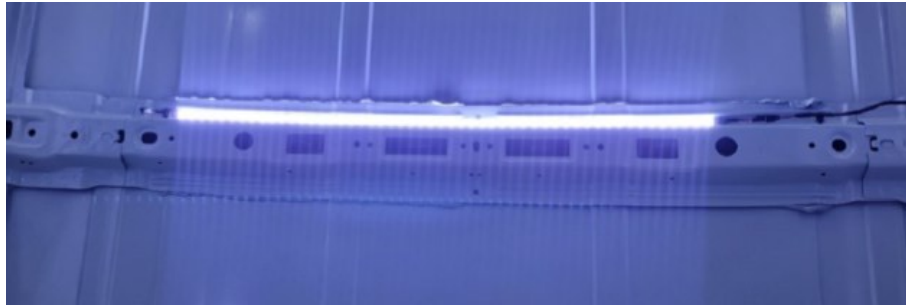




Two LED Light Strips Kit w/ Switches

CATALOG NUMBER

69631



LED Light Strip Installed on Roof Bow

PRODUCT FEATURES

Interior Two LED Light Strips Kit w/ Switches

- Included in this kit is two (2) LED light strips, power harness, roof bow harnesses #1 & #2, and voltage timer module.
- This kit is ideal for the RAM ProMaster City.
- There are no OEM options that this product requires. There are no OEM options that this product is not compatible with.
- This kit was designed to give LED lighting to the cargo area of the vehicle and can be controlled by switches.

Model Year Validated:

2023

Introduction / Comments:

Install Instructions For Interior Plug & Play Lights For Promaster City

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.

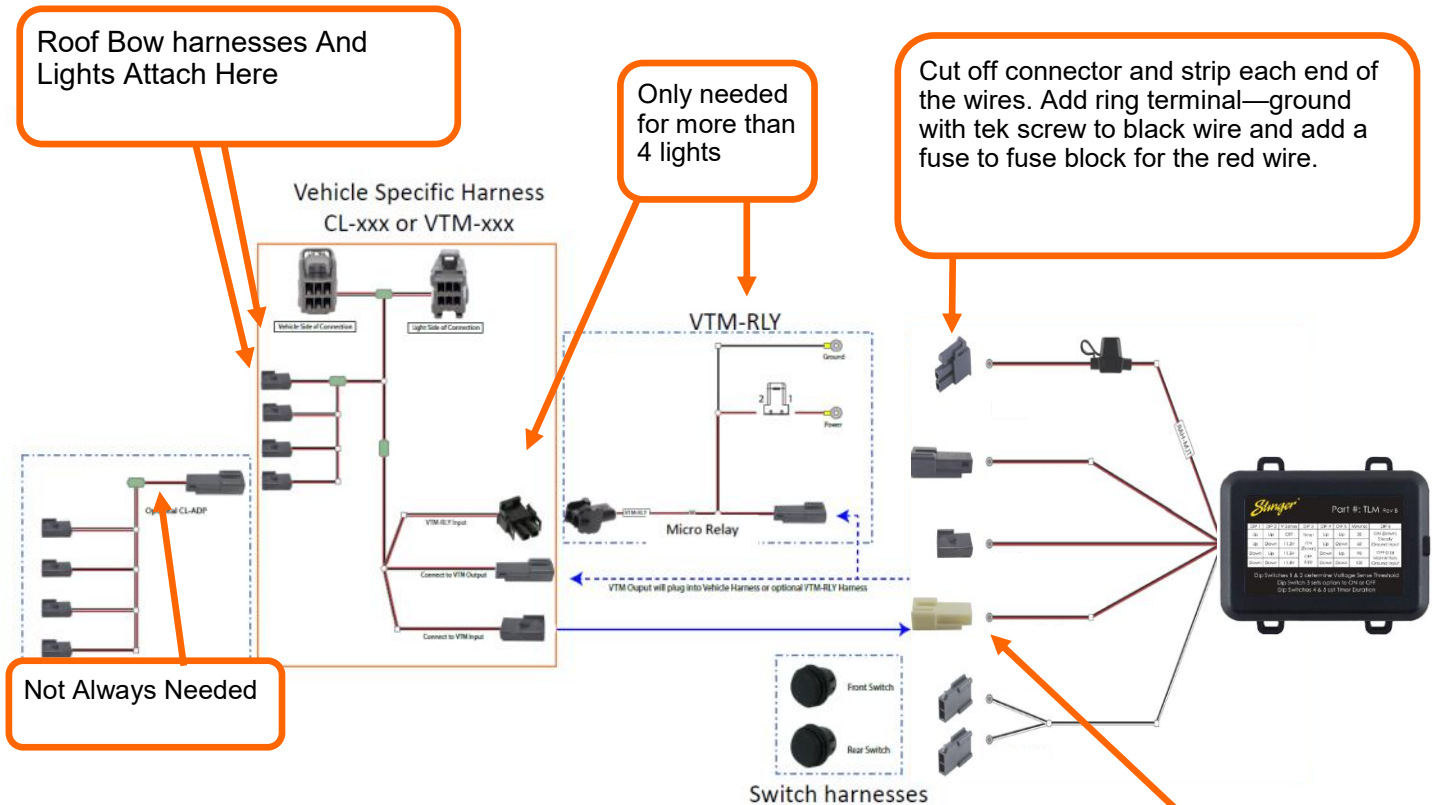


Installation Instructions For Interior Plug And Play Lights For Promaster City

****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. The only harness that is specific to the transit vehicle are the power harnesses 65796. Routing will be very standard across all kits, but placement of lights and switches are subject to be different from these instructions if called out on the order drawing differently.

Overall Harness Diagram



Tools required:



Crimpers



Power drill

3/8" step drill bit

Philips head bit



For all vehicles that are NOT RAM. This connector will be black. **RAM vehicles, this will be white.** See page 4 for more details.

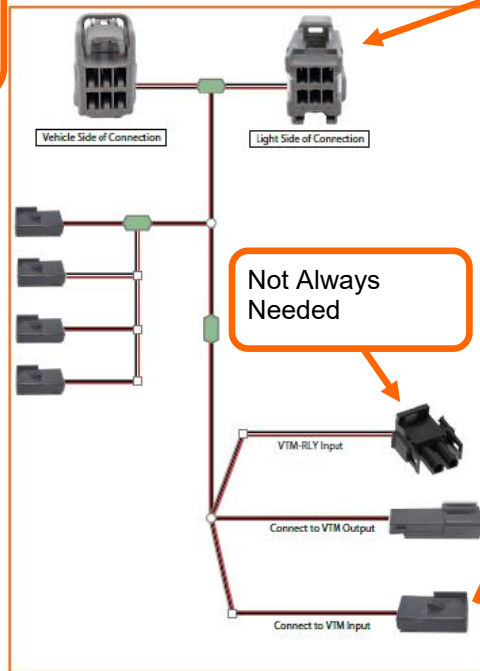
Specific Harness Diagram



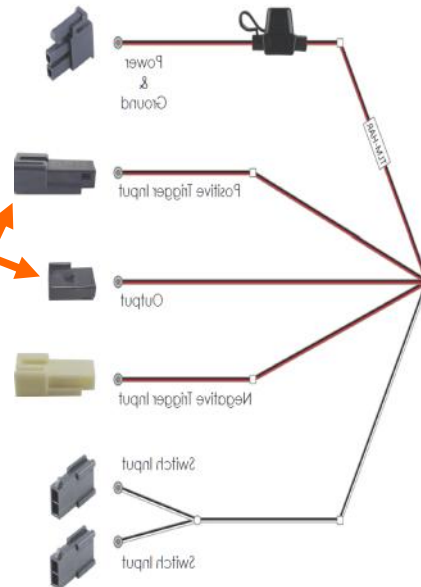
Roof Bow
Harnesses
and Lights
Connect Here

Vehicle Specific Harness
CL-xxx or VTM-xxx

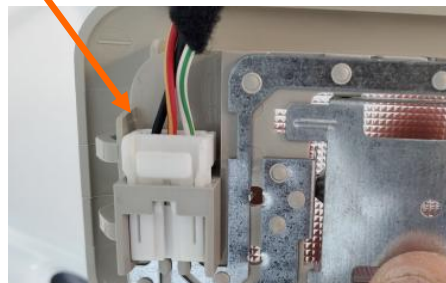
Insert into OEM
Light Connector:
See Below



Switch
Harness in
between



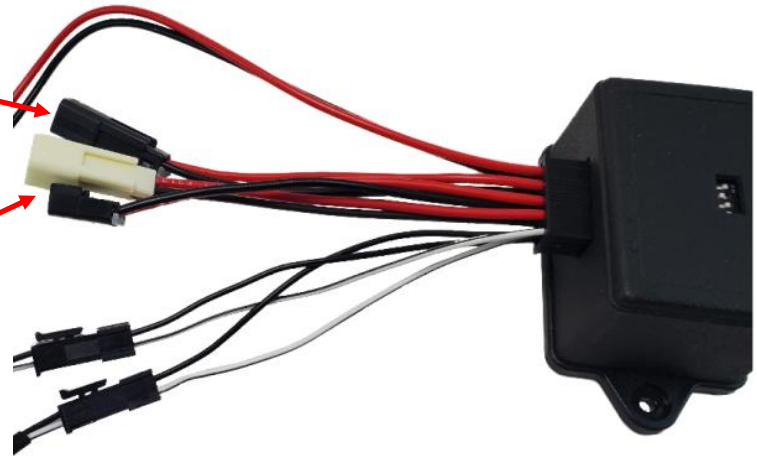
OEM Light Connector located on the back of the OEM light: Remove the OEM light from the location



Timer / Low Voltage Module (TLM) Harness Reference

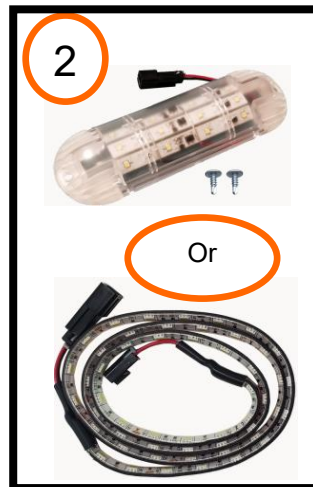
For all vehicles except RAM, the black input connector will be used to plug into the vehicle specific harness. The white connector will NOT be used.

For all RAM vehicles, the white connector will be used to plug into the vehicle specific harness. The black connector will NOT be used.



Harnesses Needed

	Part Number	Description
1	71902	Timer / Low Voltage Module (TLM)
2	63480 Or 65347	Dome Light Or Strip Lights
3	63481 Or/And 63842, 63483, 63484	Roof Bow Harnesses 1 through 4
4	65796	Power Harness
5	65788, 65789	Switch Harness 2 and 3 for TLM



Harness pictures are for reference only.

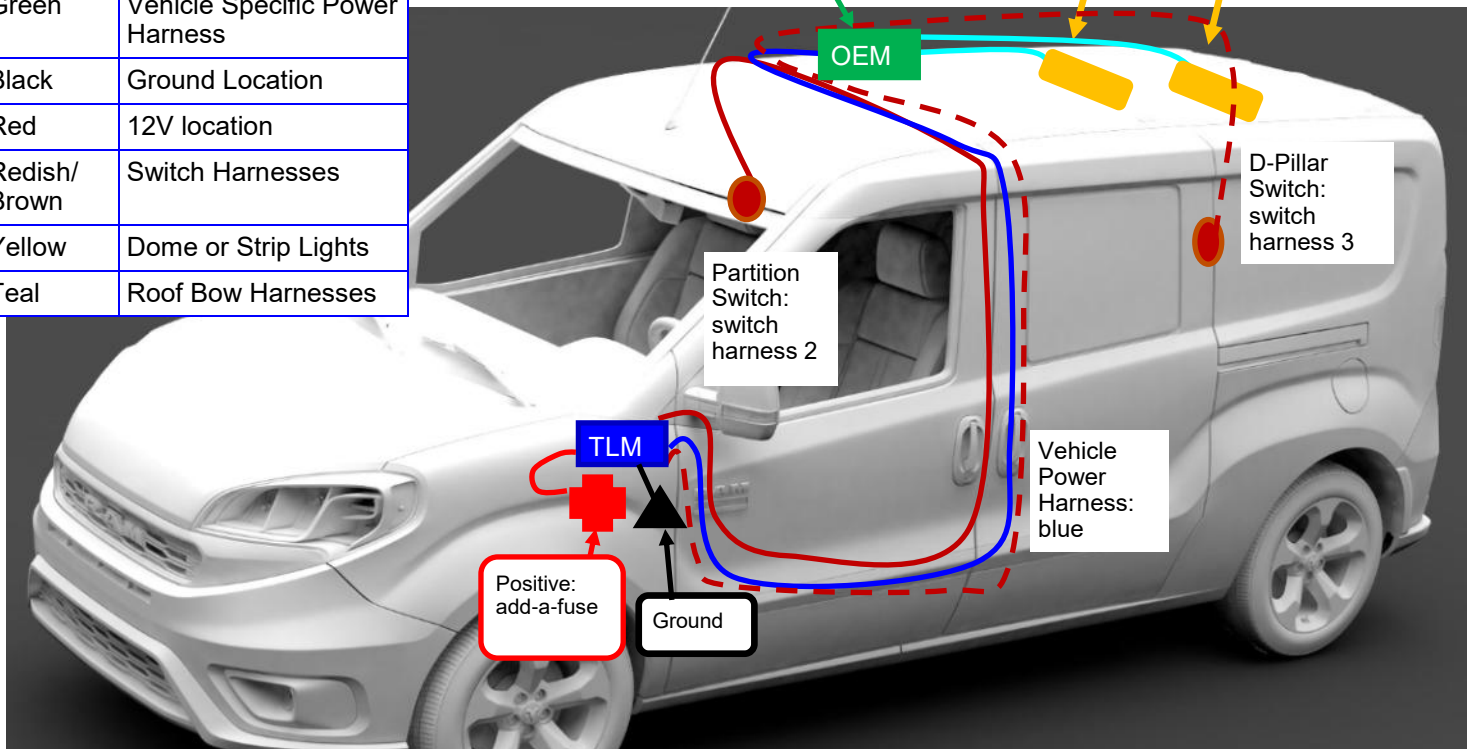


ADRIAN STEEL

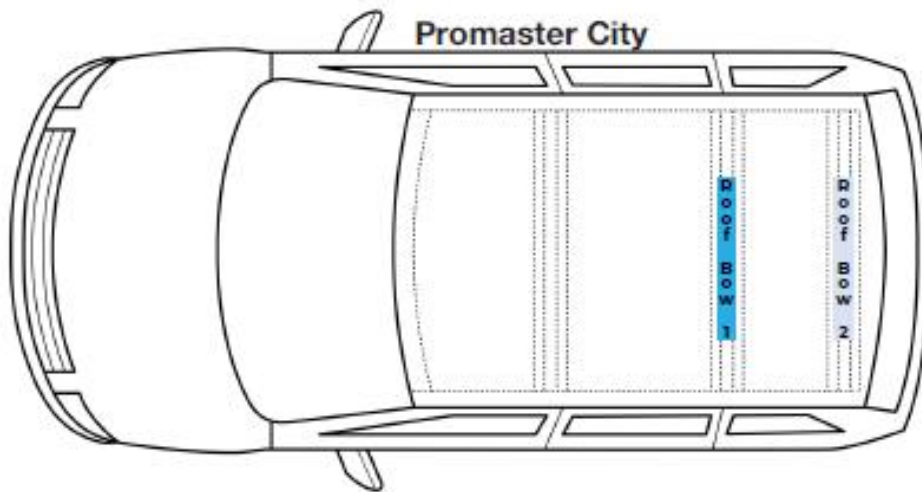
Cargo Management Solutions for Commercial Vehicles

Install Instructions Interior Plug & Play Lights—Promaster City

Color	Key - Items
Blue	TLM/Harness
Green	Vehicle Specific Power Harness
Black	Ground Location
Red	12V location
Redish/Brown	Switch Harnesses
Yellow	Dome or Strip Lights
Teal	Roof Bow Harnesses



Vehicle	Roof Bow 1	Roof Bow 2
Promaster City	P-HARRB2	P-HARRB1



**Roof bow
placements with
harness reference**

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.

Step 1: TLM Installation

Locate the TLM Module and harness. Remove the inline fuse from the inline fuse holder. Attach a 1/4" ring terminal to the Negative (Black) wire and crimp the Add-A-Fuse to the Positive (RED) wire.

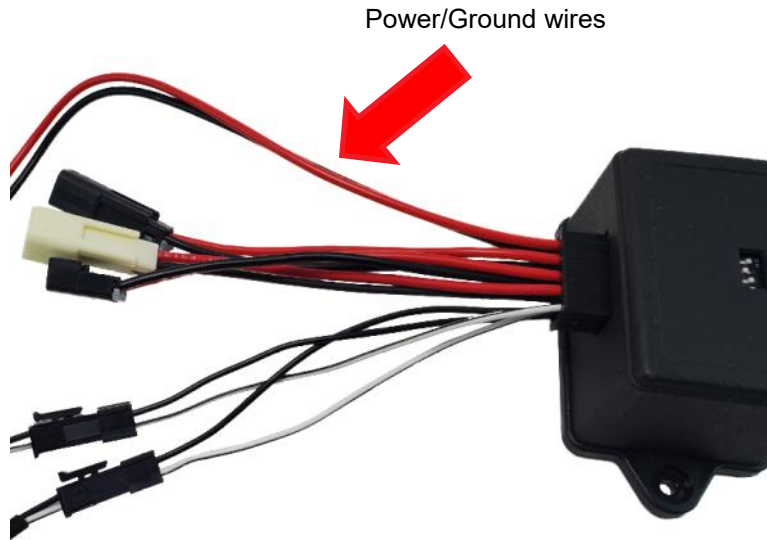
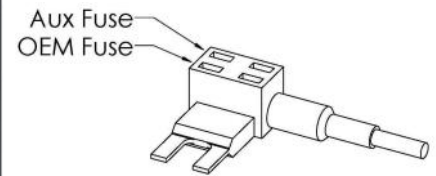


Diagram of Add-A-Fuse



Locate Fuse Panel under Driver Steering Wheel and Remove Cover (Figure 1-1)

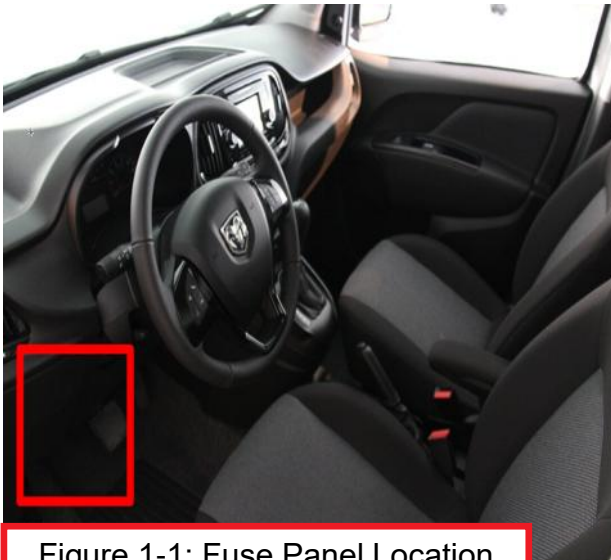
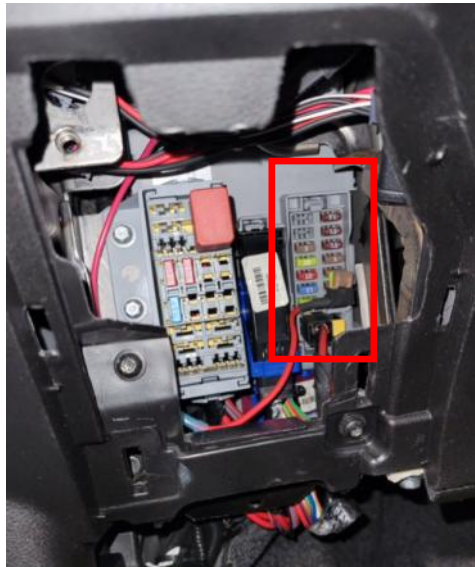


Figure 1-1: Fuse Panel Location



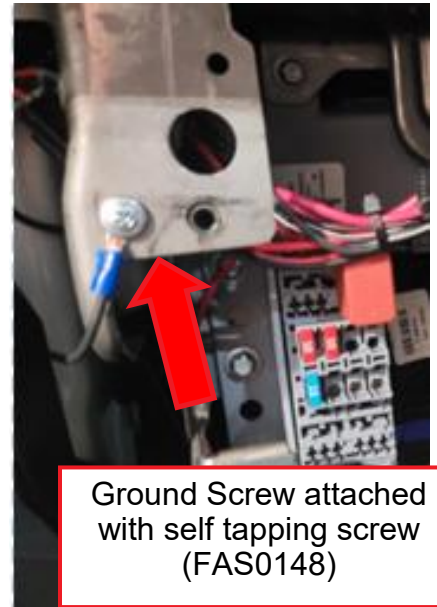
- The auxiliary fuse panel is located below the left side of the steering wheel.

Step 1: TLM Installation (Continued)

Locate the 20 Amp fuse in bottom right corner of fuse panel and insert add-a-fuse connected to the TLM Power wire. Then attach the Ground wire ring terminal to the metal post with self tapping screw (FAS0148).

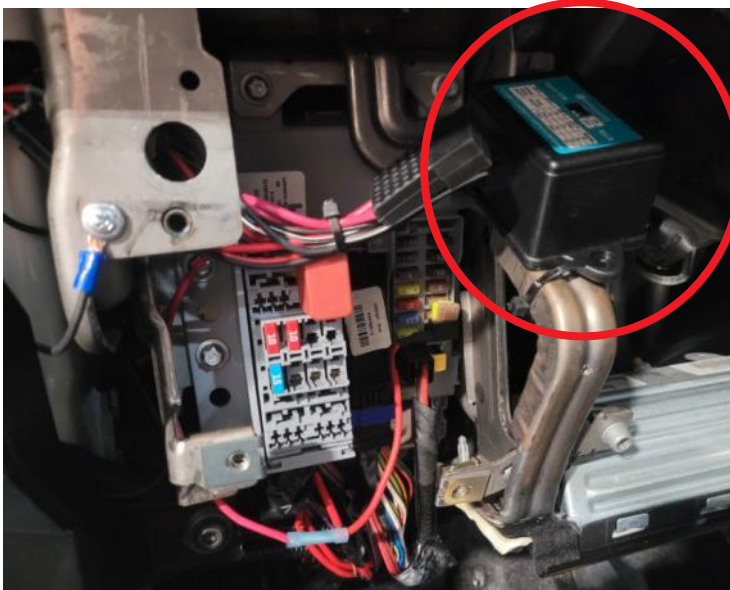


Inside Auxiliary Fuse Panel



Ground Screw attached with self tapping screw (FAS0148)

Connect the TLM light power harness(65796), the Rear Switch Harness(65789), and the Front Switch Harness(65788) to the TLM. Secure the TLM with zip ties and adhesive tape if needed) to the metal post shown below.



TLM Dip Switch Settings

Refer to the bottom picture for dip switch settings.

If the customer would like a different amount time other than 90 minutes, use the dip switches to set the time.

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

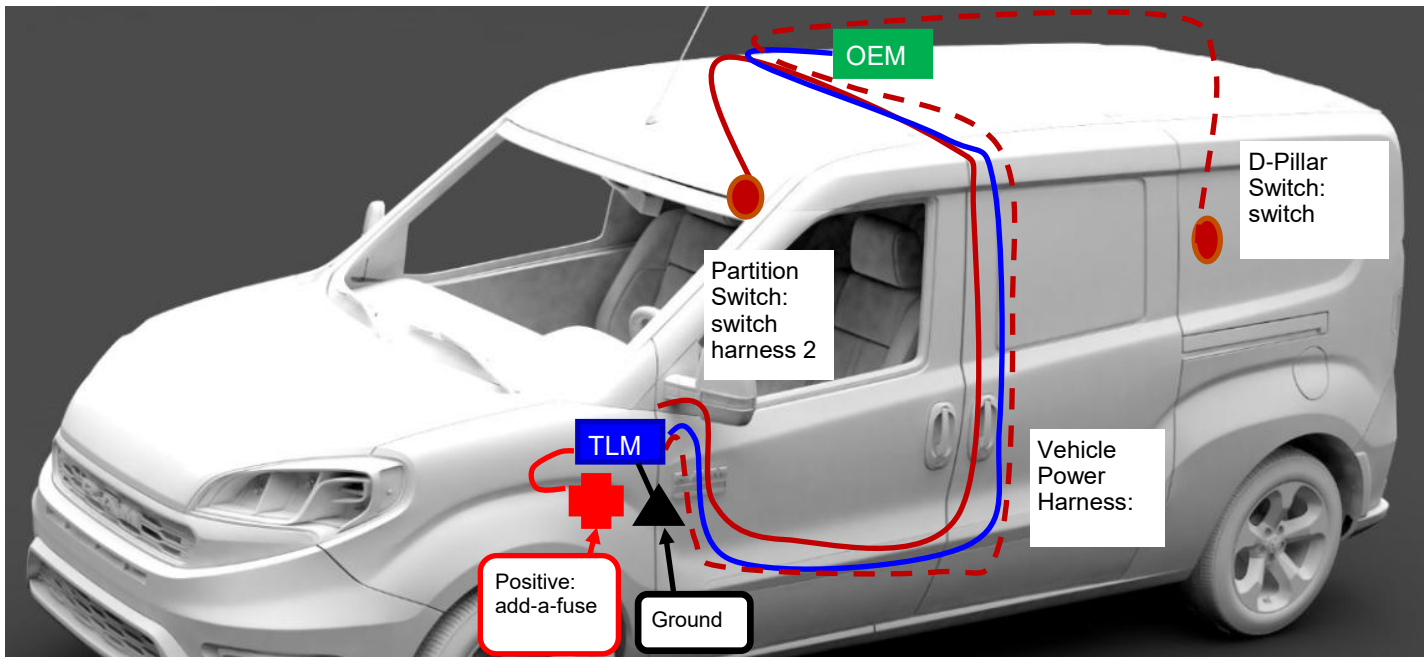
1	2	V-Sense	3	4	5	6
Down	Down	11.8	Down	Down	Up	Down

Step 2: Harness Routing

Remove Hood latch and plastic door jam cover to route the Harness from the TLM to the rear of the vehicle. (pictured below)



Both the switch harnesses and TLM power harness will be routed under the driver side door jam, up the B-pillar, across the headliner to the passenger side. More pictures to follow for reference.



Harnesses routed under the driver side door jam, up the B-pillar, across the headliner to the passenger side.

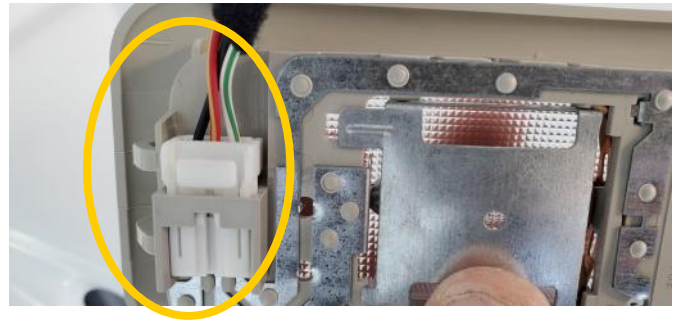


Leave the side switch harness (65788) on the passenger side B-pillar. You can continue to route the rest of the harnesses rearward following the roof channels.



Step 3: TLM Power Harness

Locate the OEM cargo light in the passenger side header, behind the side door. Remove the cargo light with a trim tool, then unplug the OEM connector from the back of the light

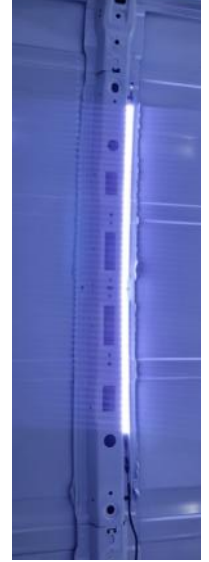


Plug the vehicle specific power harness (65796) into the OEM connector. You no longer need the OEM light. You can dispose of it how you would like. Connect the roof bow harnesses (63481 Or/And 63842, 63483, 63484 all that are applicable) to the power harness.



Step 4: Mounting Lights

Before mounting any lights, prep the surface where the light will be placed with the supplied alcohol pad. Let dry for a few minutes, then mount the light. Be sure the surface is clean before applying the VHB tape. Read the supplied instructions in the lighting boxes.



Step 5: Roof Bow Harnesses

Route the roof bow harnesses to their desired light locations. (Light locations on the roof bows). Reference page 5 for roof bow locations. Route through roof channels as much as possible. When not applicable, use fir tree zip ties to secure wiring.



Step 6: Switch Installations

Switch Locations: Partition Hole (composite or steel) and Rear D-Pillar Trim.

Route the switch harnesses to the desired switch locations. Switch 2 (65788) will go to the partition, and switch 3 (65783) will go rearward to the D-pillar area (passenger side). See pictures below for locations.

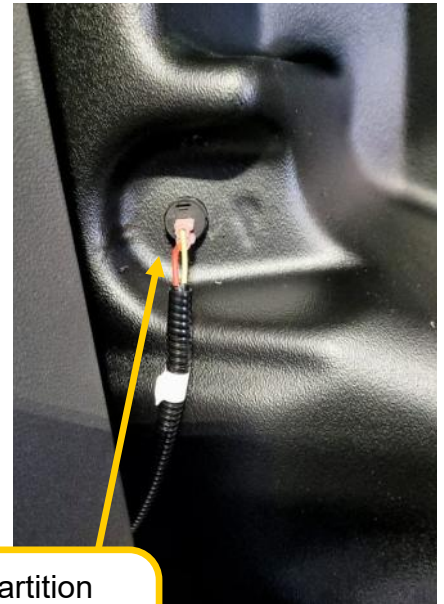
Drill out needed holes for the switch as applicable. Use your best judgement for the rear D pillar trim hole.



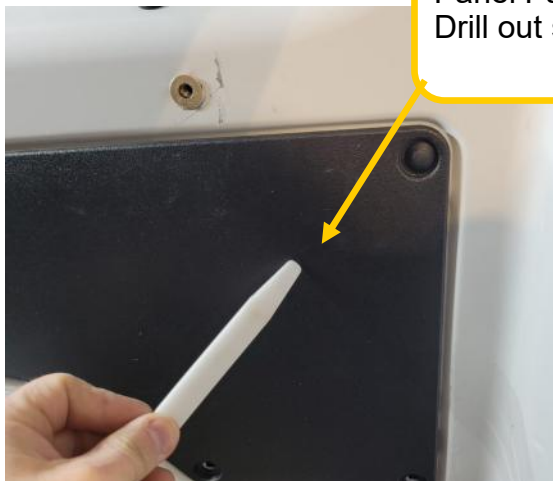
Steel partition
hole behind
passenger seat



Composite partition
behind passenger
seat. Drill out the hole.



Remove panel to drill
the hole and to route
the wiring



Rear D-Pillar Trim
Panel Passenger side.
Drill out switch hole.



Step 6: Switch Installations (Continued)

Insert the switches into the holes with the “1” in the 12:00 position, connect the harness (the connection orientation does not matter).

Secure wiring with zip ties.

Step 7: Finish Install

Insert the fuse into the inline-fuse holder on the power harness. The install is now complete. Secure all wiring with zip ties. Re-attach all trim. Double check the functionality of the lights and switches.



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

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
 MDG

DATE DRAWN
 10/26/2006

ECN NUMBER
 18021

ECN DATE
 11/13/2015

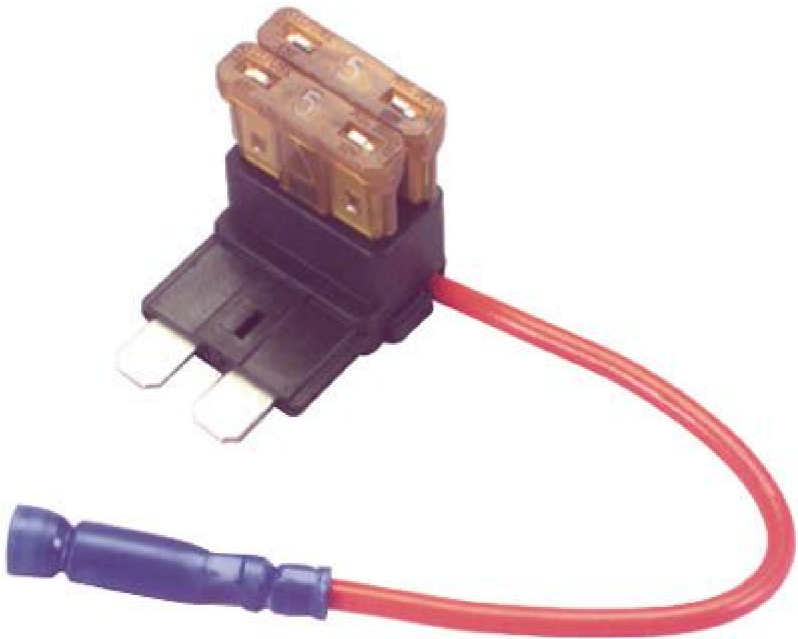
PART WEIGHT
 0.01 LBS.

REV. LEVEL
 D

PART NUMBER
13905-0

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: Waytek Manufacturers P/N: 46044



Mini Fuse Holder, Add a Circuit Tap: 41842

Note: For Mini Fuses Only

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TOLERANCES & INSPECTION			RELEASE & REVISIONS	
UNLESS OTHERWISE SPECIFIED ALL BEND ANGLES ARE 90 DEGREES ALL DIMENSIONS ARE IN INCHES. REFERENCE DIMENSIONS (X.XXX) DO NOT REQUIRE INSPECTION			INITIAL ECN: 14217 CURRENT ECN: 22269 ECN DESCRIPTION: RELEASE TO PRODUCTION REVISED BY: RMW	
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				

PURCHASED COMPONENT
REFERENCED SUPPLIER AND/OR MANUFACTURER Waytek
REFERENCED SUPPLIER AND/OR MANUFACTURER PART NUMBER 46044
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®		REVISION LEVEL C
	ADRIAN STEEL COMPANY 906 JAMES STREET, ADRIAN, MI 49221		
MAT'L USED:		DESIGNED BY: RBB	
DESCRIPTION: Mini Fuse Holder, Add a Circuit Tap: 41842			
WEIGHT (Lbs.): .018	SEGMENT CODE: ELE		PART NUMBER: 41842

PURCHASED COMPONENT KEY FEATURES

DESCRIPTION OF REQUIREMENTS

DIMENSIONAL REQUIREMENTS (AS SHOWN ON DRAWING)

Base is a 0.975 inch square

LOAD/RATING REQUIREMENT

N/A

MATERIAL REQUIREMENT

N/A

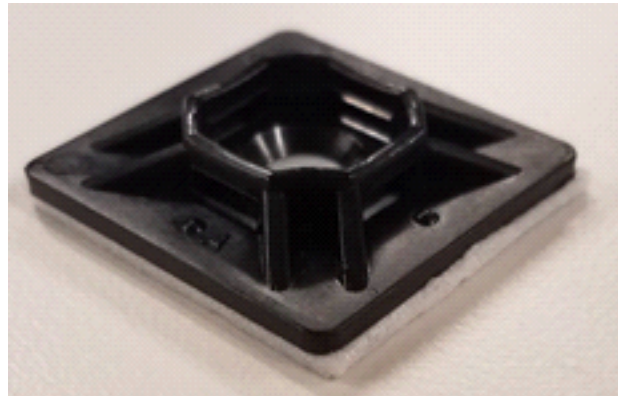
PACKAGING REQUIREMENT

N/A

OTHER REQUIREMENTS

Black adhesive wire tie mounting base.

Cure Time:	Bond 15 Min., Max Adhesion 1 Hr.
Max. Operating Temp. F:	158
Max. Operating Temp. C:	70
Min. Installation Temp. F:	65



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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: 17429

CURRENT ECN: 22185

ECN DESCRIPTION:

**Size of the base changed with a
change in supplier**

REVISED BY: D. LaCroix

PURCHASED COMPONENT

REFERENCED SUPPLIER AND/OR MANUFACTURER

Midstate

REFERENCED SUPPLIER AND/OR MANUFACTURER PART NUMBER

49401

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

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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: **RJB**

DESCRIPTION:

Adhesive wire tie base

WEIGHT
(Lbs.): **0.05**

SEGMENT
CODE: **HDW**

PART NUMBER: **49401**

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

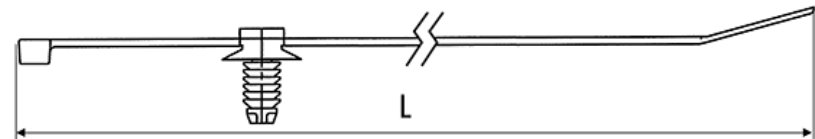
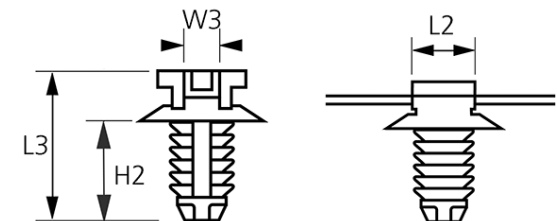
- **Roof Bow #1 (Cargo area, first Roof bow after partition)**
- **(5x) WIRE TIE W/CHRISTMAS TREE**
- **1100mm Length**



P-HARRB1



(5x)



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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

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Sheet 1 of 1

PART / PRODUCT IDENTIFICATION



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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

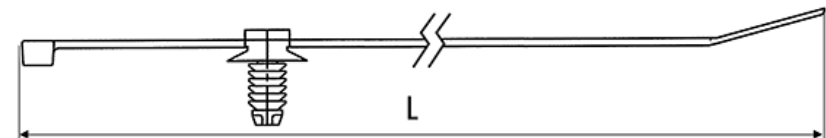
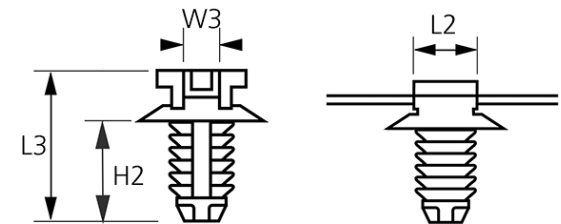
OTHER REQUIREMENTS

- **Roof Bow #2**
- **(5x) WIRE TIE W/CHRISTMAS TREE**
- **1570mm Length**



P-HARRB2

(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-HARRB2

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

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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: **MJF**

DESCRIPTION: **ROOF BOW HARNESS #2**

WEIGHT
(Lbs.):

.50

SEGMENT
CODE: **EAU**

PART NUMBER: **63482**

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

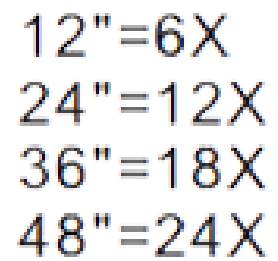
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Sheet 1 of 1

PART / PRODUCT IDENTIFICATION

 ADRIAN STEEL®		ADRIAN STEEL COMPANY 906 JAMES STREET, ADRIAN, MI 49221	REVISION LEVEL B
MAT'L USED:		DESIGNED BY: J. TYNER	
DESCRIPTION: MODULE DOME LED STRIP 36"			
WEIGHT (Lbs.): 0.3	SEGMENT CODE: EAU	PART NUMBER: 65347	

- 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



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	Designed By	Bennet Fisher	11/1/21		
	Engineering Approval				
	Manufacturing Approval			Part Number: CL-36BLED	Revision: B
	Revision Approval			Description:	Sheet:
	Quality Assurance			36" LED Strip	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	



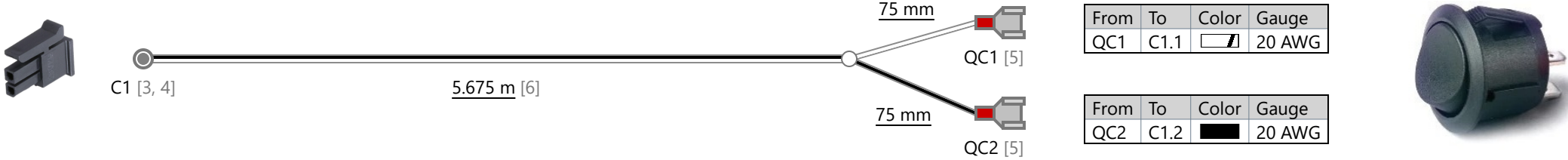
THIS DRAWING IS THE PROPERTY OF ADRIAN STEEL COMPANY AND IS NOT TO BE USED IN ANY MANNER DETRIMENTAL TO THE INTERESTS OF ADRIAN STEEL COMPANY	
TOLERANCES & INSPECTION	RELEASE & REVISIONS
UNLESS OTHERWISE SPECIFIED	INITIAL ECN: 25377
ALL BEND ANGLES ARE 90 DEGREES	CURRENT ECN: 25377
ALL DIMENSIONS ARE IN INCHES.	ECN DESCRIPTION:
REFERENCE DIMENSIONS (X.XXX) DO NOT REQUIRE INSPECTION	RELEASE FOR PRODUCTION
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	REVISED BY:

PURCHASED COMPONENT	
REFERENCED SUPPLIER AND/OR MANUFACTURER	
AAMP GLOBAL	
REFERENCED SUPPLIER AND/OR MANUFACTURER PART NUMBER	
VTM-SW2 OR 65788	
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
	DESIGNED BY: E.BURKE		REVISION LEVEL A
MAT'L USED:	PURCHASED	DESCRIPTION: SWITCH 2 HARNESS FOR VTM	
WEIGHT (Lbs.):	0.2	SEGMENT CODE: ELE	PART NUMBER: 65788

Coverings	
Id	Assembly
[6]	

From	To	Color	Gauge
C1.1	QC1		20 AWG
C1.2	QC2		20 AWG



From	To	Color	Gauge
QC1	C1.1		20 AWG

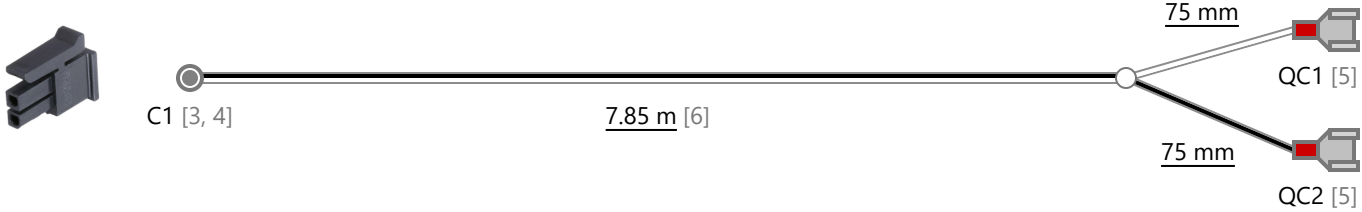
From	To	Color	Gauge
QC2	C1.2		20 AWG

Revisions			
Rev.	Date	Author	Description
1	6/10/21	Bennet Fisher	Initial Drawing

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	Designed By	Bennet Fisher	6/10/2021		
	Engineering Approval				
	Manufacturing Approval				
	Revision Approval			Part Number: VTM-SW2	
	Quality Assurance			Description: 5.675 Meter Switch Harness	
				Revision: 1	
				Sheet: ----	

Coverings	
Id	Assembly
[6]	

From	To	Color	Gauge
C1.1	QC1		20 AWG
C1.2	QC2		20 AWG



From	To	Color	Gauge
QC1	C1.1		20 AWG

From	To	Color	Gauge
QC2	C1.2		20 AWG

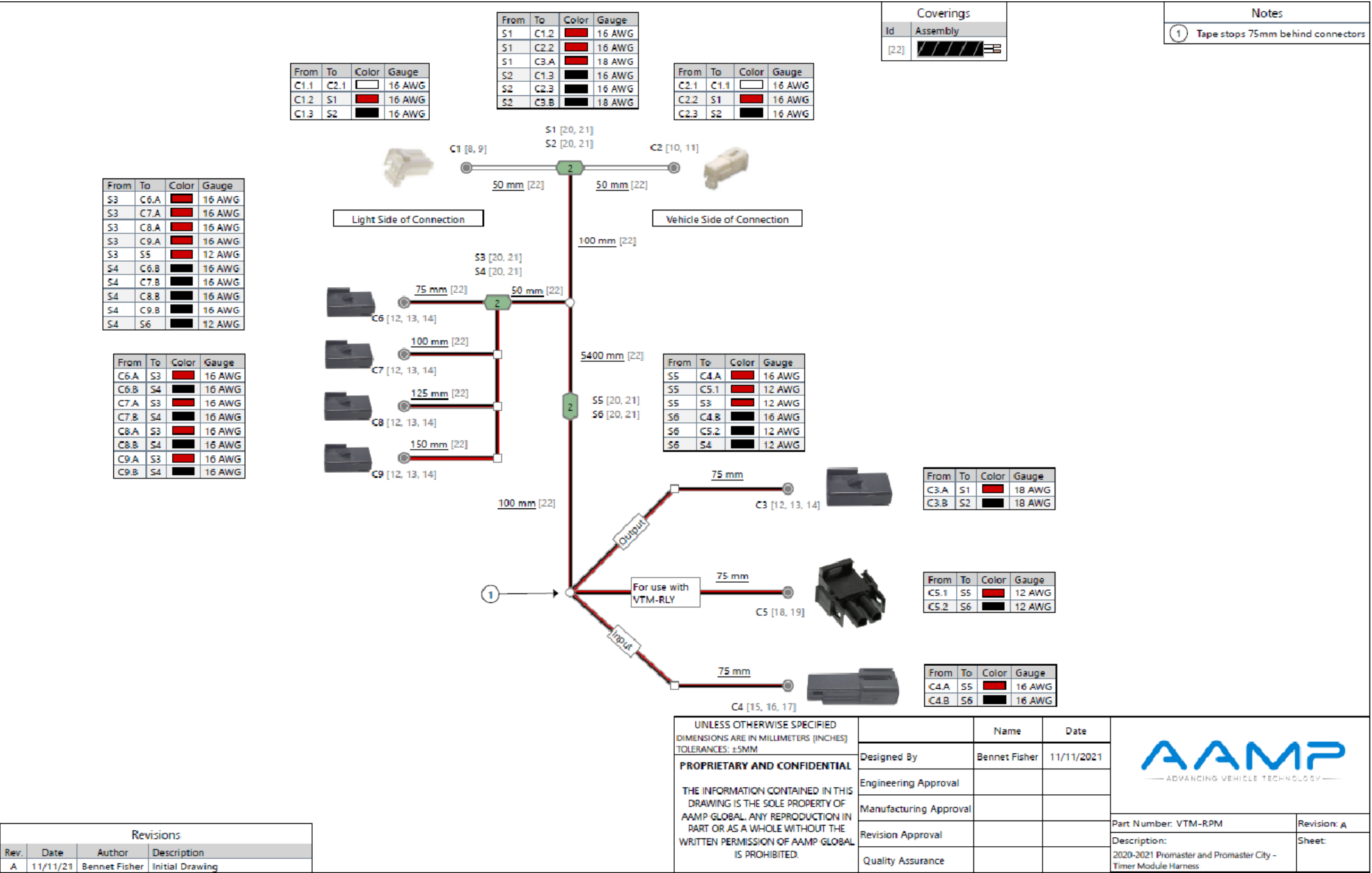


Revisions			
Rev.	Date	Author	Description
1	6/10/21	Bennet Fisher	Initial Drawing

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	6/10/2021		
	Engineering Approval				
	Manufacturing Approval				
	Revision Approval			Part Number: VTM-SW3	
	Quality Assurance			Description: 7.85 Meter Switch Harness	
				Revision: 1	
				Sheet: ----	

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



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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: 25377
CURRENT ECN: 27060
ECN DESCRIPTION: PPDS Change: Manuf# and Description
REVISED BY: MLH

PURCHASED
COMPONENT

REFERENCED SUPPLIER AND/OR MANUFACTURER
AAMP GLOBAL

REFERENCED SUPPLIER AND/OR MANUFACTURER PART NUMBER
VTM-RPM

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

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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: **HARN, POWER VTM-RPM**

WEIGHT (Lbs.): 0.2	SEGMENT CODE: ELE	PART NUMBER: 65796
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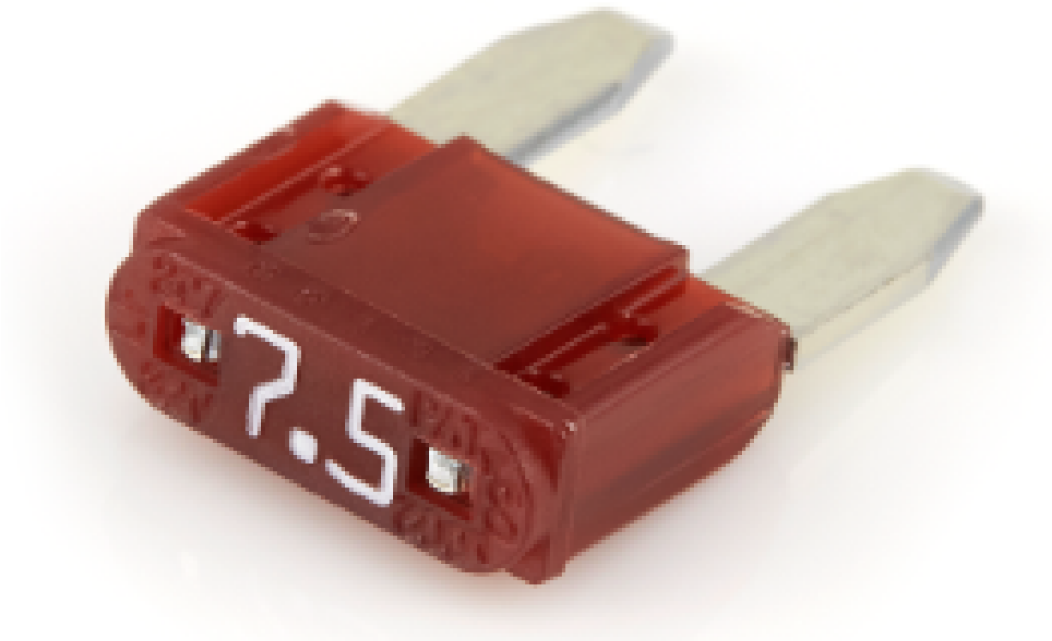
PURCHASED COMPONENT KEY FEATURES	
DESCRIPTION OF REQUIREMENTS	
DIMENSIONAL REQUIREMENTS (AS SHOWN ON DRAWING)	
N/A	
LOAD/RATING REQUIREMENT	
N/A	
MATERIAL REQUIREMENT	
N/A	
PACKAGING REQUIREMENT	
N/A	
OTHER REQUIREMENTS	
RING TERMINAL: 16-14GA 1/4" STUD SIZE BLUE TIN PLATED COPPER	



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TOLERANCES & INSPECTION		PART / PRODUCT IDENTIFICATION			
UNLESS OTHERWISE SPECIFIED		AS ADRIAN STEEL®			REVISION LEVEL A
ALL BEND ANGLES ARE 90 DEGREES					
ALL DIMENSIONS ARE IN INCHES.		ADRIAN STEEL COMPANY		906 JAMES STREET, ADRIAN, MI 49221	
REFERENCE DIMENSIONS (X.XXX) DO NOT REQUIRE INSPECTION		MAT'L USED: PURCHASED		DESIGNED BY: EMB	
FEATURES		DESCRIPTION: WIRE TERM 1/4"RING 14-16G			
HOLES/SLOTS		WEIGHT (Lbs.): 0.01		SEGMENT CODE: ELE	
ANGLES		PART NUMBER: 69511			
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		PURCHASED COMPONENT			
INITIAL ECN: 25975		REFERENCED SUPPLIER AND/OR MANUFACTURER WAYTEK			
CURRENT ECN: 25975		REFERENCED SUPPLIER AND/OR MANUFACTURER PART NUMBER 37393			
ECN DESCRIPTION:		COLOR (ONLY LIST IF COLOR SPECIFIC) BLUE			
RELEASE TO PRODUCTION		COMODITY ITEM (Y/N) (YES = ALL DIMENSIONS AND NOTES ARE REFERENCE) (NOTE: DIMENSIONS AND FEATURES MAY VARY FOR A COMODITY ITEM.) NO			
REVISED BY: N/A					

PURCHASED
COMPONENT
KEY FEATURES

DESCRIPTION OF REQUIREMENTS
DIMENSIONAL REQUIREMENTS (AS SHOWN ON DRAWING) MICRO2
LOAD/RATING REQUIREMENT 5 AMP
MATERIAL REQUIREMENT N/A
PACKAGING REQUIREMENT N/A
OTHER REQUIREMENTS (1) 7.5 AMP FUSE MINI STYLE



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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:	26016
CURRENT ECN:	26016
ECN DESCRIPTION:	RELEASE TO PRODUCTION.
REVISED BY:	N/A

PURCHASED
COMPONENT

REFERENCED SUPPLIER AND/OR MANUFACTURER WAYTEK
REFERENCED SUPPLIER AND/OR MANUFACTURER PART NUMBER 46254
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

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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:				DESIGNED BY: E.Burke			
DESCRIPTION: FUSE,MINI 7.5 AMP							
WEIGHT (Lbs.): .10		SEGMENT CODE: ELE		PART NUMBER: 69879			

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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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: 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)
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	
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.

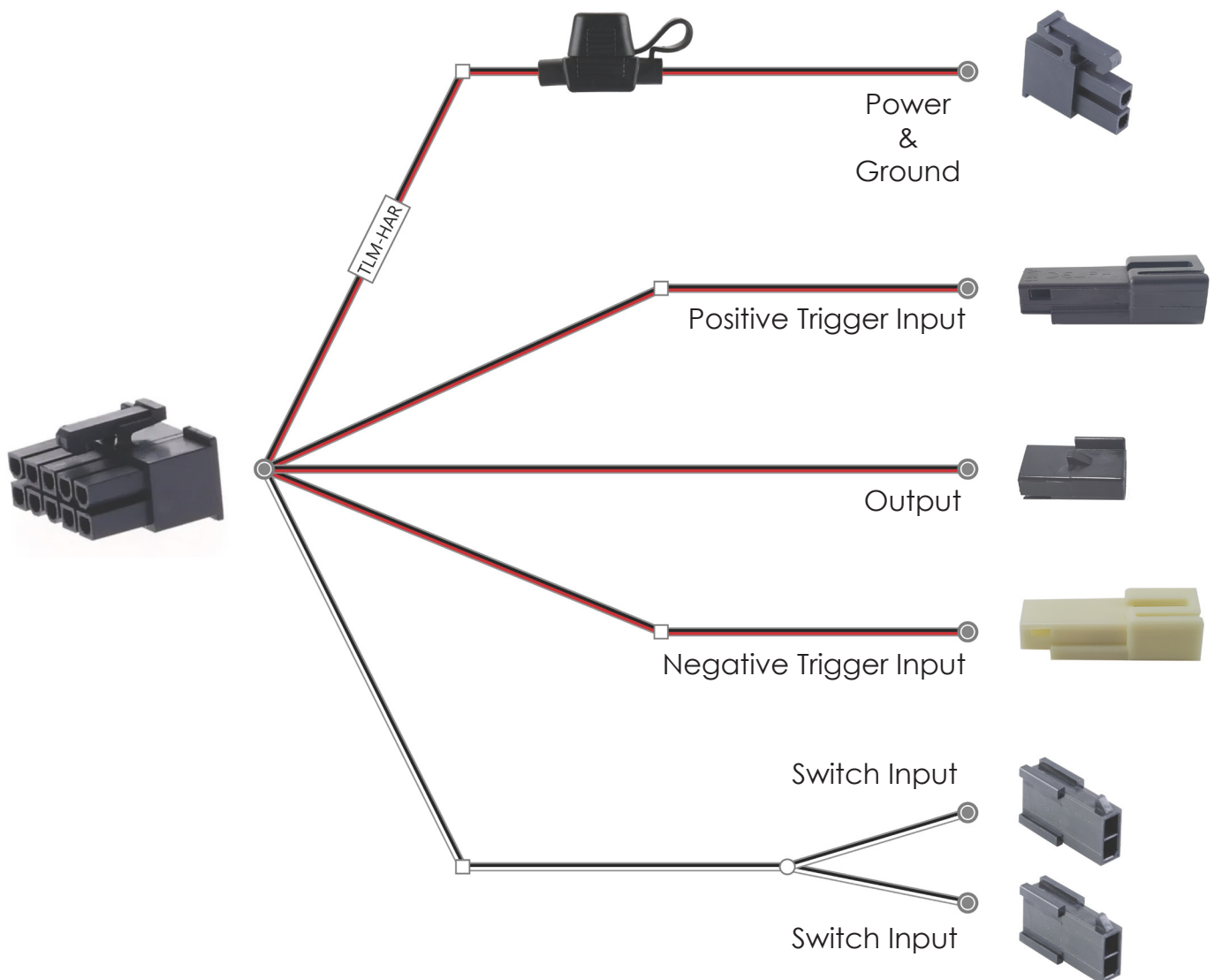
If a Trigger Input is active, its function takes precedence. Attempting to activate the Switch Input while a Trigger Input is active will have no effect on the modules output.





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

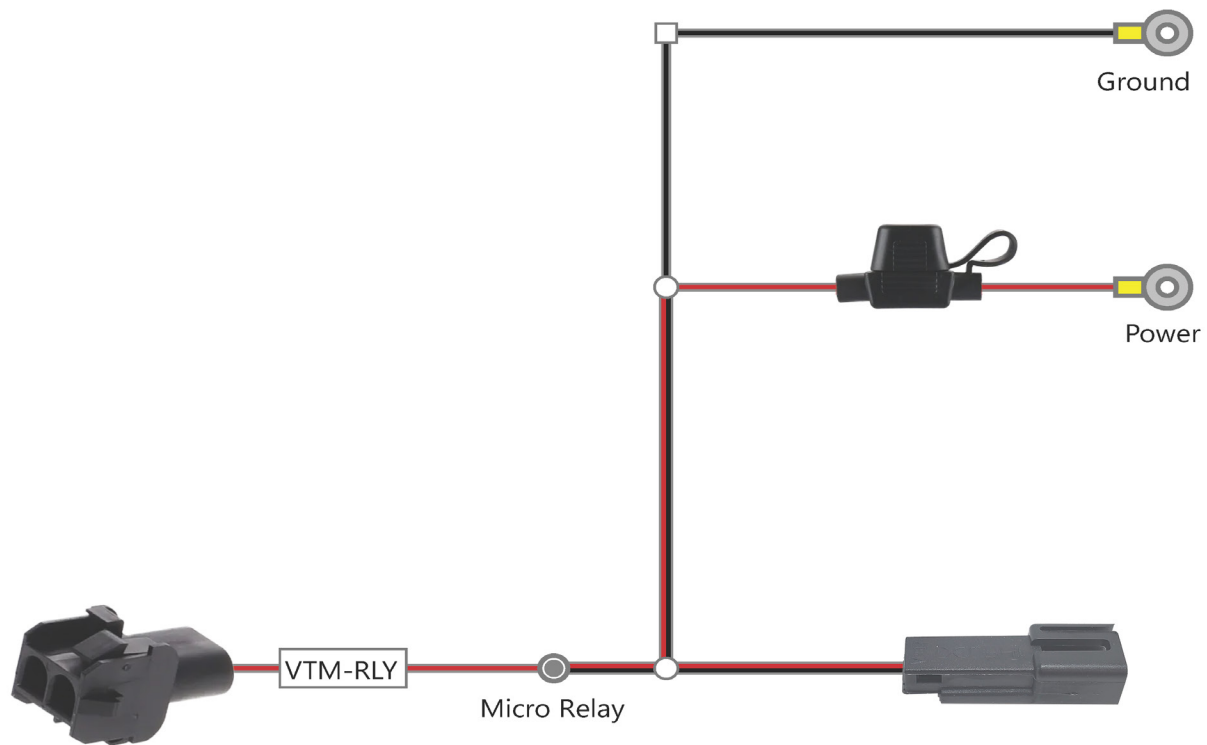
Switch Input: Closing loop between switch input wire leads will activate output





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

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