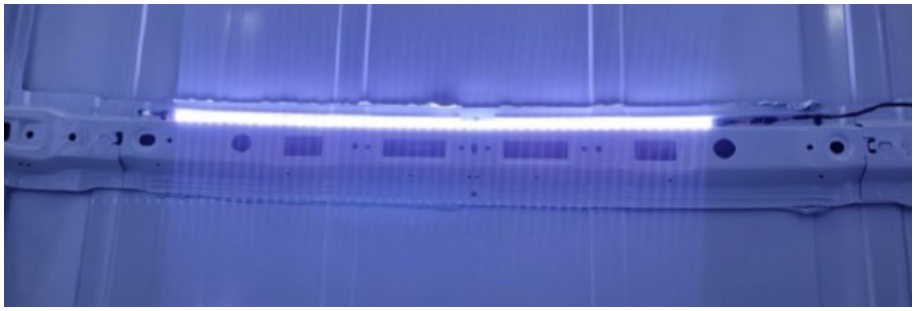
Two LED Light Strips Kit w/ Switches

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

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Introduction / Comments:

Install Instructions For Interior Plug & Play Lights For Promaster City

Note:

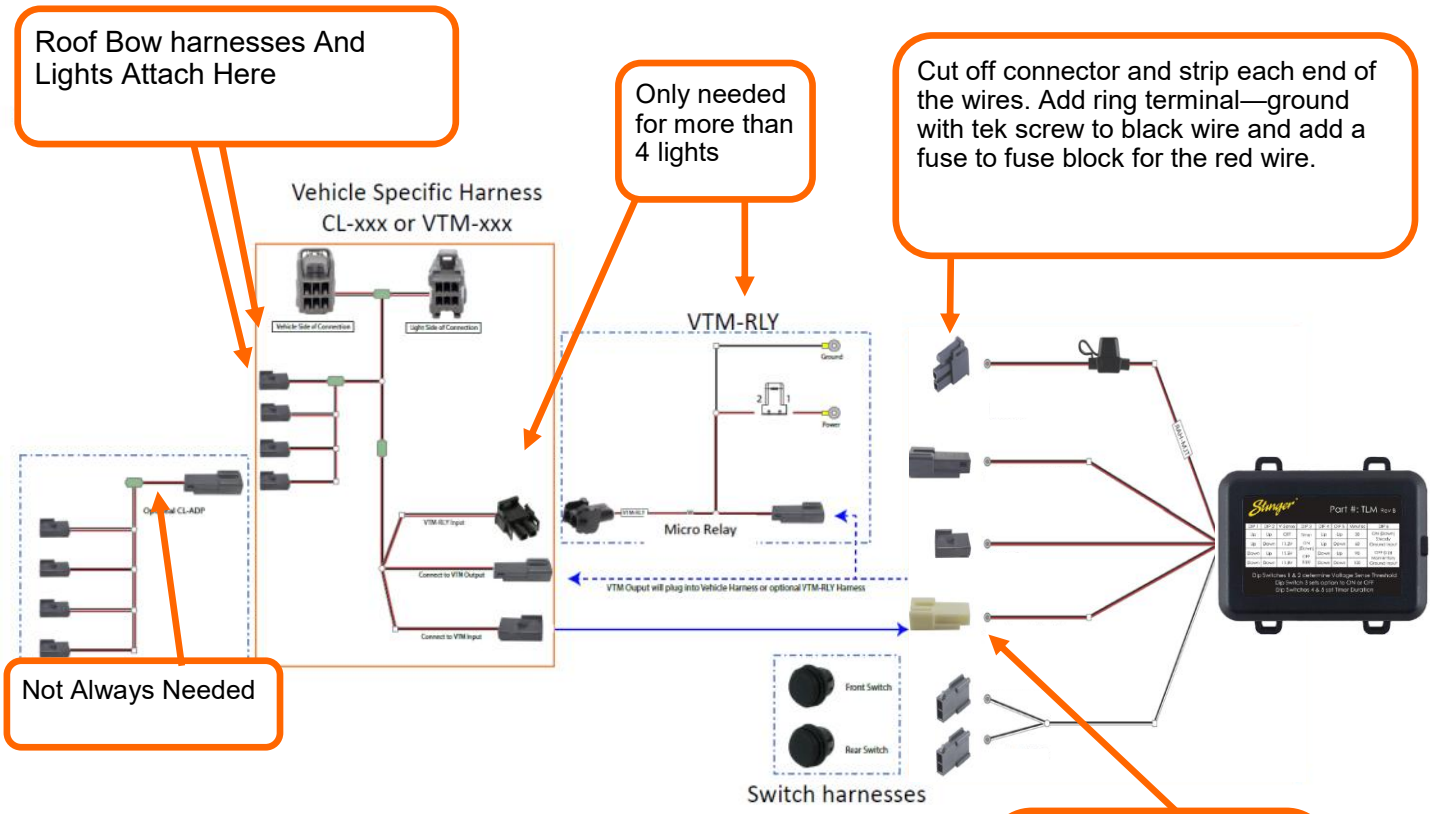
Read all instructions prior to installation. Review the Adrian Steel **GENERAL PRECAUTIONS PAGES (56638**) before attempting installation. Only personnel familiar with using electrical best practices should perform this install. Reference **ELECTRICAL BEST PRACTICES MANUAL (54479)** before attempting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



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

Tools required:

Crimpers

Power drill

3/8” step drill bit

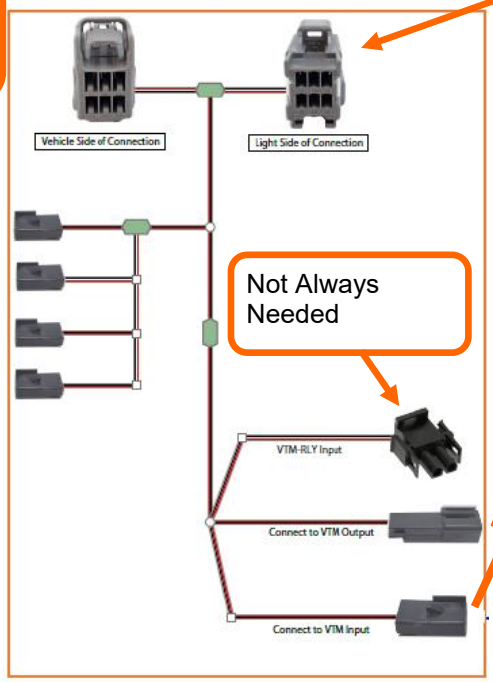
Philips head bit

Specific Harness Diagram

Roof Bow Harnesses and Lights Connect Here

Vehicle Specific Harness
CL-xxx or VTM-xxx

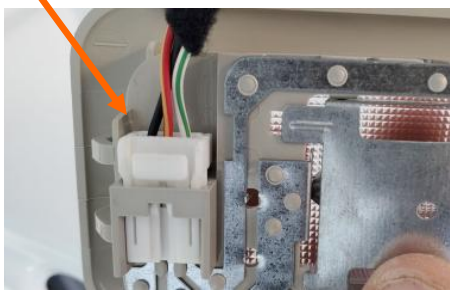
Insert into OEM Light Connector: See Below



Not Always Needed

Switch Harness in between

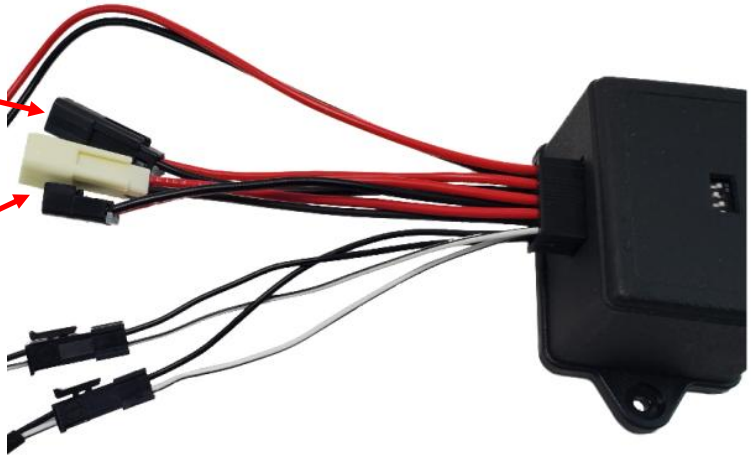
OEM Light Connector located on the back of the OEM light: Remove the OEM light from the location



Timer / Low Voltage Module (TLM) Harness Reference

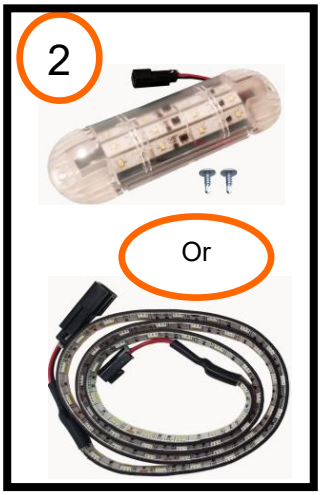
For all vehicles except RAM, the black input connector will be used to plug into the vehicle specific harness. The white connector will NOT be used.

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

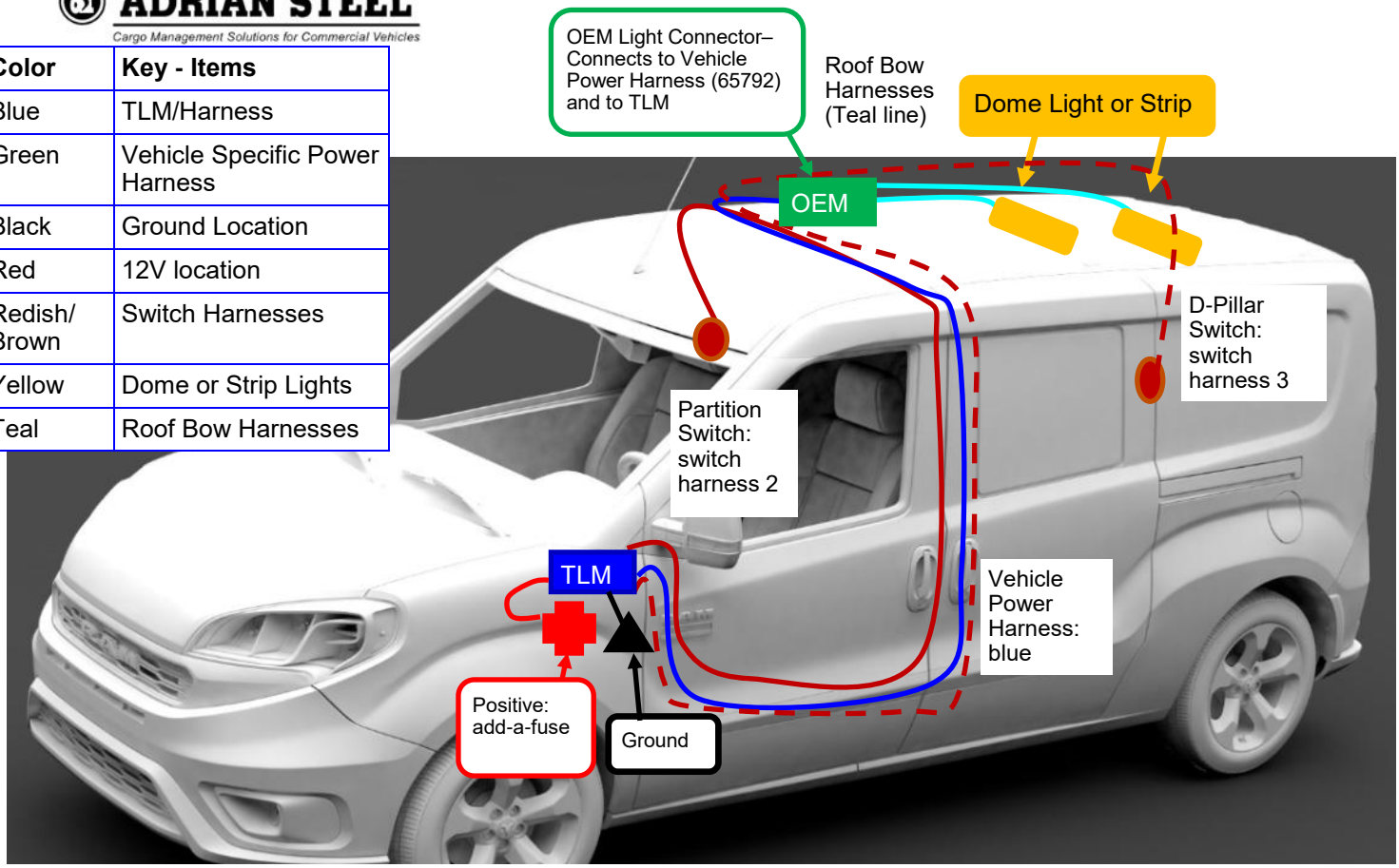


Harness pictures are for reference only.

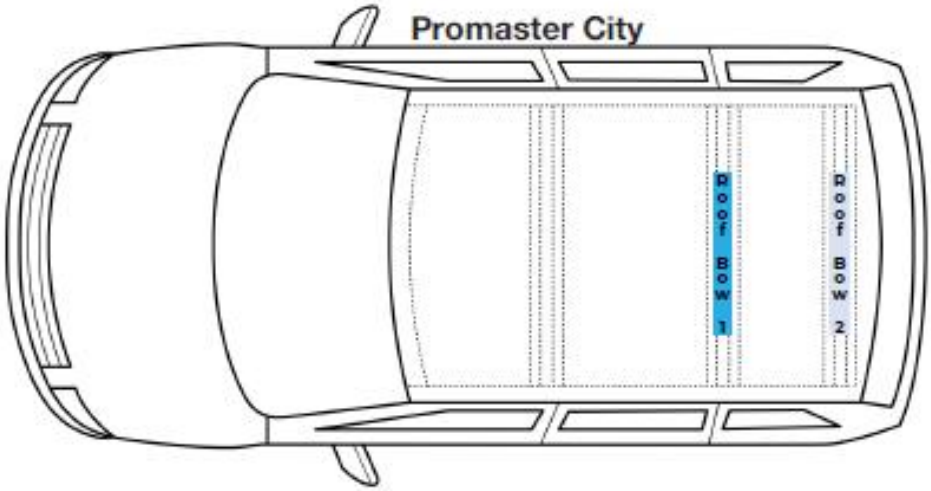
ADRIAN STEEL
Cargo Management Solutions for Commercial Vehicles

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.

Power/Ground wires

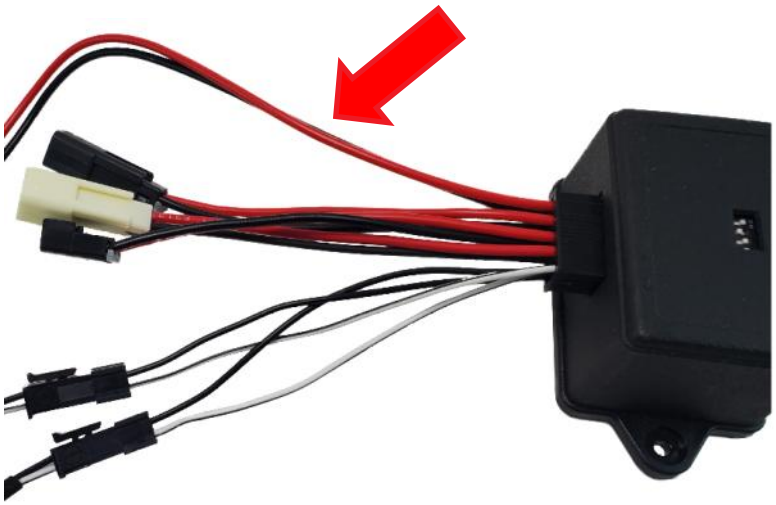
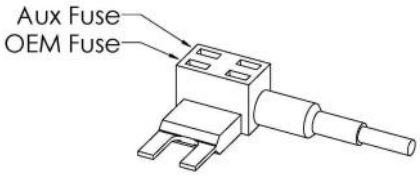


Diagram of Add-A-Fuse



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

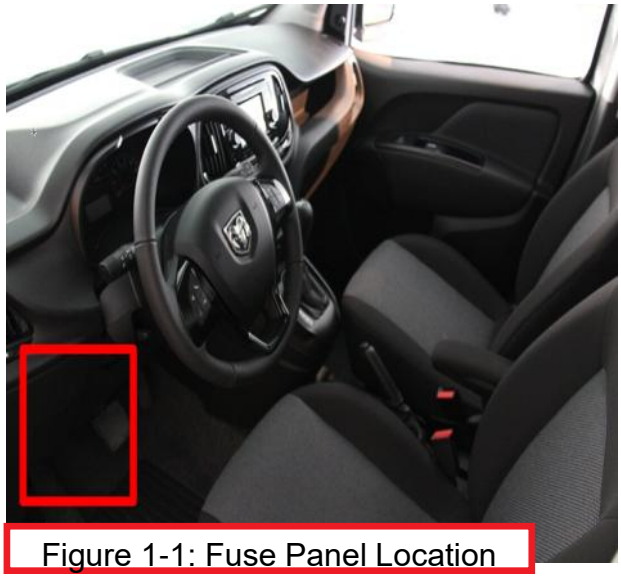
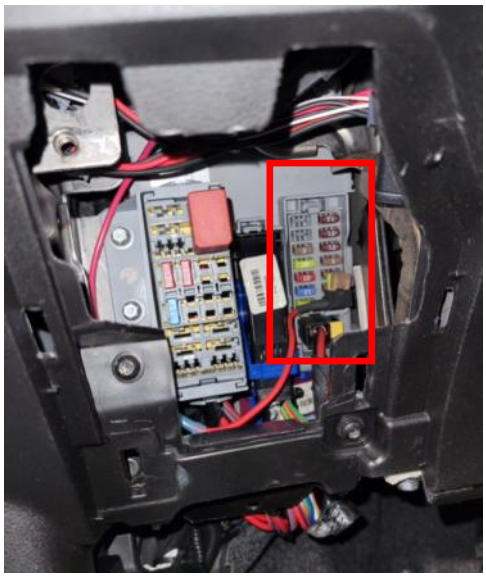


Figure 1-1: Fuse Panel Location



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

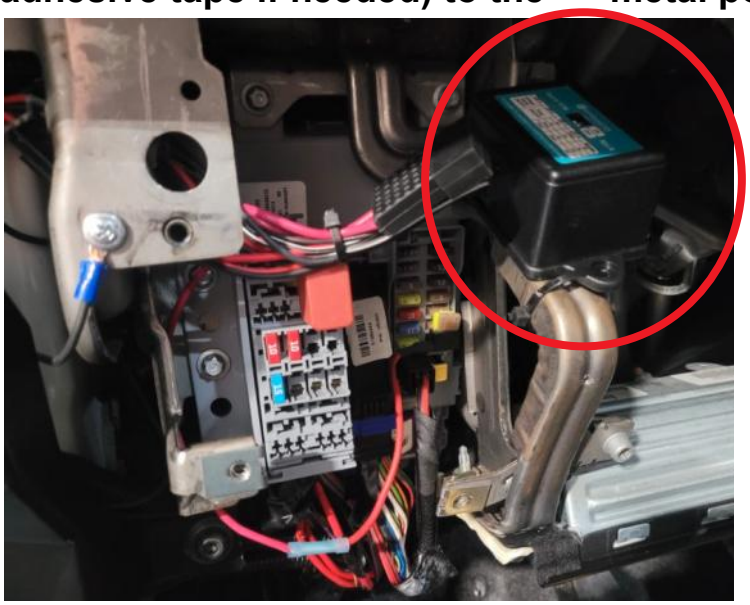
Step 1: TLM Installation (Continued)

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.



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

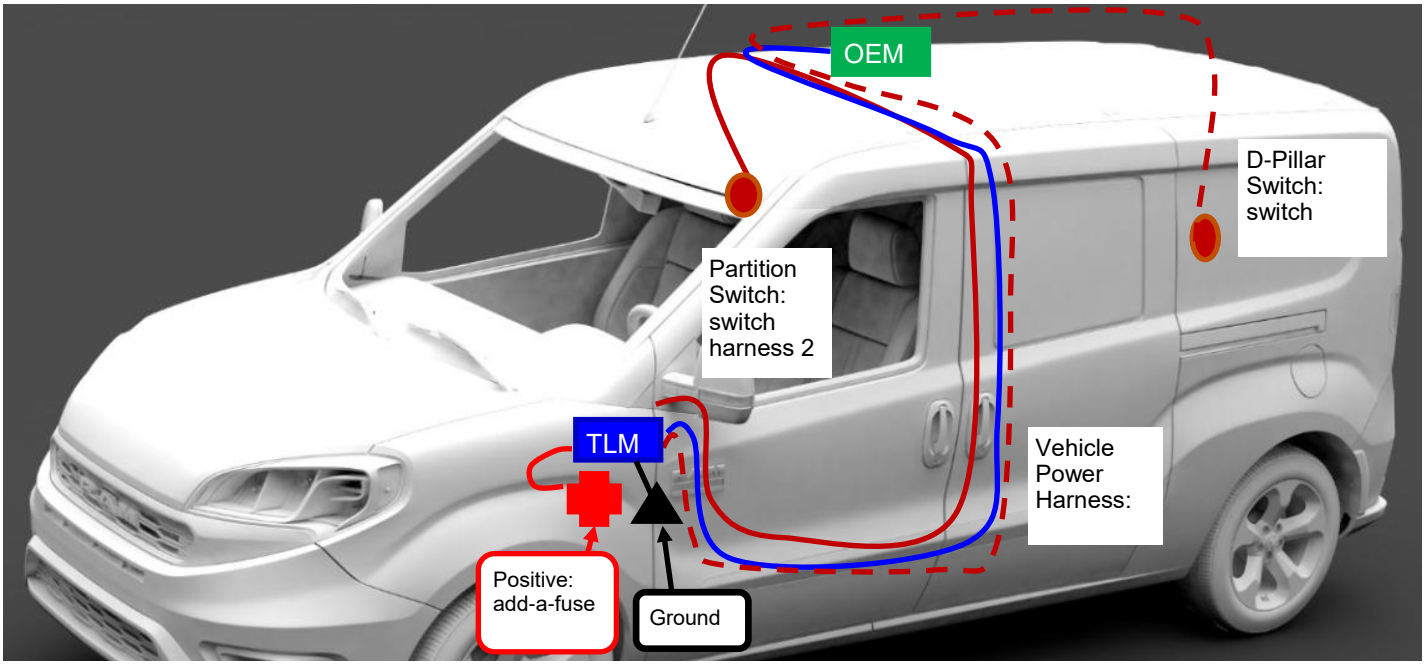
TLM Dip Switch Settings

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.

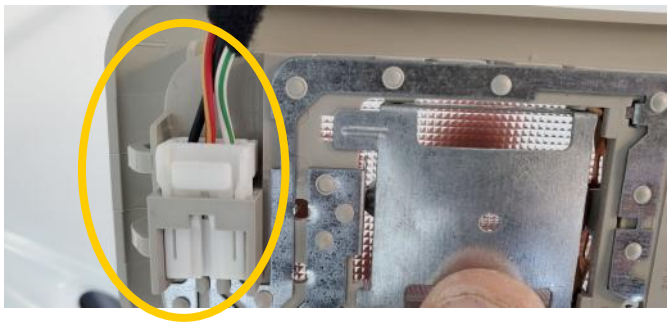


Harnesses routed under the driver side door jam, up the B-pillar, across the headliner to the passenger side.

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

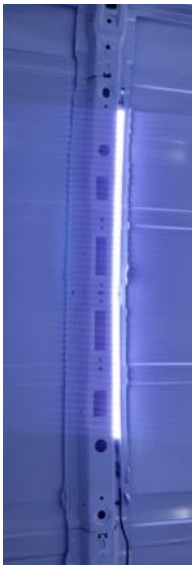
Locate the OEM cargo light in the passenger side header, behind the side door. Remove the cargo light with a trim tool, then unplug the OEM connector from the back of the light



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.

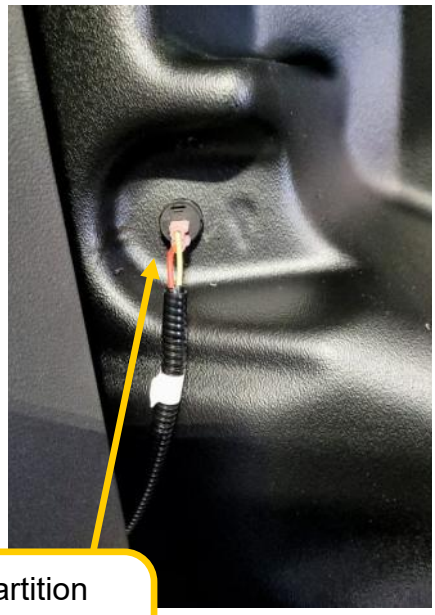
Step 6: Switch Installations

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.

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

Remove panel to drill the hole and to route the wiring

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.

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: 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

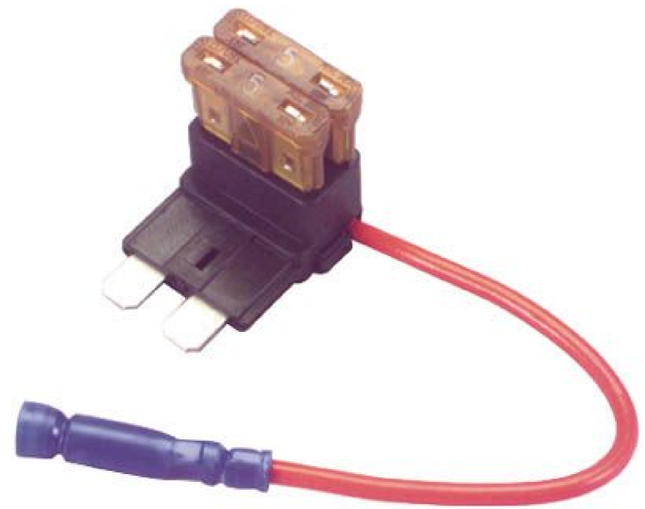
PACKAGING REQUIREMENT

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

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: **14217**

CURRENT ECN: **22269**

ECN DESCRIPTION:

RELEASE TO PRODUCTION

REVISED BY: **RMW**

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 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 **C**

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

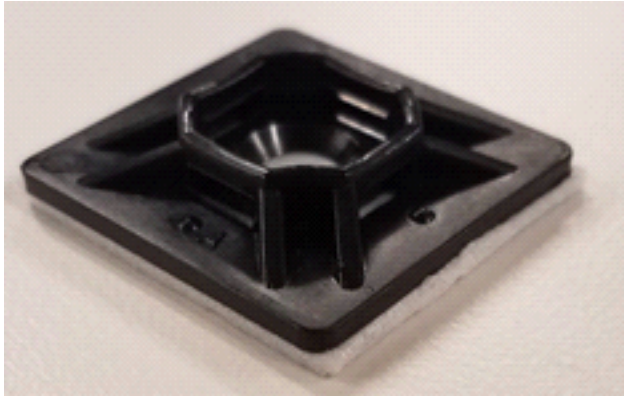
PACKAGING REQUIREMENT

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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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 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: **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

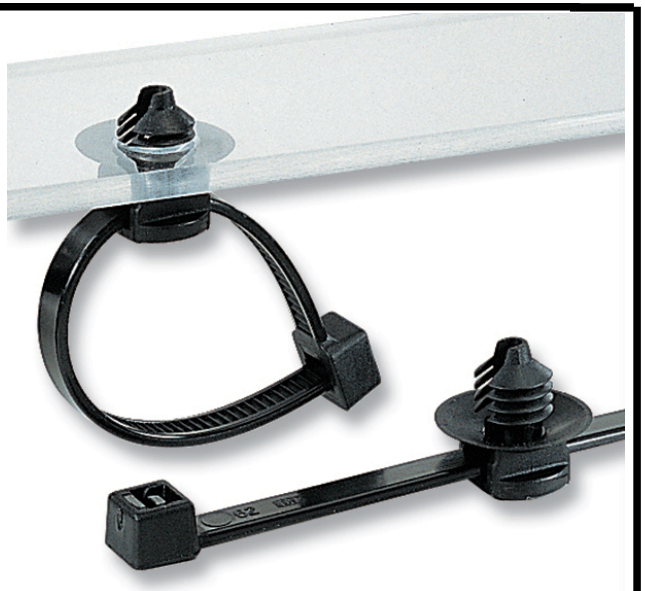
N/A

PACKAGING REQUIREMENT

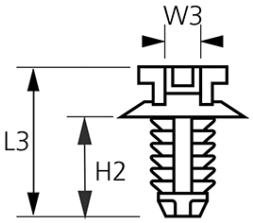
N/A

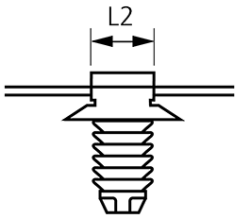
OTHER REQUIREMENTS

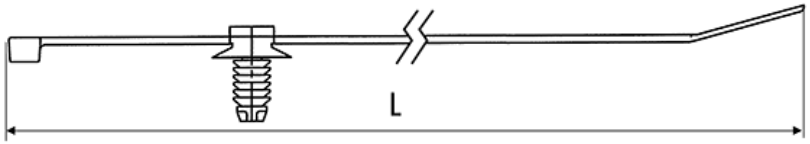
- **Roof Bow #1** ***(Cargo area, first Roof bow after partition)***
- ***(5x) WIRE TIE W/CHRISTMAS TREE***
- ***1100mm Length***



(5x)







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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: **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)

N/A

LOAD/RATING REQUIREMENT

N/A

MATERIAL REQUIREMENT

N/A

PACKAGING REQUIREMENT

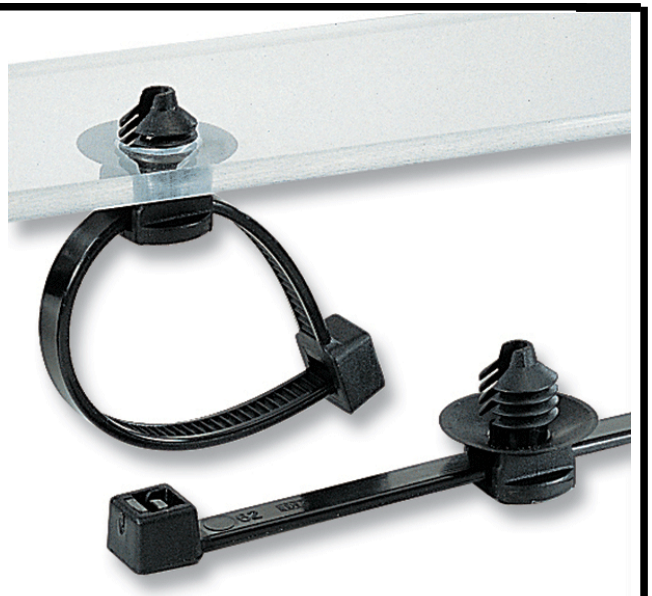
N/A

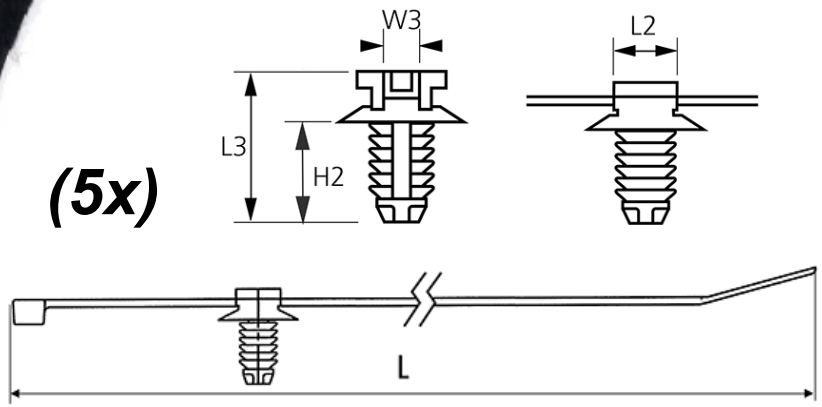
OTHER REQUIREMENTS

- **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 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 #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:

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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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 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**

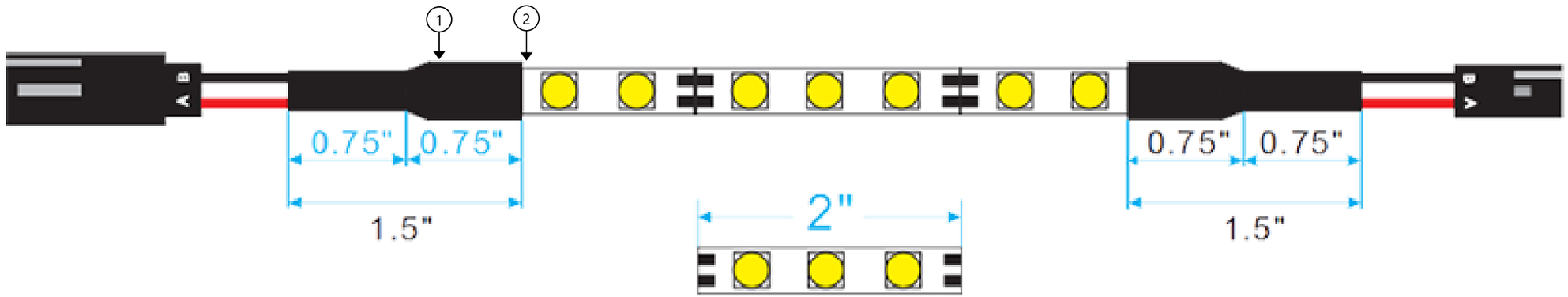
DESCRIPTION: **MODULE DOME LED STRIP 36"**

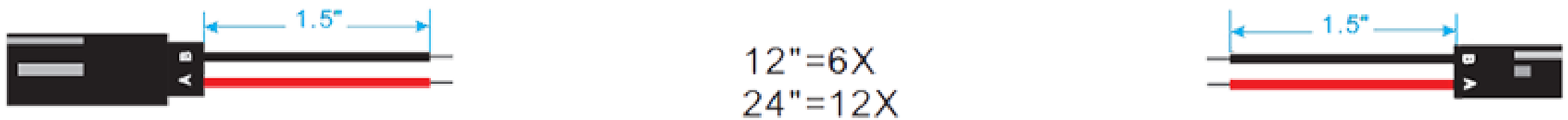
WEIGHT (Lbs.): **0.3**

SEGMENT CODE: **EAU**

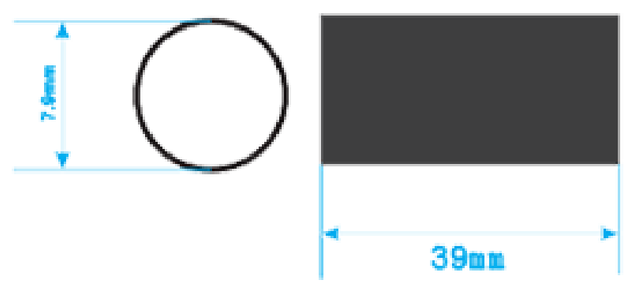
PART NUMBER: **65347**

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





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-36BLED	Revision: B
Description: 36" 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

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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: 25377

ECN DESCRIPTION:

RELEASE FOR PRODUCTION

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 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: **SWITCH 2 HARNESS FOR VTM**

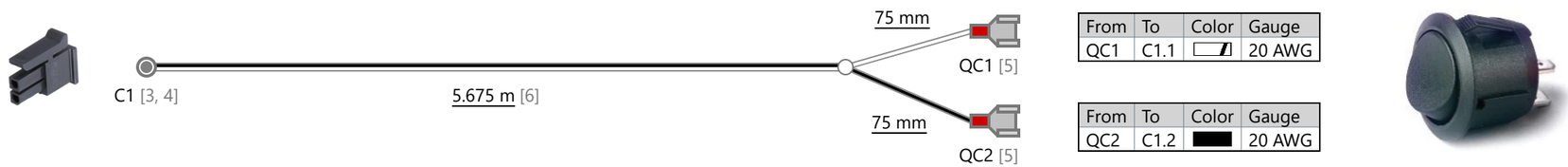
WEIGHT (Lbs.): **0.2**

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

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

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	Name	Date
Designed By	Bennet Fisher	6/10/2021
Engineering Approval		
Manufacturing Approval		
Revision Approval		
Quality Assurance		

AAMP
ADVANCING VEHICLE TECHNOLOGY

Part Number: VTM-SW2	Revision: 1
Description: 5.675 Meter Switch Harness	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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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: 25377

ECN DESCRIPTION:

RELEASE FOR PRODUCTION

REVISED BY:

PURCHASED COMPONENT

REFERENCED SUPPLIER AND/OR MANUFACTURER
AAMP GLOBAL

REFERENCED SUPPLIER AND/OR MANUFACTURER PART NUMBER
VTM-SW3 OR 65789

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: **SWITCH 3 HARNESS FOR VTM**

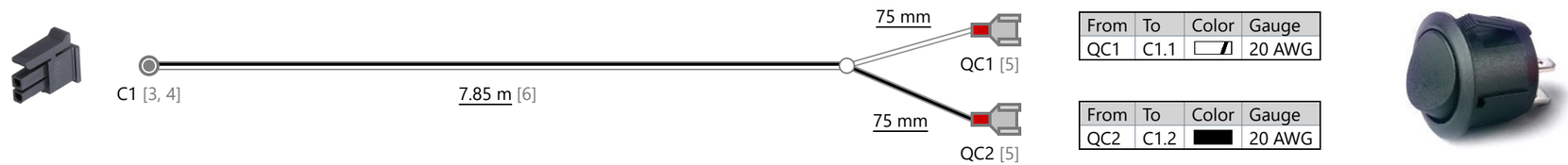
WEIGHT (Lbs.): **0.2**

SEGMENT CODE: **ELE**

PART NUMBER: **65789**

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

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	Name	Date
Designed By	Bennet Fisher	6/10/2021
Engineering Approval		
Manufacturing Approval		
Revision Approval		
Quality Assurance		

AAMP
ADVANCING VEHICLE TECHNOLOGY

Part Number: VTM-SW3	Revision: 1
Description: 7.85 Meter Switch Harness	Sheet: ----

PURCHASED COMPONENT KEY FEATURES

DESCRIPTION OF REQUIREMENTS

DIMENSIONAL REQUIREMENTS (AS SHOWN ON DRAWING)

N/A

LOAD/RATING REQUIREMENT

N/A

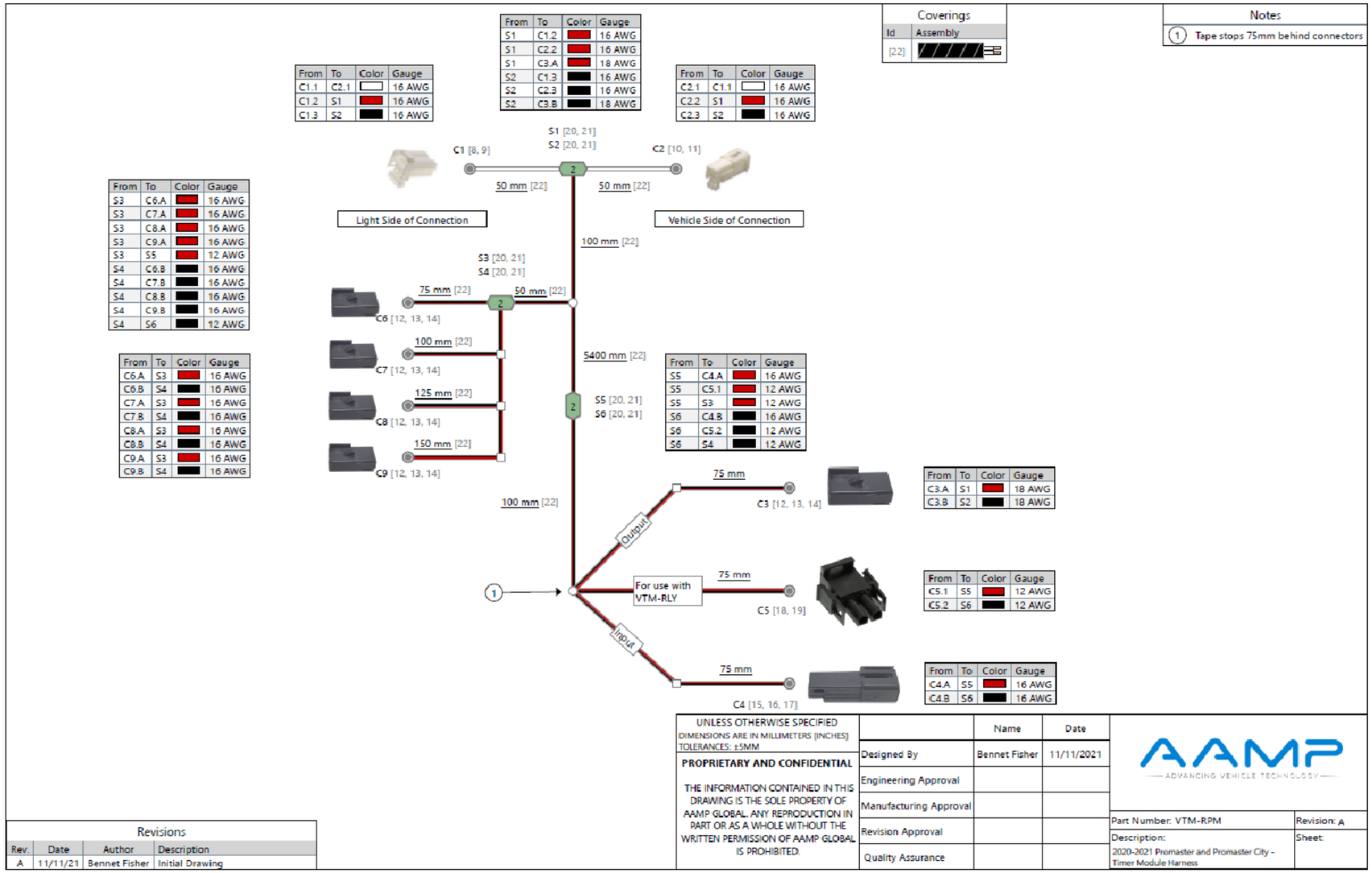
MATERIAL REQUIREMENT

N/A

PACKAGING REQUIREMENT

N/A

OTHER REQUIREMENTS



From	To	Color	Gauge
C1.1	C2.1		16 AWG
C1.2	S1		16 AWG
C1.3	S2		16 AWG

From	To	Color	Gauge
S1	C1.2		16 AWG
S1	C2.2		16 AWG
S1	C3.A		18 AWG
S2	C1.3		16 AWG
S2	C2.3		16 AWG
S2	C3.B		18 AWG

From	To	Color	Gauge
C2.1	C1.1		16 AWG
C2.2	S1		16 AWG
C2.3	S2		16 AWG

From	To	Color	Gauge
S3	C6.A		16 AWG
S3	C7.A		16 AWG
S3	C8.A		16 AWG
S3	C9.A		16 AWG
S3	S5		12 AWG
S4	C6.B		16 AWG
S4	C7.B		16 AWG
S4	C8.B		16 AWG
S4	C9.B		16 AWG
S4	S6		12 AWG

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

From	To	Color	Gauge
S5	C4.A		16 AWG
S5	C5.1		12 AWG
S5	S3		12 AWG
S6	C4.B		16 AWG
S6	C5.2		12 AWG
S6	S4		12 AWG

From	To	Color	Gauge
C3.A	S1		18 AWG
C3.B	S2		18 AWG

From	To	Color	Gauge
C5.1	S5		12 AWG
C5.2	S6		12 AWG

From	To	Color	Gauge
C4.A	S5		16 AWG
C4.B	S6		16 AWG

Coverings

Id	Assembly
[22]	

Notes

1. Tape stops 75mm behind connectors

Revisions

Rev.	Date	Author	Description
A	11/11/21	Bennet Fisher	Initial Drawing

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

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	Name	Date
Designed By	Bennet Fisher	11/11/2021
Engineering Approval		
Manufacturing Approval		
Revision Approval		
Quality Assurance		

AAMP — ADVANCING VEHICLE TECHNOLOGY

Part Number: VTM-RPM
Revision: A
Description: 2020-2021 Promaster and Promaster City - Timer Module Harness
Sheet:

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Sheet 1 of 1

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)

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 VTM-RPM**

WEIGHT (Lbs.): **0.2**

SEGMENT CODE: **ELE**

PART NUMBER: **65796**

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

UNLESS OTHERWISE SPECIFIED

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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: 25975

CURRENT ECN: 25975

ECN DESCRIPTION:

RELEASE TO PRODUCTION

REVISED BY: **N/A**

PURCHASED COMPONENT

REFERENCED SUPPLIER AND/OR MANUFACTURER
WAYTEK

REFERENCED SUPPLIER AND/OR MANUFACTURER PART NUMBER
37393

COLOR (ONLY LIST IF COLOR SPECIFIC)
BLUE

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: **EMB**

DESCRIPTION: **WIRE TERM 1/4"RING 14-16G**

WEIGHT (Lbs.): **0.01**

SEGMENT CODE: **ELE**

PART NUMBER: **69511**

Introduction / Comments:

Install Instructions For Interior Plug & Play Lights For Promaster City

Note:

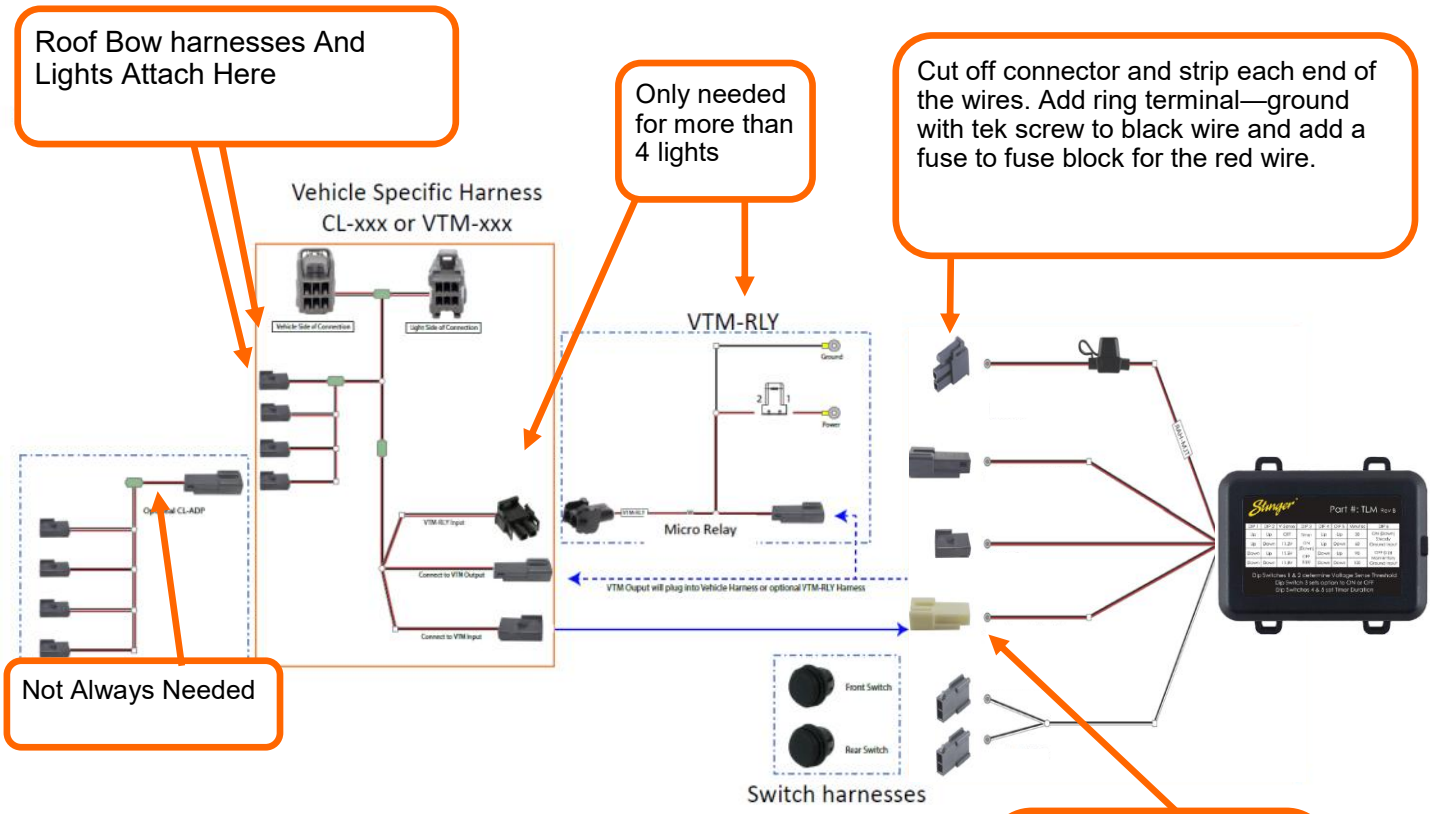
Read all instructions prior to installation. Review the Adrian Steel **GENERAL PRECAUTIONS PAGES (56638**) before attempting installation. Only personnel familiar with using electrical best practices should perform this install. Reference **ELECTRICAL BEST PRACTICES MANUAL (54479)** before attempting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



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

Tools required:

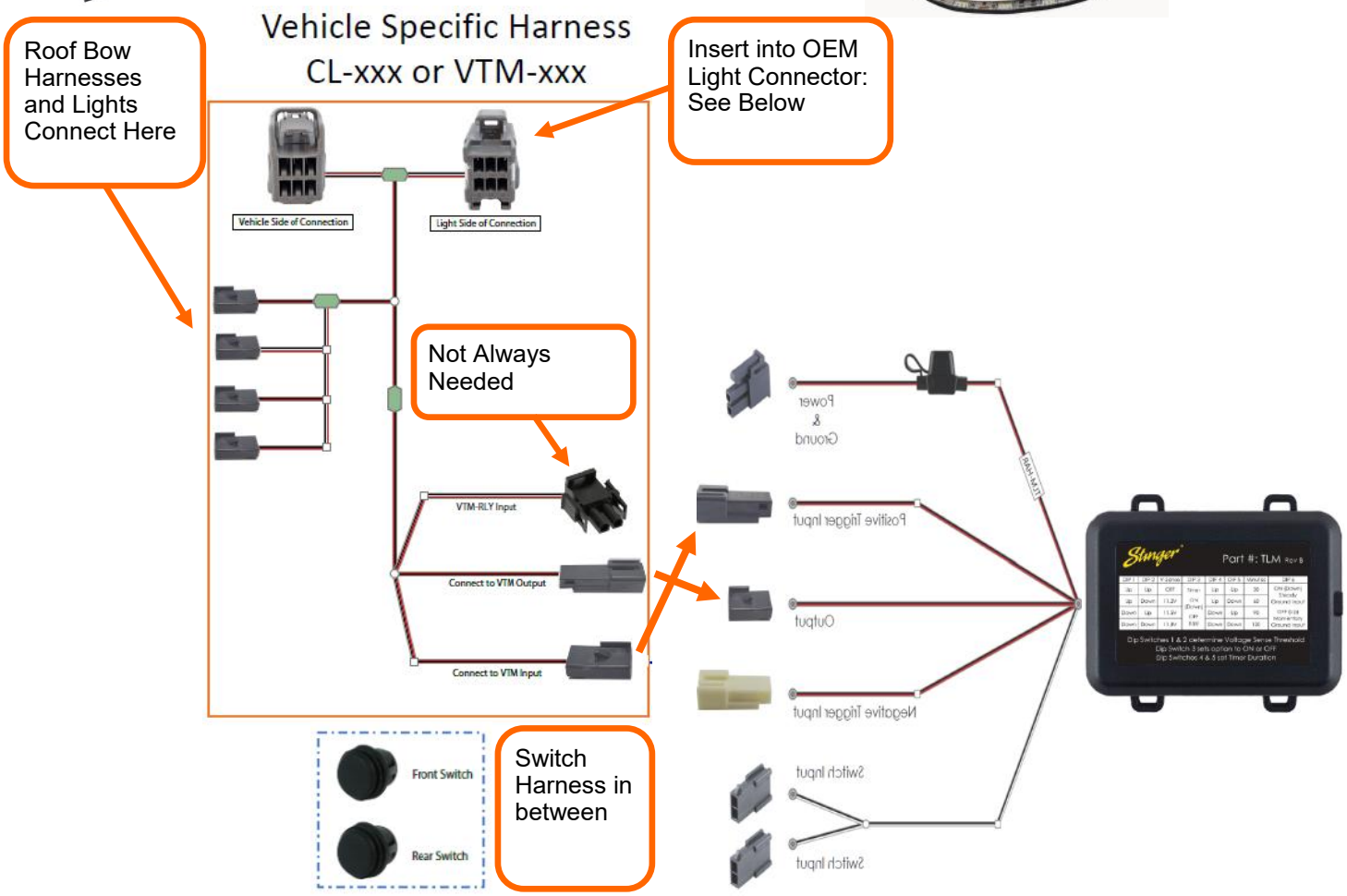
Crimpers

Power drill

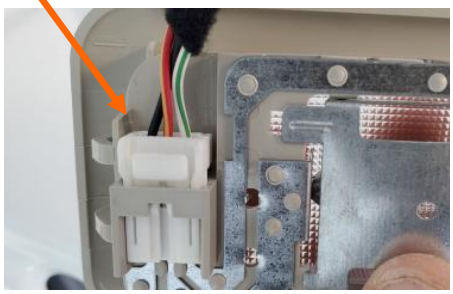
3/8” step drill bit

Philips head bit

Specific Harness Diagram



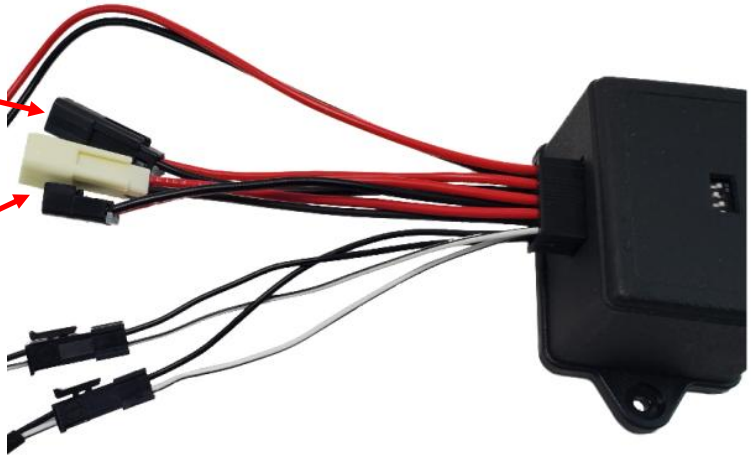
OEM Light Connector located on the back of the OEM light: Remove the OEM light from the location



Timer / Low Voltage Module (TLM) Harness Reference

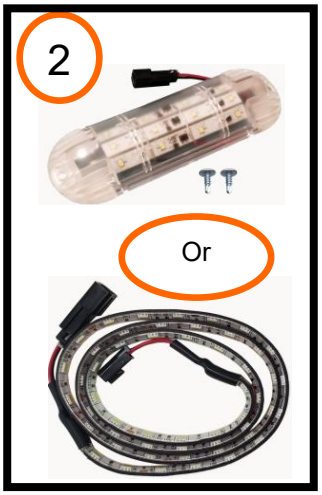
For all vehicles except RAM, the black input connector will be used to plug into the vehicle specific harness. The white connector will NOT be used.

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

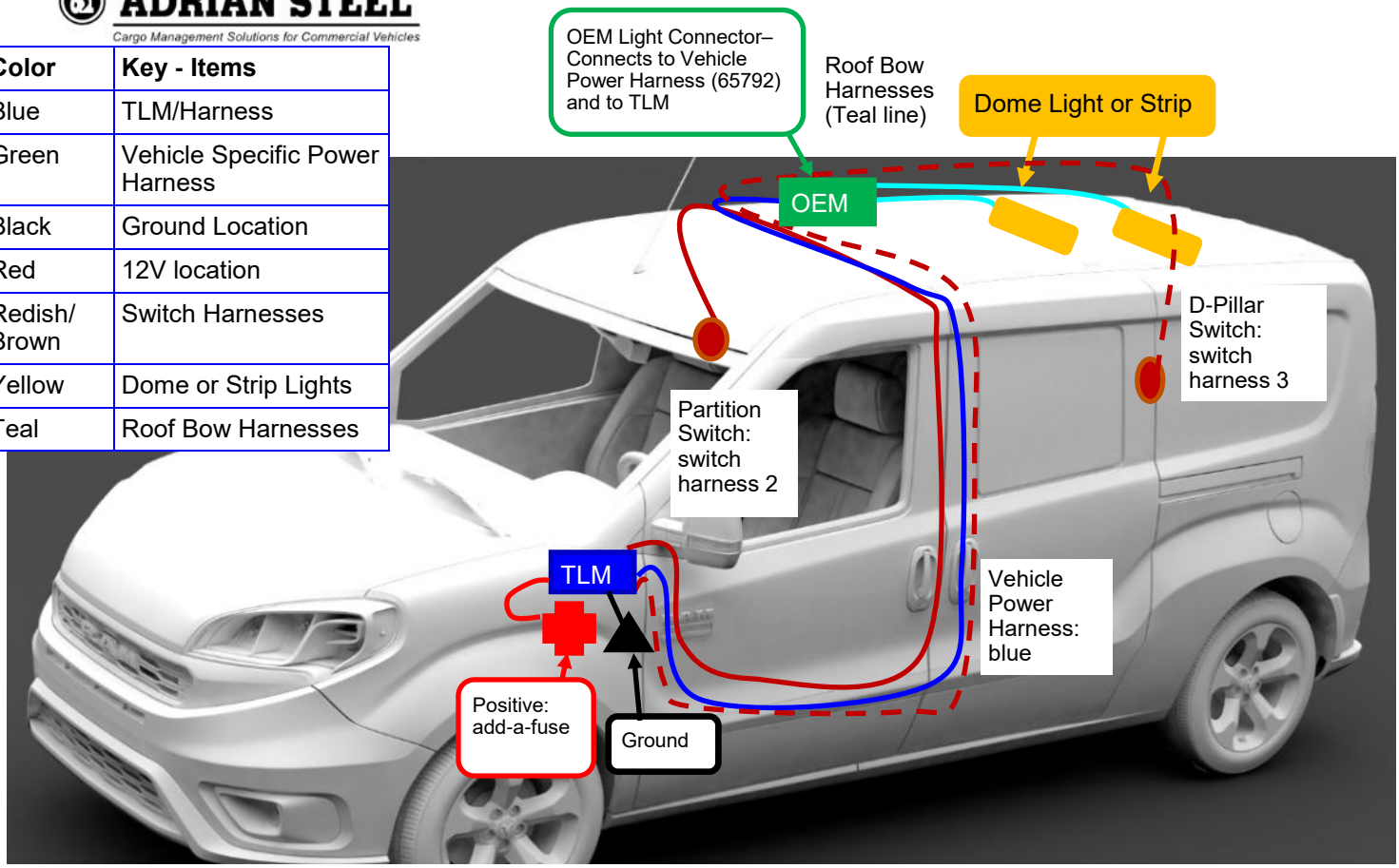
	Part Number	Description
1	71902	Timer / Low Voltage Module (TLM)
2	63480 Or 65347	Dome Light Or Strip Lights
3	63481 Or/And 63842, 63483, 63484	Roof Bow Harnesses 1 through 4
4	65796	Power Harness
5	65788, 65789	Switch Harness 2 and 3 for TLM



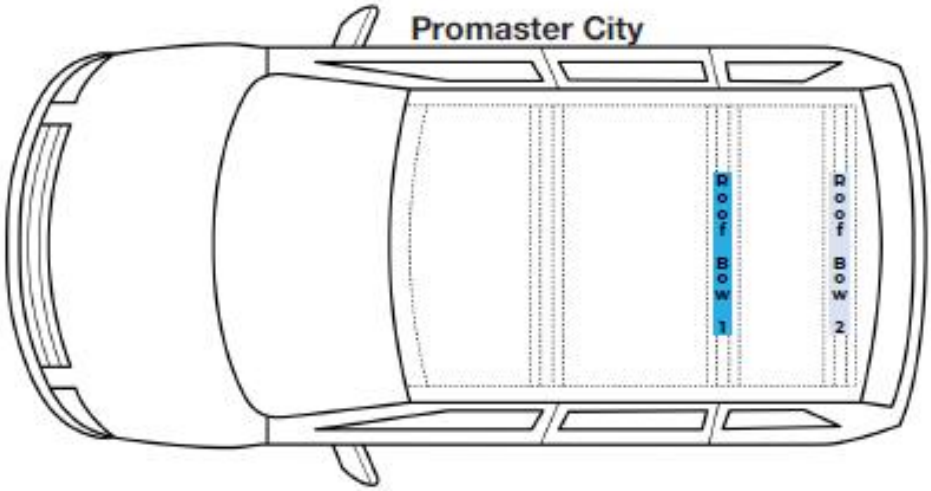
Harness pictures are for reference only.

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.

Power/Ground wires

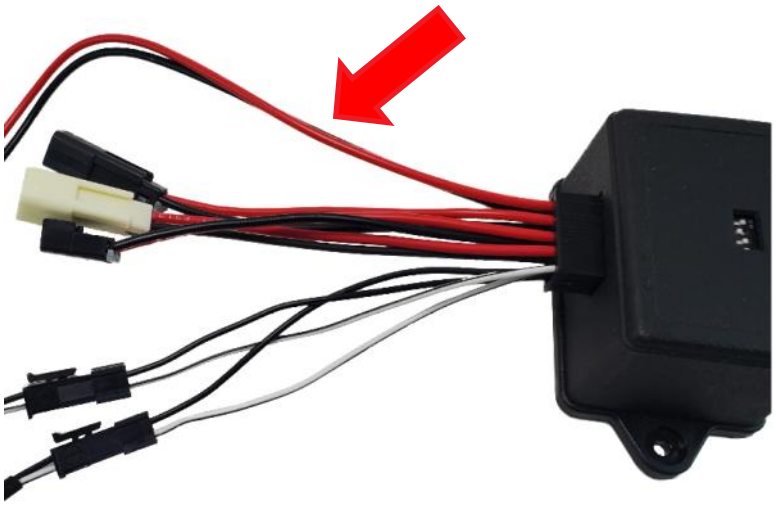
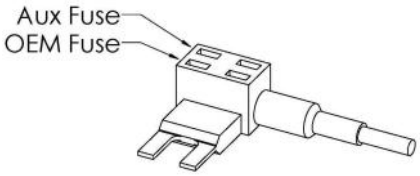


Diagram of Add-A-Fuse



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

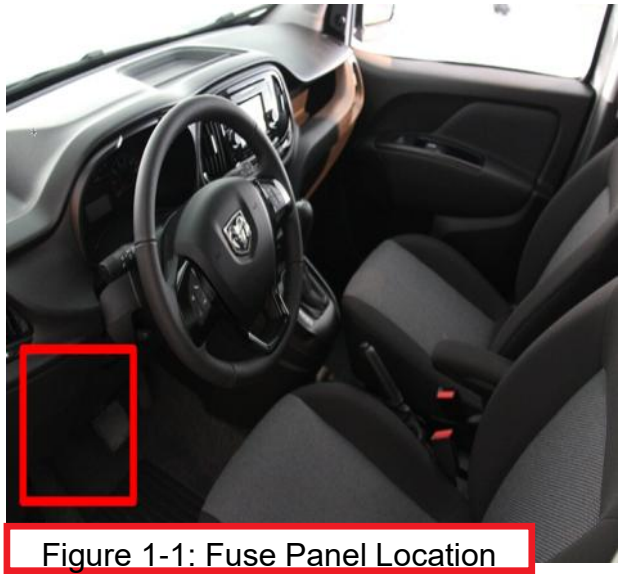
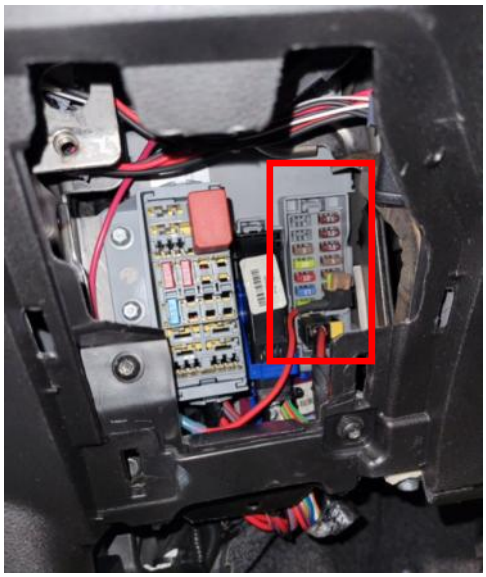


Figure 1-1: Fuse Panel Location



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

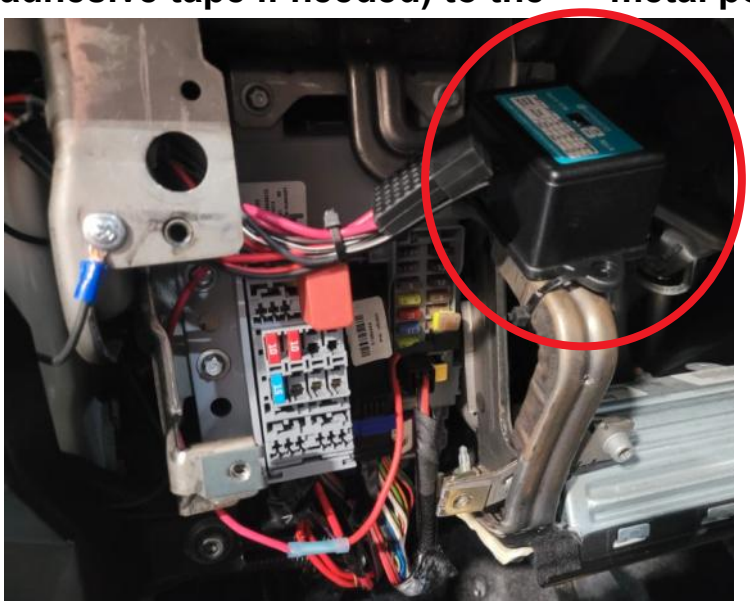
Step 1: TLM Installation (Continued)

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).

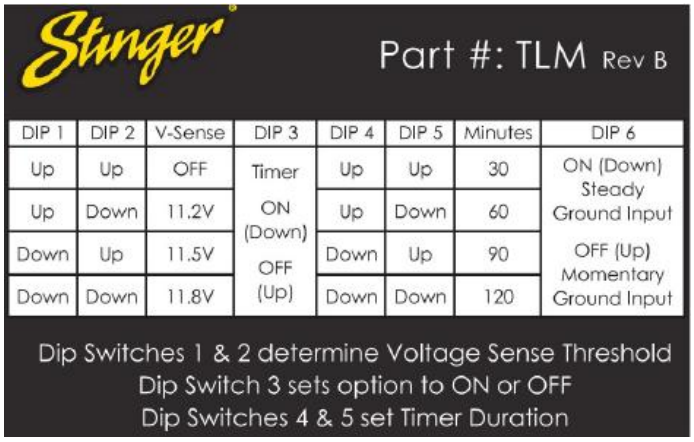
Inside Auxiliary Fuse Panel

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.



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 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

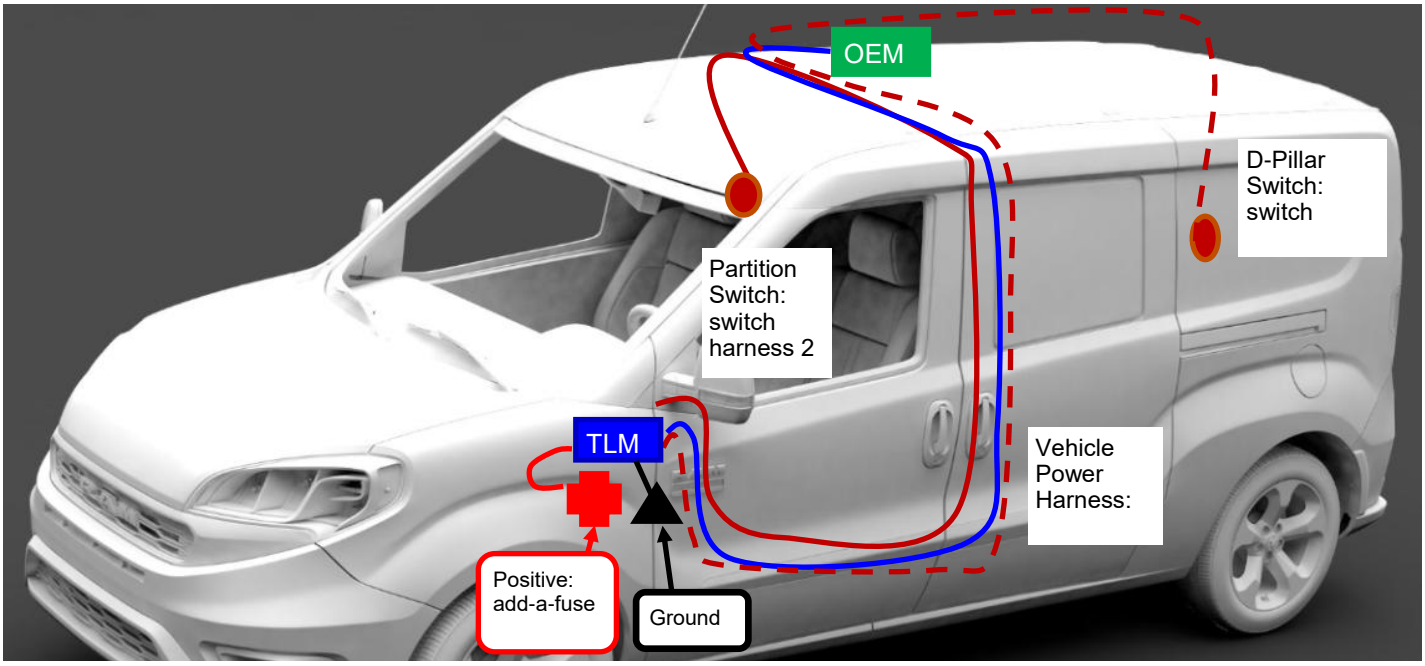
TLM Dip Switch Settings

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

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.

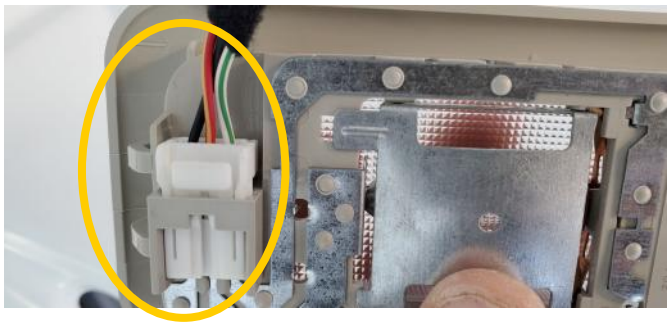


Harnesses routed under the driver side door jam, up the B-pillar, across the headliner to the passenger side.

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

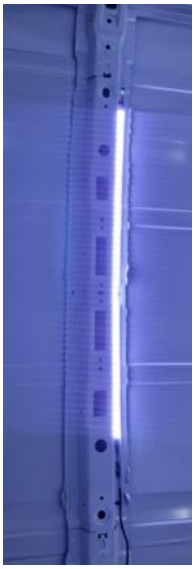
Locate the OEM cargo light in the passenger side header, behind the side door. Remove the cargo light with a trim tool, then unplug the OEM connector from the back of the light



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.

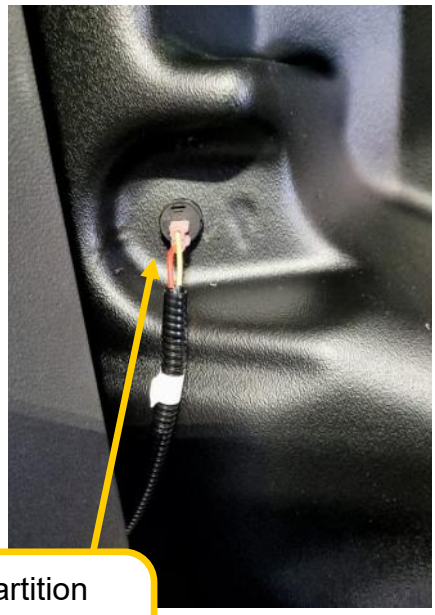
Step 6: Switch Installations

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.

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

Remove panel to drill the hole and to route the wiring

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).

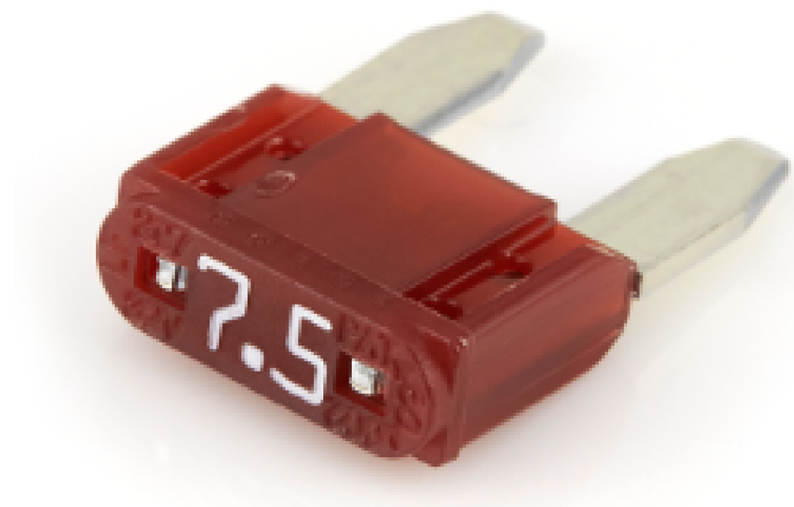
Secure wiring with zip ties.

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.

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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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: **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 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:

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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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
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 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 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

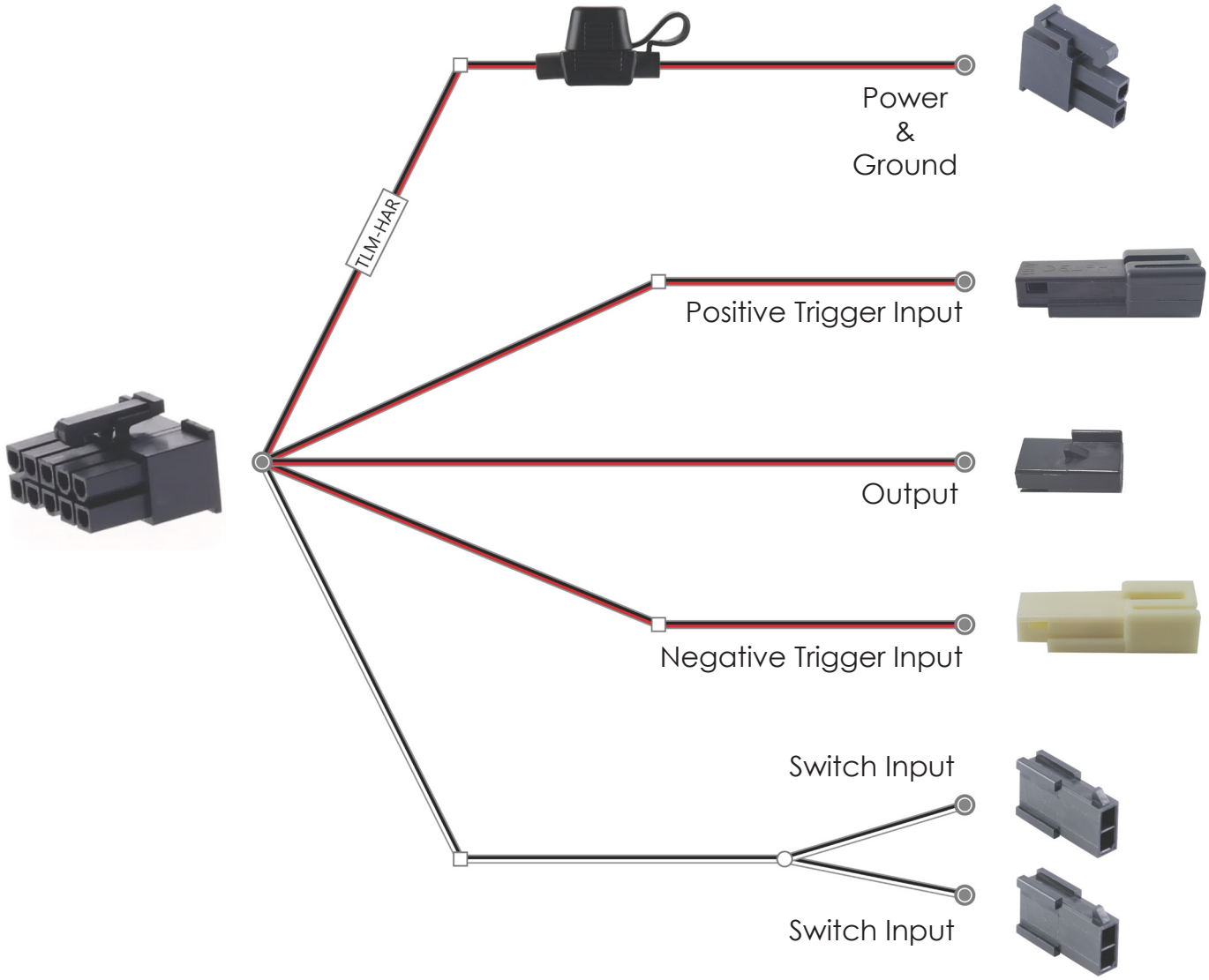
Trigger Input	Switch Input	Output	Voltage Sense (ON)	Timer (ON)
Active	N/A	ON	Monitoring Input Voltage	N/A
Not Active	N/A	OFF	N/A	N/A
Not Active	Activated (Pulsed)	ON	Monitoring Input Voltage	Timer Starts
Not Active	Activated (Pulsed)	OFF	N/A	Timer Off
Not Active	Activated (Pulsed)	ON	Monitoring Input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

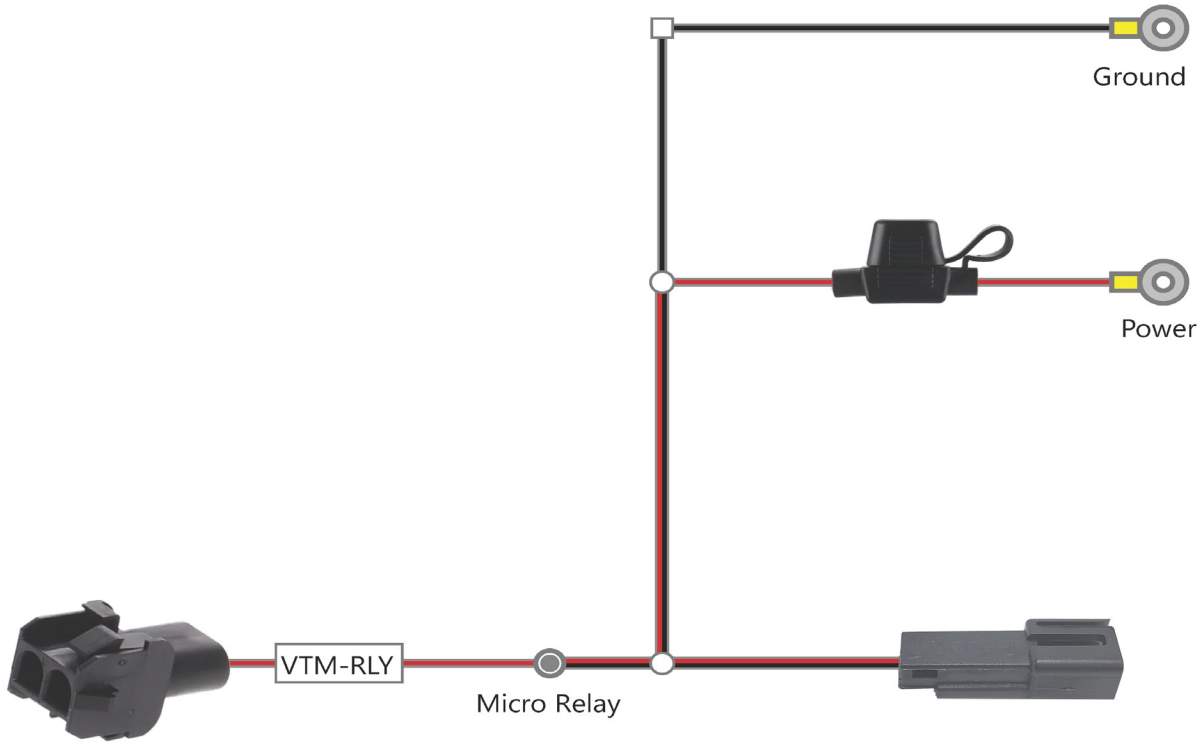


<u>If necessary, connectors may be removed for hardwire applications.</u>

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

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