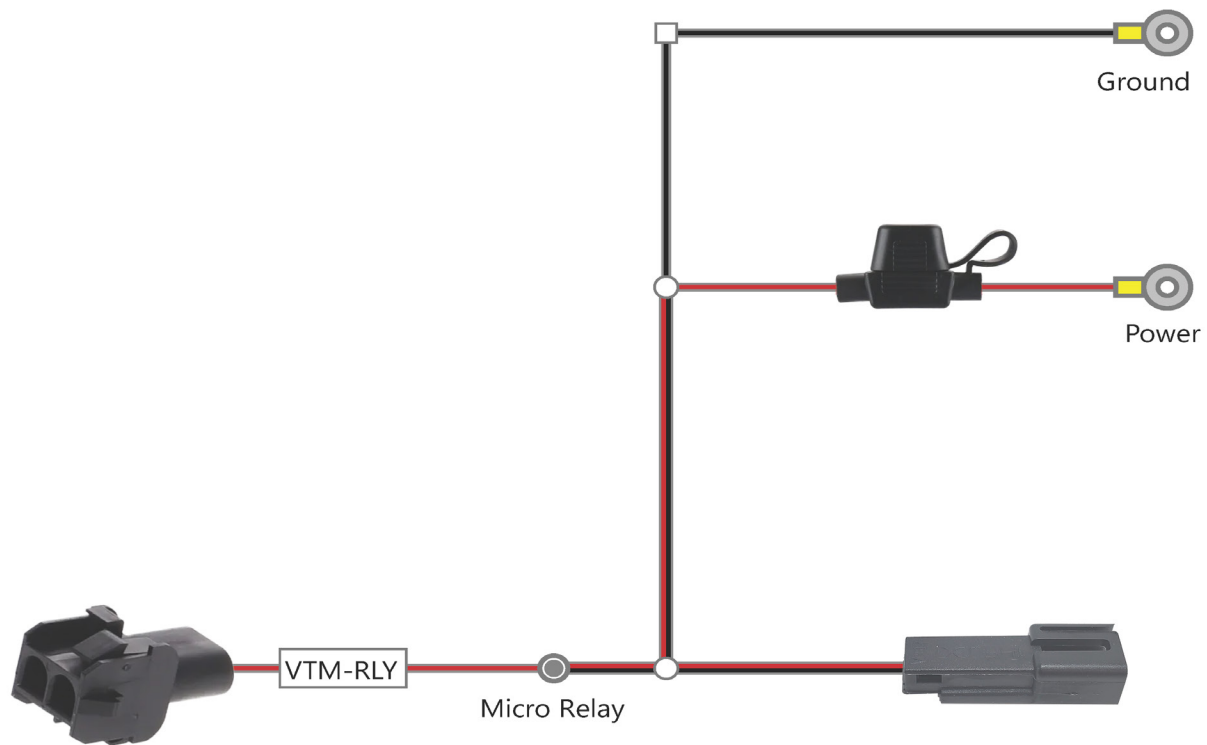
Switch Input: Closing loop between switch input wire leads will activate output





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





Stinger[®]

Phone – 866-931-8021 (option 3)

E-Mail – support@stingersolutions.com

StingerSolutions.com

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
PLUG AND PLAY TIMER LIGHTING MODULE
POWER HARNESS TO LIGHTS



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DETRIMENTAL TO THE INTERESTS OF ADRIAN STEEL COMPANY

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 REFERENCE) (NOTE: DIMENSIONS AND FEATURES MAY VARY FOR A COMODITY ITEM.)
NO

PRINTED DOCUMENT IS UNCONTROLLED

Sheet 1 of 1

PART / PRODUCT IDENTIFICATION

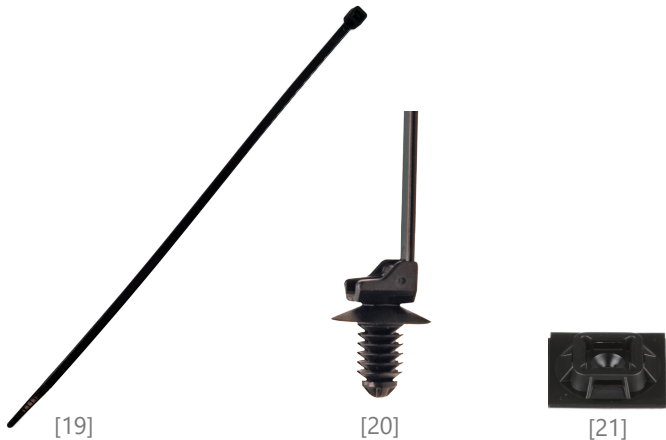
 ADRIAN STEEL®		ADRIAN STEEL COMPANY 906 JAMES STREET, ADRIAN, MI 49221	REVISION LEVEL A
MAT'L USED: PURCHASED		DESIGNED BY: E.BURKE	
DESCRIPTION: HARN,POWER TLM LIGHT SIF1			
WEIGHT (Lbs.): 0.2	SEGMENT CODE: ELE	PART NUMBER: 71905	

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

From	To	Color	Gauge	From Contact PN
C1.A	S3	Red	16 AWG	12047581
C1.B	S4	Black	16 AWG	12047581

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

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



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

Coverings	
Id	Assembly
[17]	
[18]	

Notes	
1	Lock tape end of loom with 51608

From	To	Color	Gauge	From Contact PN
C7.A	S3	Red	16 AWG	12047767
C7.B	S4	Black	16 AWG	12047767

From	To	Color	Gauge	From Contact PN
C9.A	S3	Red	16 AWG	12047767
C9.B	S4	Black	16 AWG	12047767

From	To	Color	Gauge	From Contact PN
C6.A	S3	Red	16 AWG	12047767
C6.B	S4	Black	16 AWG	12047767

From	To	Color	Gauge	From Contact PN
C8.A	S3	Red	16 AWG	12047767
C8.B	S4	Black	16 AWG	12047767

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

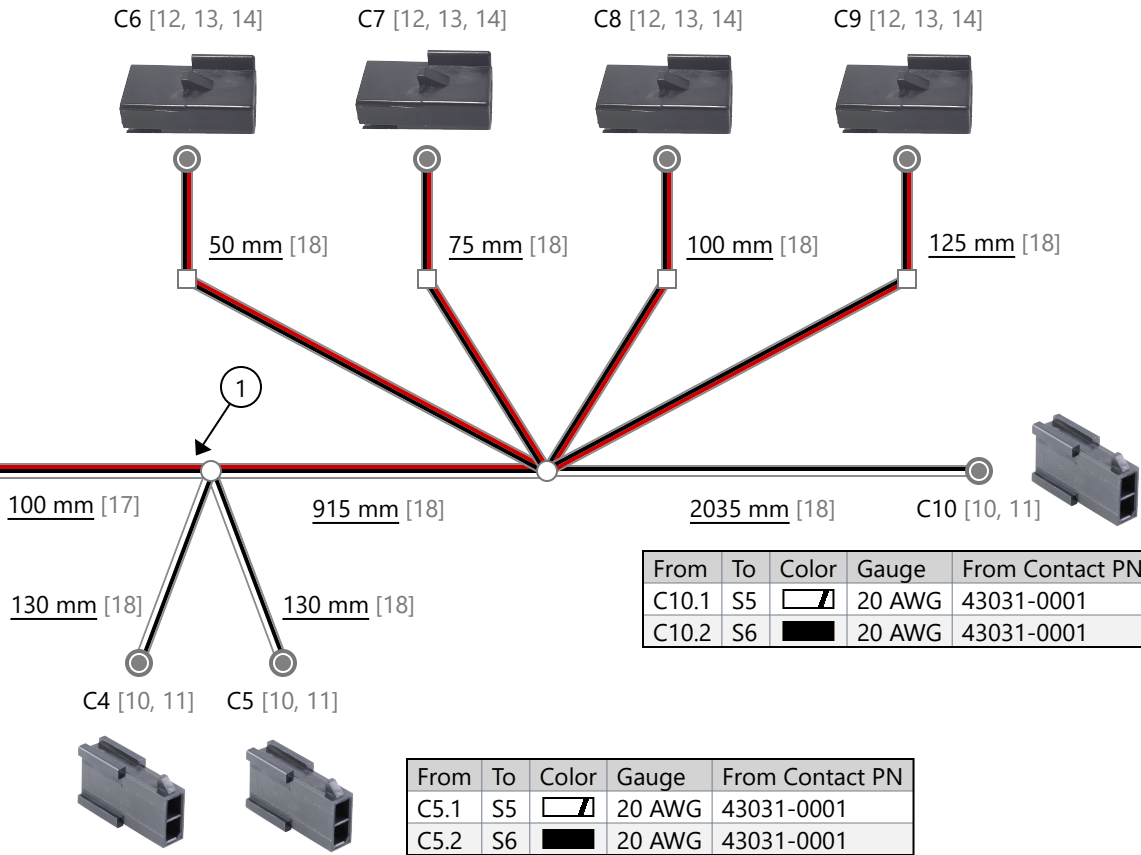
From	To	Color	Gauge
S1	C2.1	White/Black	20 AWG
S1	C3.1	White/Black	20 AWG
S1	S5	White/Black	20 AWG
S2	C2.2	Black	20 AWG
S2	C3.2	Black	20 AWG
S2	S6	Black	20 AWG

From	To	Color	Gauge
S5	C4.1	White/Black	20 AWG
S5	C5.1	White/Black	20 AWG
S5	C10.1	White/Black	20 AWG
S5	S1	White/Black	20 AWG
S6	C4.2	Black	20 AWG
S6	C5.2	Black	20 AWG
S6	C10.2	Black	20 AWG
S6	S2	Black	20 AWG

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

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

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



UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MILLIMETERS [INCHES] TOLERANCES: ±5MM PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF AAMP GLOBAL. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF AAMP GLOBAL IS PROHIBITED.		Name	Date		
	Designed By	Bennet Fisher	10/29/2023		
	Engineering Approval				
	Manufacturing Approval				
	Revision Approval			Part Number: 71905	
	Quality Assurance			Description:	
				TLM - Switch & Light Extension Harness	
				Revision: A	
				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 PLUG AND PLAY MAGNETIC SWITCHES FOR TOPPER INTERIOR LIGHTING BAG INCLUDES: 3 MAGNETIC SWITCH SETS WITH WIRE LEADS AND CONNECTORS



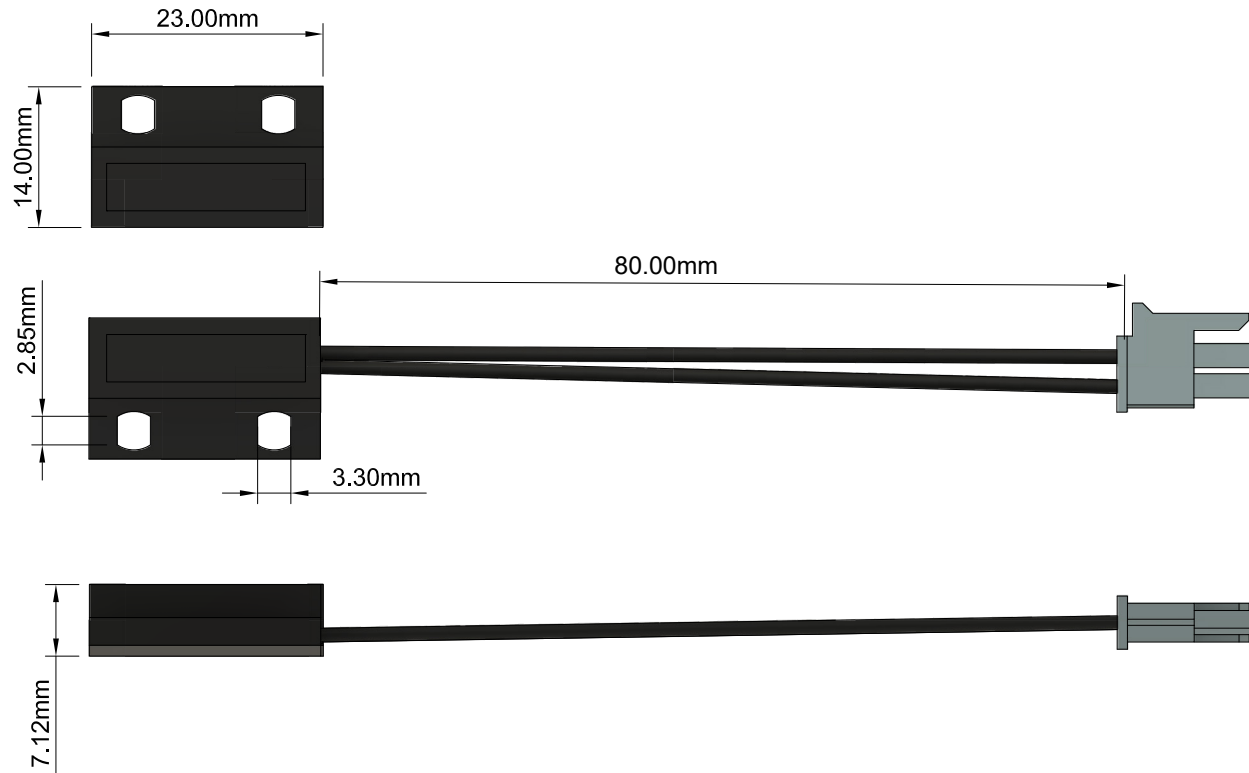
THIS DRAWING IS THE PROPERTY OF ADRIAN STEEL COMPANY AND IS NOT TO BE USED IN ANY MANNER
DETRIMENTAL TO THE INTERESTS OF ADRIAN STEEL COMPANY

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 71907 COLOR (ONLY LIST IF COLOR SPECIFIC)
COMODITY ITEM (Y/N) (YES = ALL DIMENSIONS AND NOTES ARE REFERENCE) (NOTE: DIMENSIONS AND FEATURES MAY VARY FOR A COMODITY ITEM.) NO

PRINTED DOCUMENT IS UNCONTROLLED			Sheet 1 of 1
PART / PRODUCT IDENTIFICATION			
 ADRIAN STEEL®		ADRIAN STEEL COMPANY 906 JAMES STREET, ADRIAN, MI 49221	
MAT'L USED: PURCHASED		DESIGNED BY: E.BURKE	REVISION LEVEL A
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

Reed Switch

ORD324

Issue Date: Mar. 25, 2008

■ Features

- In order to achieve high electrical capacity and long, uses iridium with high hardness 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

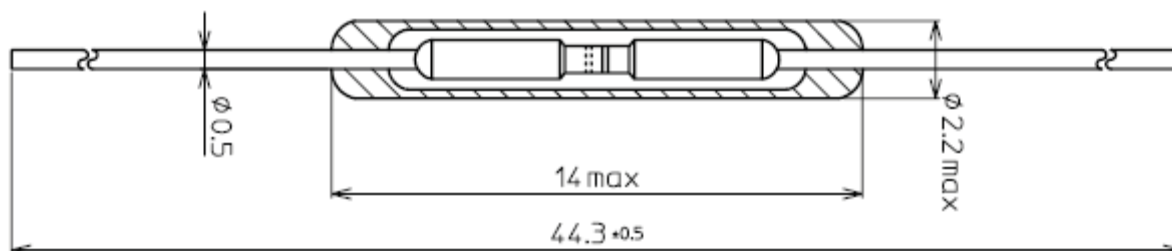
■ Appearance



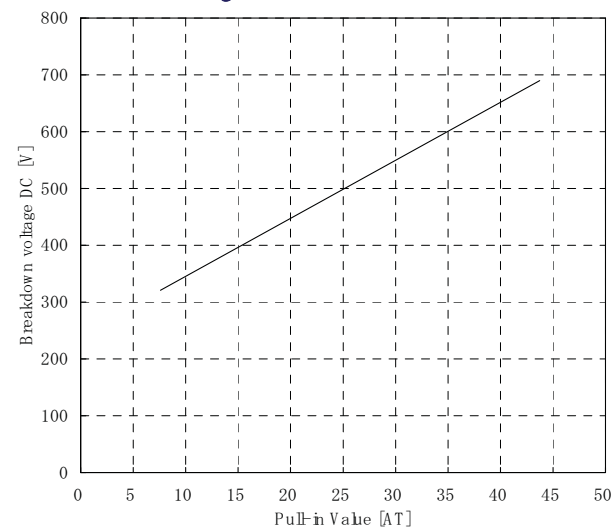
■ Features

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	1×10^{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)	1×10^8	---

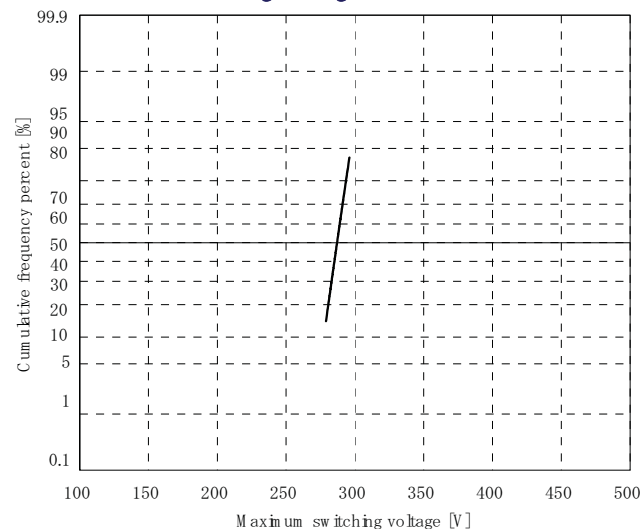
■ Dimensions (unit: mm)



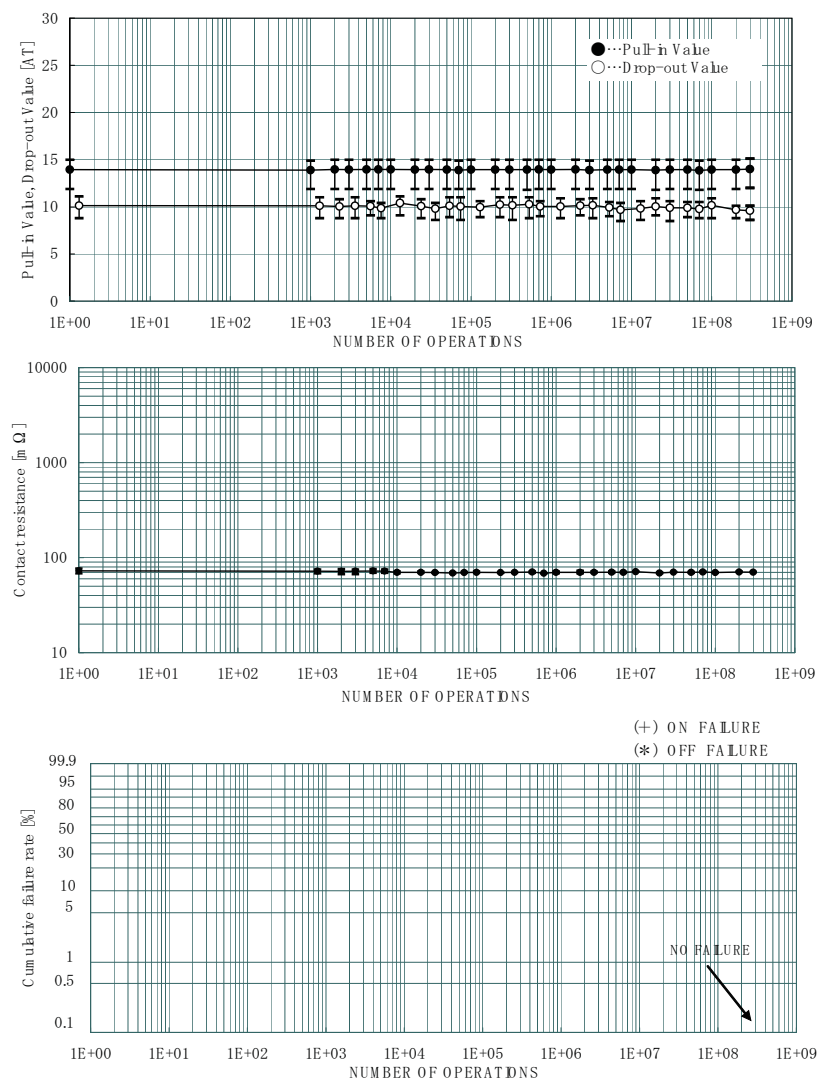
■ Withstand voltage between contacts



■ Maximum switching voltage



■ Life test data: 5Vdc-1mA



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	• 80lbs Tensile Strength • Low-Profile M5/M6 Stud Mount • Color: Black

DIMENSIONAL REQUIREMENTS (AS SHOWN ON DRAWING)
N/A

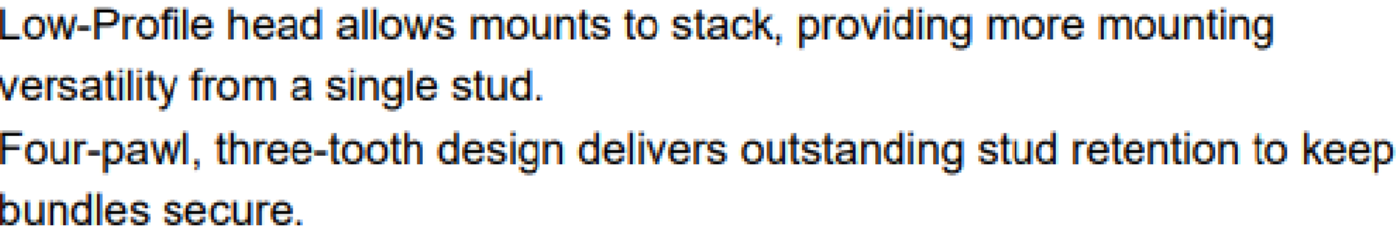
LOAD/RATING REQUIREMENT
N/A

MATERIAL REQUIREMENT
N/A

PACKAGING REQUIREMENT
N/A

OTHER REQUIREMENTS

- **80lbs Tensile Strength**
- **Low-Profile M5/M6 Stud Mount**
- **Color: Black**



Low-Profile head allows mounts to stack, providing more mounting versatility from a single stud.

Four-pawl, three-tooth design delivers outstanding stud retention to keep bundles secure.

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	

INITIAL ECN: 78320
CURRENT ECN: 78320
ECN DESCRIPTION: Release
REVISED BY: LJK

REFERENCED SUPPLIER AND/OR MANUFACTURER
HellermannTyton

REFERENCED SUPPLIER AND/OR MANUFACTURER PART NUMBER
157-00460

COLOR (ONLY LIST IF COLOR SPECIFIC)

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

No

Sheet 1 of 1

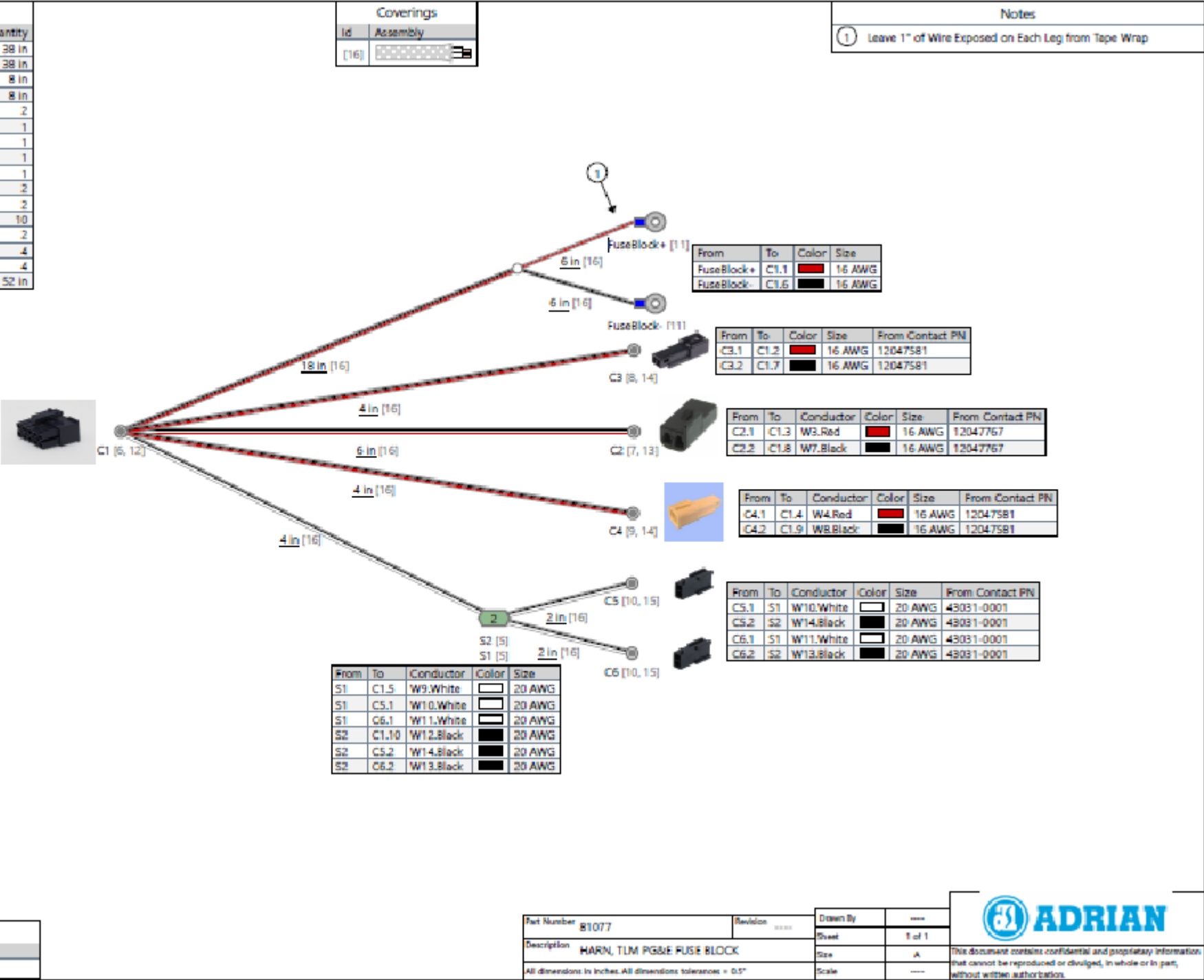
ADRIAN STEEL®		ADRIAN STEEL COMPANY 906 JAMES STREET, ADRIAN, MI 49221	REVISION LEVEL A
MAT'L USED: Purchased		DESIGNED BY: L. Kaleniecki	
DESCRIPTION: 7.5" STUD MNT CABLE TIE			
WEIGHT (Lbs.): 0.01	SEGMENT CODE: HDW	PART NUMBER: 78320	

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

Bill of Materials				
Id	Type	Manufacturer	Part Number	Quantity
1	Wire		16 AWG Red	38 in
2	Wire		16 AWG Black	38 in
3	Wire		20 AWG White	8 in
4	Wire		20 AWG Black	8 in
5	Splice	TE Connectivity	485043-1	2
6	Connector	Molex	46992-1010	1
7	Connector	Aptiv	12047662	1
8	Connector	Aptiv	12047663	1
9	Connector	Aptiv	12069250	1
10	Connector	Molex	49000-0001	2
11	Ring Terminal	TE Connectivity / AMP	2-342143-1	2
12	Contact	Molex	45750-3111	10
13	Contact	Aptiv	12047767	2
14	Contact	Aptiv	12047581	4
15	Contact	Molex	49081-0001	4
16	Sleeving	Tesa	51608	52 in

From	To	Color	Size	From Contact PN
C1.1	FuseBlock+	Red	16 AWG	45750-3111
C1.2	C3.1	Red	16 AWG	45750-3111
C1.3	C2.1	Red	16 AWG	45750-3111
C1.4	C4.1	Red	16 AWG	45750-3111
C1.5	S1	White	20 AWG	45750-3111
C1.6	FuseBlock-	Black	16 AWG	45750-3111
C1.7	C3.2	Black	16 AWG	45750-3111
C1.8	C2.2	Black	16 AWG	45750-3111
C1.9	C4.2	Black	16 AWG	45750-3111
C1.10	S2	Black	20 AWG	45750-3111



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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: 29411
CURRENT ECN: 29411
ECN DESCRIPTION:
Initial Release
REVISED BY: AJG

PURCHASED COMPONENT

REFERENCED SUPPLIER AND/OR MANUFACTURER
STINGER

REFERENCED SUPPLIER AND/OR MANUFACTURER PART NUMBER
81077

COLOR (ONLY LIST IF COLOR SPECIFIC)

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

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SHEET 1 OF 1

PART / PRODUCT IDENTIFICATION

ADRIAN STEEL

ADRIAN STEEL COMPANY
906 JAMES STREET, ADRIAN, MI 49221

REVISION LEVEL
A

MAT'L USED: PURCHASED

DESIGNED BY: A. GARAVALIA

DESCRIPTION: HARN, TLM PG&E FUSE BLOCK

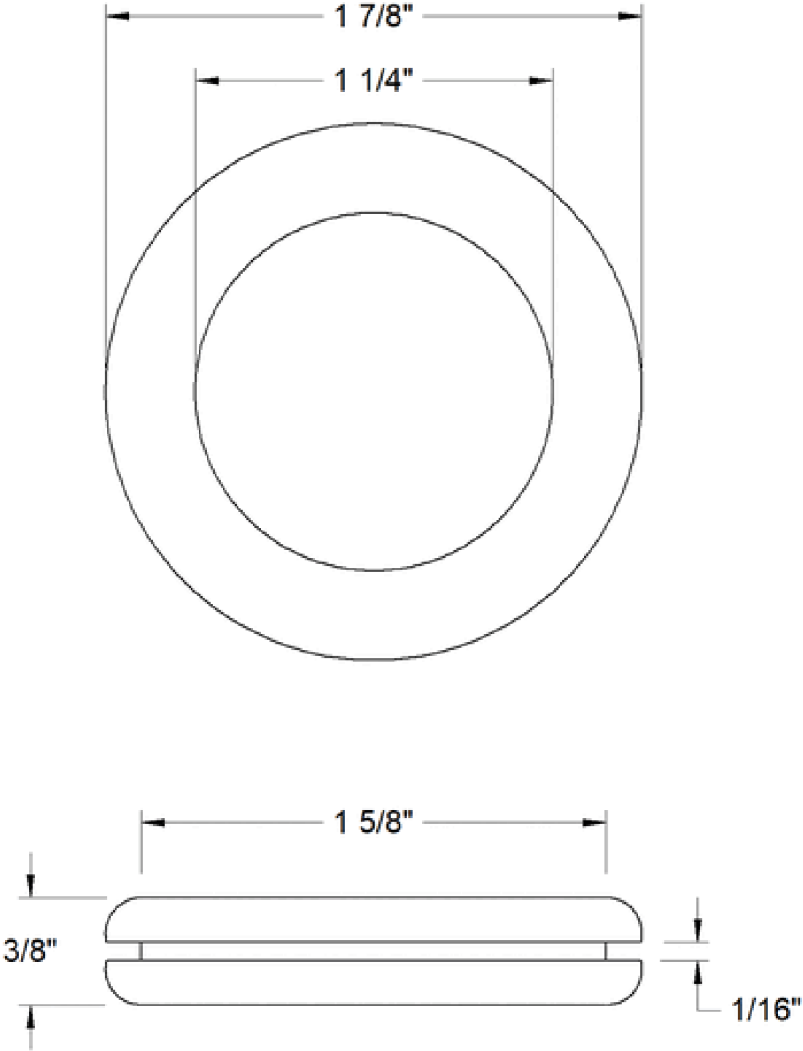
WEIGHT (Lbs.): .2 LBS

SEGMENT CODE: ELE

PART NUMBER: 81077

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
ID: 1.25" OD: 1.625" RUBBER GROMMET



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DETRIMENTAL TO THE INTERESTS OF ADRIAN STEEL COMPANY

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: 81753
CURRENT ECN: 81753
ECN DESCRIPTION: RELEASE
REVISED BY: N/A

PURCHASED
COMPONENT

REFERENCED SUPPLIER AND/OR MANUFACTURER MCMASTER-CARR
REFERENCED SUPPLIER AND/OR MANUFACTURER PART NUMBER 9600K224
COLOR (ONLY LIST IF COLOR SPECIFIC)
COMMODITY ITEM (Y/N) (YES = ALL DIMENSIONS AND NOTES ARE REFERENCE) (NOTE: DIMENSIONS AND FEATURES MAY VARY FOR A COMODITY ITEM.) NO

PRINTED DOCUMENT IS UNCONTROLLED

Sheet 1 of 1

PART / PRODUCT IDENTIFICATION

		ADRIAN STEEL®		ADRIAN STEEL COMPANY 906 JAMES STREET, ADRIAN, MI 49221		REVISION LEVEL A	
MAT'L USED:		PURCHASED		DESIGNED BY:		L. KALENIECKI	
DESCRIPTION:		GROMMET,RUBBER,1.25"ID					
WEIGHT (Lbs.): 0.1		SEGMENT CODE: ELE		PART NUMBER: 81753			