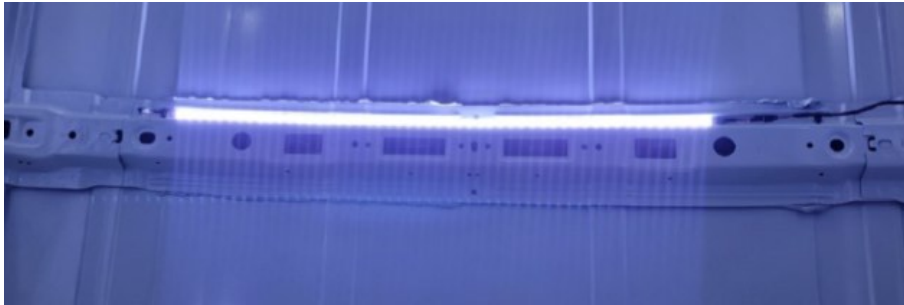




## Two LED Light Strips Kit w/ Switches

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.

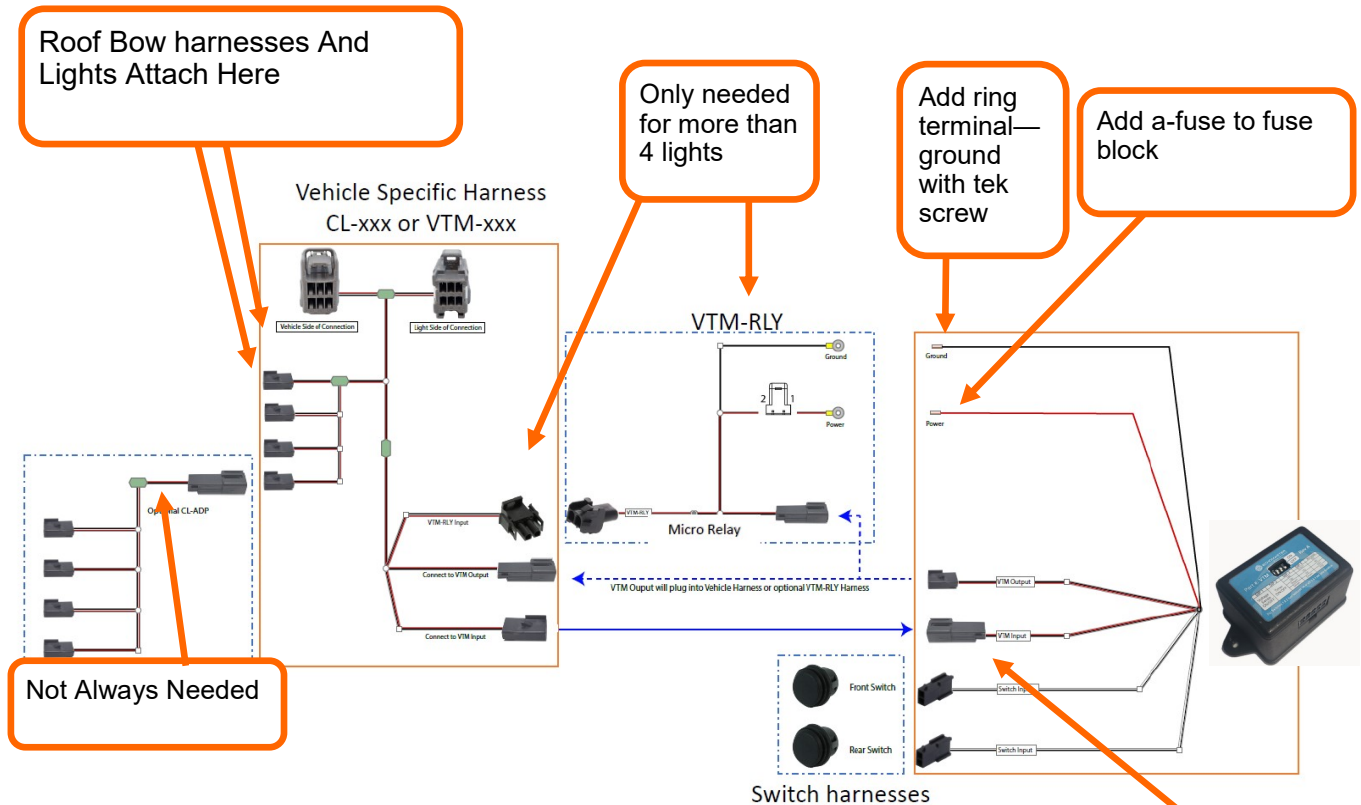


**Installation Instructions For Interior Plug And  
Play Lights For Promaster City**

**\*\*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.

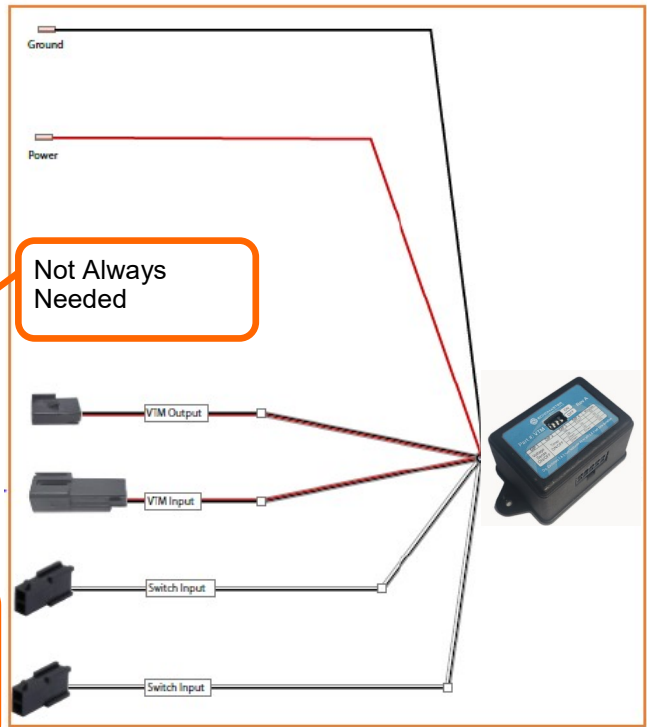
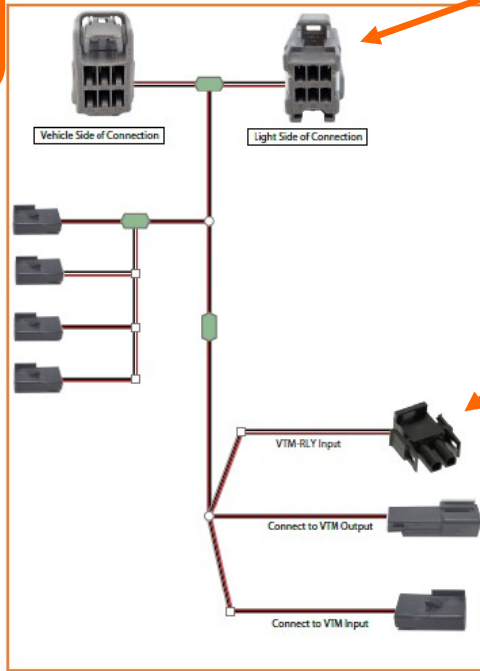
# Specific Harness Diagram



Roof Bow Harnesses and Lights Connect Here

Vehicle Specific Harness  
CL-xxx or VTM-xxx

Insert into OEM Light Connector:  
See Below

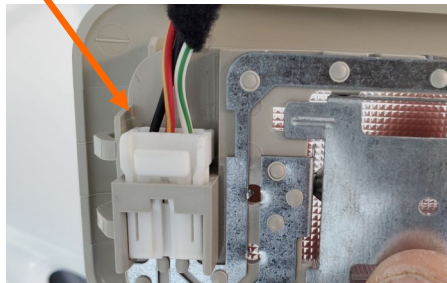


Not Always Needed



Switch Harness in between

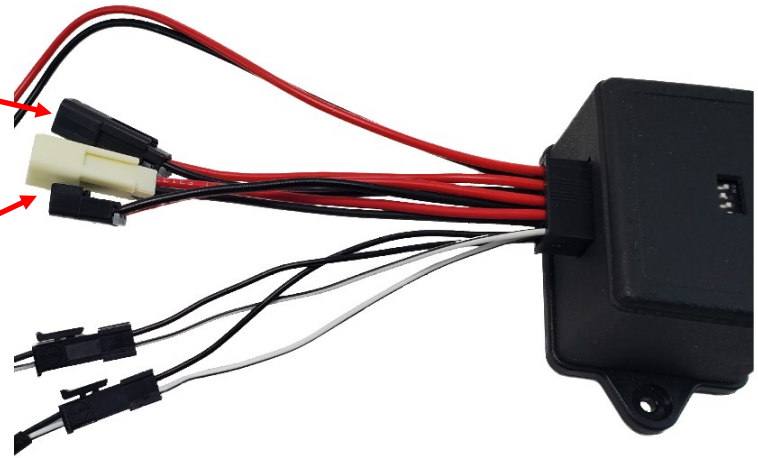
OEM Light Connector located on the back of the OEM light: Remove the OEM light from the location



## Voltage Timer Module (VTM) 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.



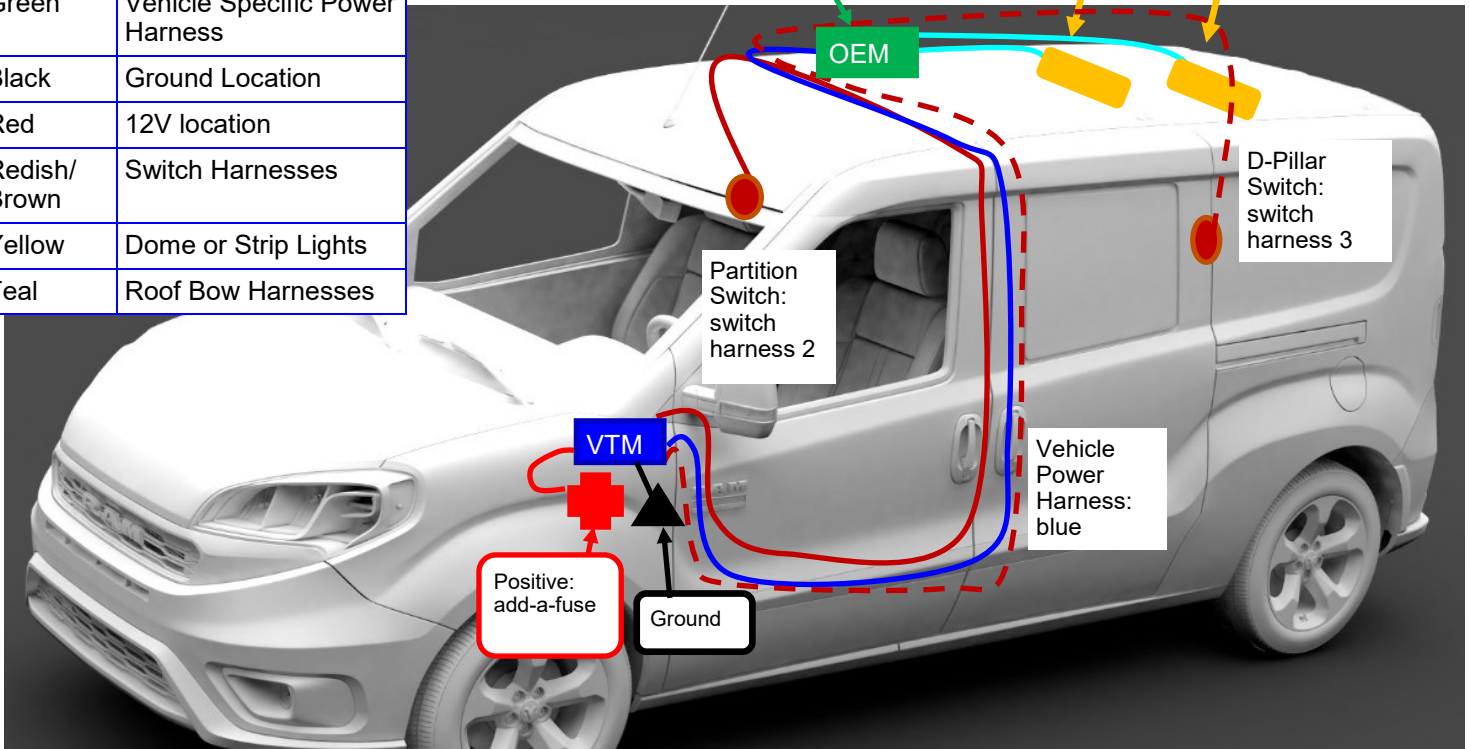
### Harnesses Needed

	Part Number	Description
1	65786	Voltage Timer Module (VTM)
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 VTM

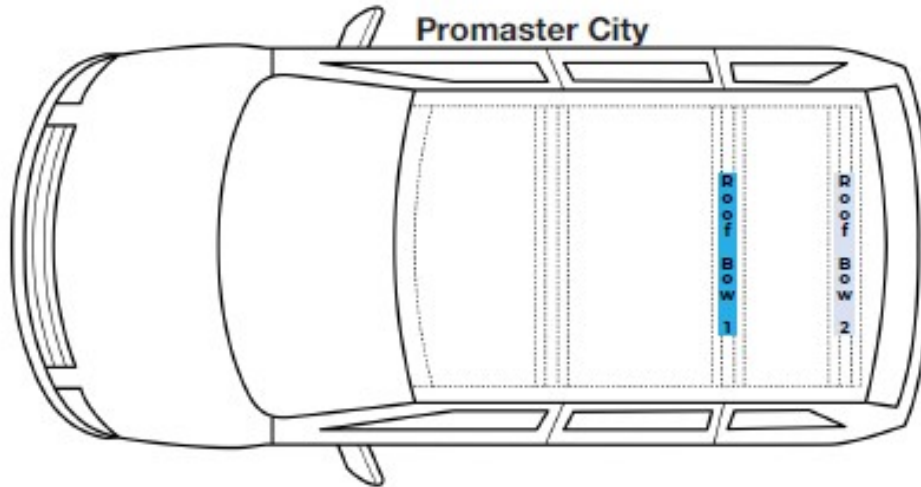


Harness pictures are for reference only.

Color	Key - Items
Blue	VTM/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: VTM Installation

Locate the VTM 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.

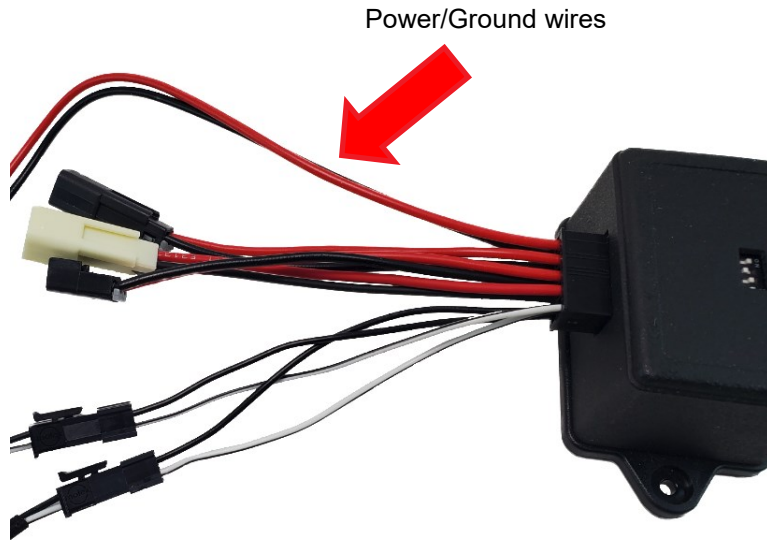
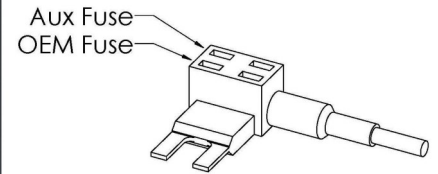


Diagram of Add-A-Fuse



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

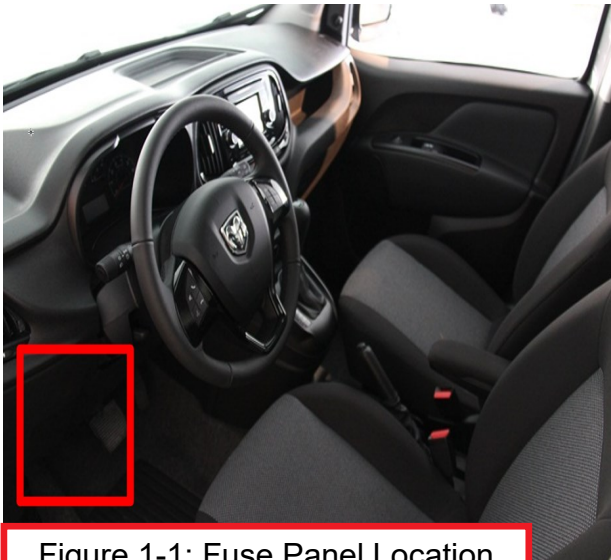
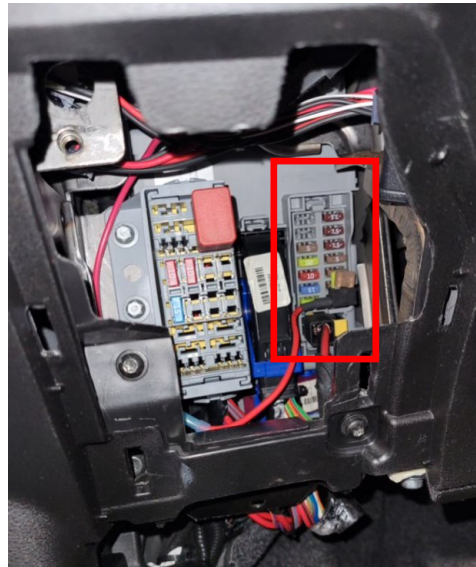


Figure 1-1: Fuse Panel Location



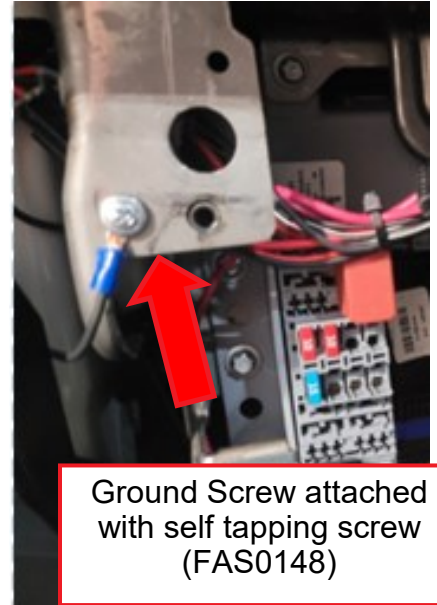
- The auxiliary fuse panel is located below the left side of the steering wheel.

## Step 1: VTM Installation (Continued)

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

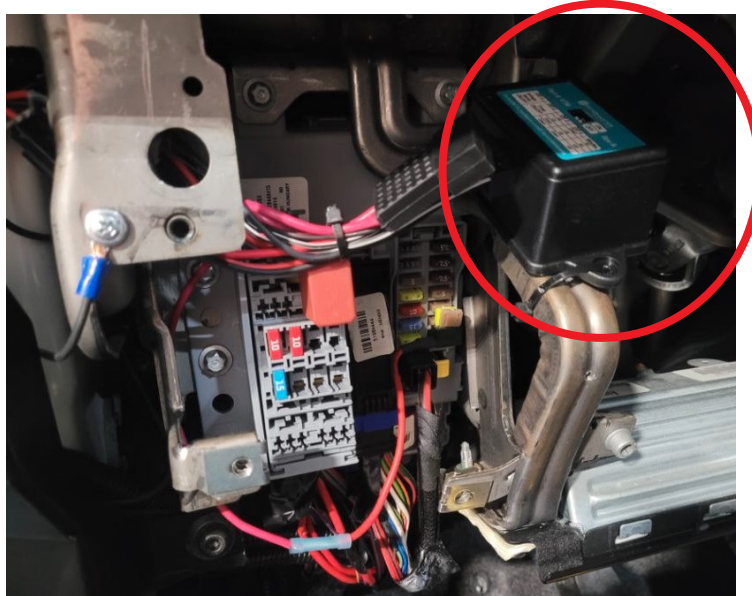


Inside Auxiliary Fuse Panel



Ground Screw attached with self tapping screw (FAS0148)

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

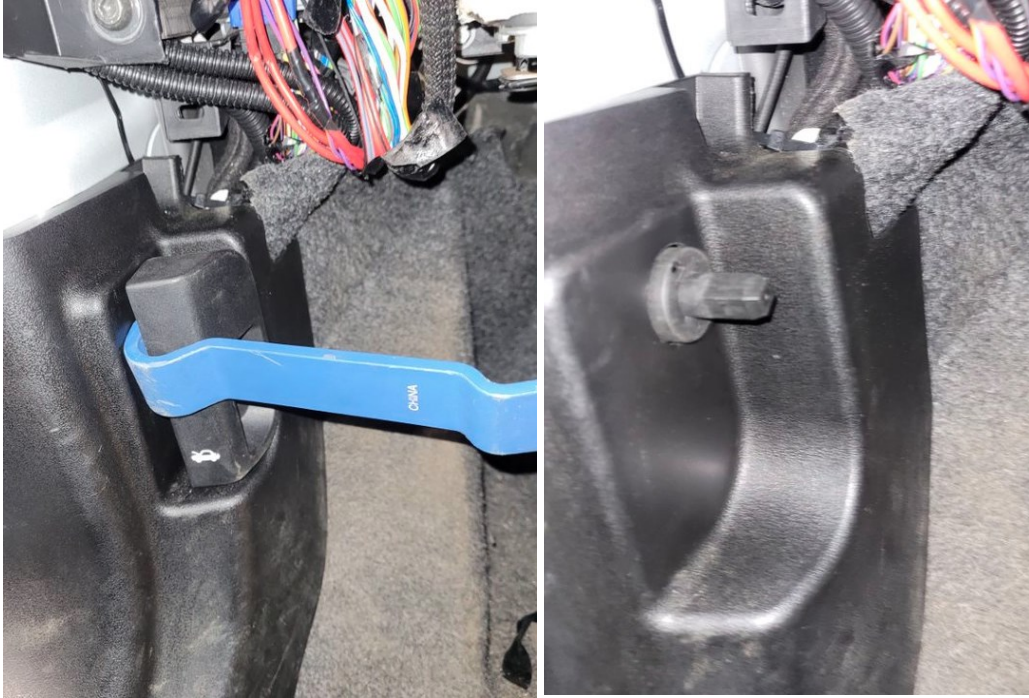


**\*\*\*Please be sure to set all the dip switches on the VTM UP\*\*\***  
Refer to the bottom picture for dip switch settings.  
If the customer would like a different amount time other than 90 minutes, use the dip switches to set the time.

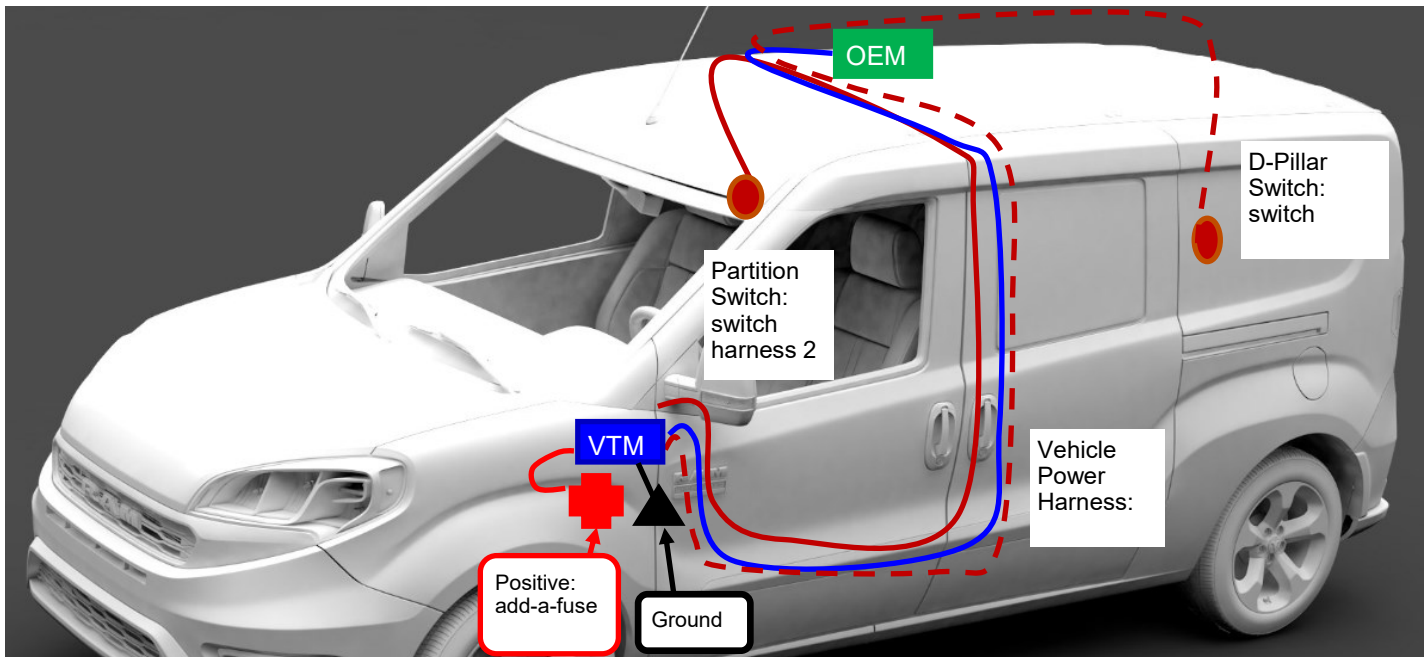
DIP SWITCH 1 UP/DOWN	DIP SWITCH 2 UP/DOWN	DIP SWITCH 3	DIP SWITCH 4	Timer Duration (Minutes)
Voltage Sense ON/OFF	Timer ON/OFF	UP	DOWN	60
		UP	UP	90
		DOWN	UP	120
		DOWN	DOWN	150

## Step 2: Harness Routing

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



Both the switch harnesses and VTM 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.

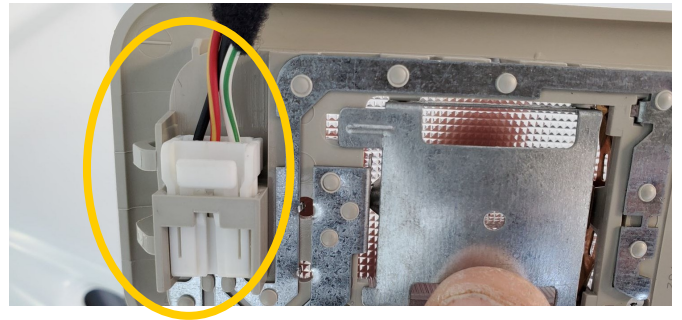


Leave the side switch harness (65788) on the passenger side B-pillar. You can continue to route the rest of the harnesses rearward following the roof channels.



### **Step 3: VTM 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

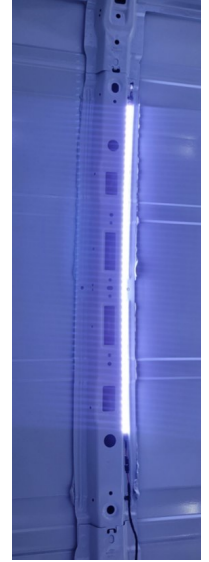


Plug the vehicle specific power harness (65796) into the OEM connector. You no longer need the OEM light. You can dispose of it how you would like. Connect the roof bow harnesses (63481 Or/And 63842, 63483, 63484 all that are applicable) to the power harness.



## 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.

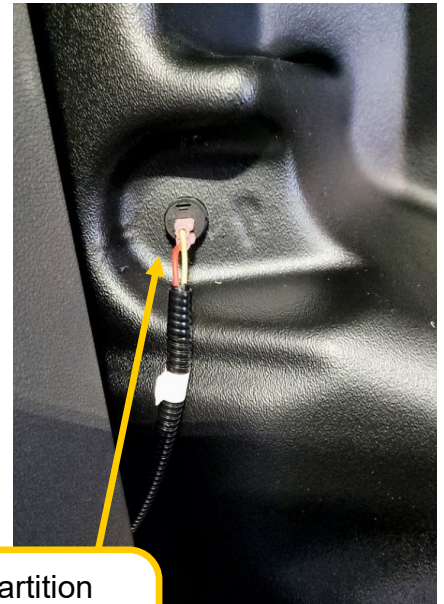
Drill out needed holes for the switch as applicable. Use your best judgement for the rear D pillar trim hole.



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.



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 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



**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 <b>13905-0</b>	

# PURCHASED COMPONENT KEY FEATURES

## DESCRIPTION OF REQUIREMENTS

DIMENSIONAL REQUIREMENTS (AS SHOWN ON DRAWING)

N/A

LOAD/RATING REQUIREMENT

N/A

MATERIAL REQUIREMENT

N/A

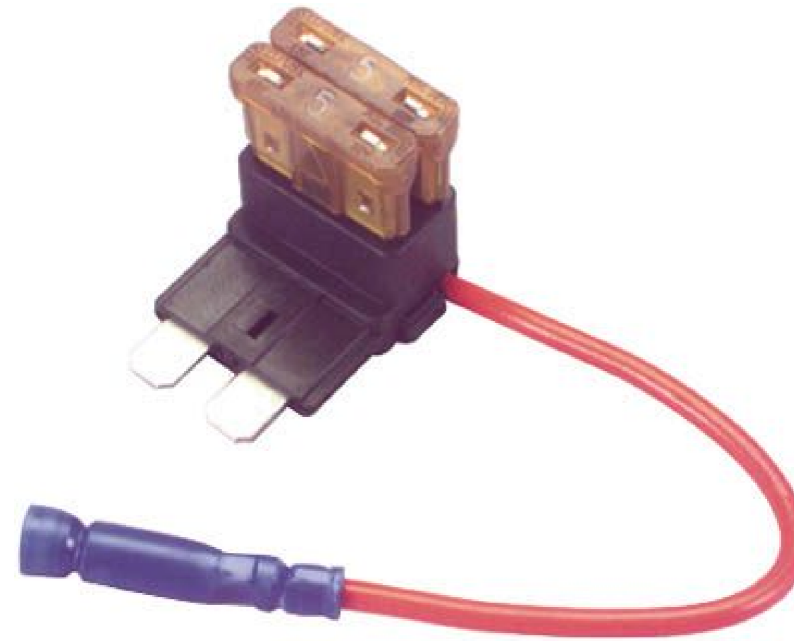
PACKAGING REQUIREMENT

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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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: **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 REFERENCE)  
(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 158

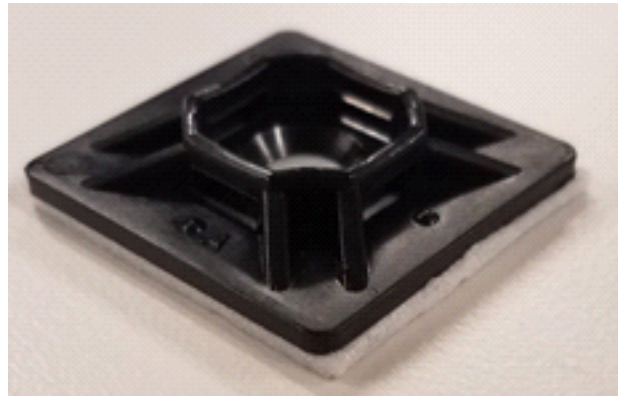
Temp. F:

Max. Operating 70

Temp. C:

Min. Installation 65

Temp. F:



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## TOLERANCES & INSPECTION

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REFERENCE DIMENSIONS (X.XXX)  
DO NOT REQUIRE INSPECTION

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

Material Thickness: per ASTM Std.  
Weld Callouts per AWS

## RELEASE & REVISIONS

INITIAL ECN: 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

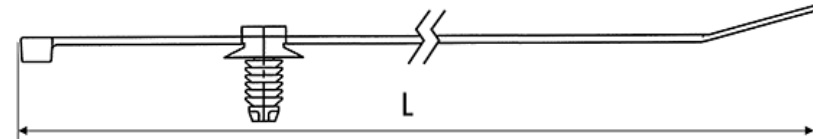
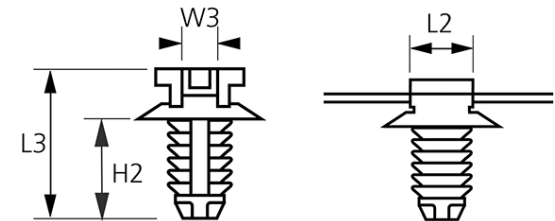
- **Roof Bow #1 (Cargo area, first Roof bow after partition)**
- **(5x) WIRE TIE W/CHRISTMAS TREE**
- **1100mm Length**



P-HARRB1



(5x)



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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: 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

## 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

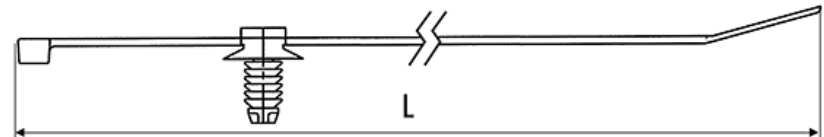
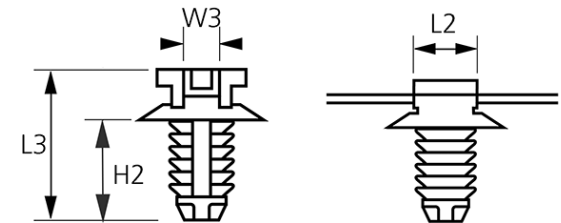
OTHER REQUIREMENTS

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



**P-HARRB2**

**(5x)**



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Sheet 1 of 1

## TOLERANCES & INSPECTION

## RELEASE & REVISIONS

## PURCHASED COMPONENT

## PART / PRODUCT IDENTIFICATION

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

INITIAL ECN:	<b>24359</b>
CURRENT ECN:	<b>24359</b>
ECN DESCRIPTION:	<b>QE8539 RELEASE MODULAR DOME LIGHTING</b>
REVISED BY:	<b>MJF</b>

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**

<b>ADRIAN STEEL</b> ADRIAN STEEL COMPANY 906 JAMES STREET, ADRIAN, MI 49221		REVISION LEVEL <b>A</b>
MAT'L USED:	<b>PURCHASED</b>	DESIGNED BY: <b>MJF</b>
DESCRIPTION: <b>ROOF BOW HARNESS #2</b>		
WEIGHT (Lbs.):	<b>.50</b>	PART NUMBER: <b>63482</b>
SEGMENT CODE:	<b>EAU</b>	

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

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

Material Thickness: per ASTM Std.  
Weld Callouts per AWS

## RELEASE & REVISIONS

INITIAL ECN: **24697**

CURRENT ECN: **25778**

ECN DESCRIPTION:

**Revise Modular Lights With New 3M Adhesive**

REVISED BY: **JLT**

# PURCHASED COMPONENT

REFERENCED SUPPLIER AND/OR MANUFACTURER

**AAMP**

REFERENCED SUPPLIER AND/OR MANUFACTURER PART NUMBER

**CL-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"**

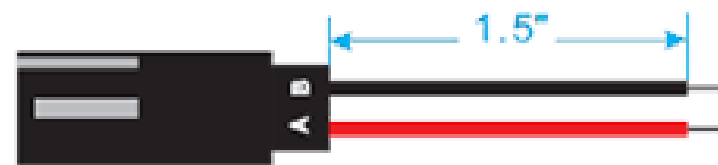
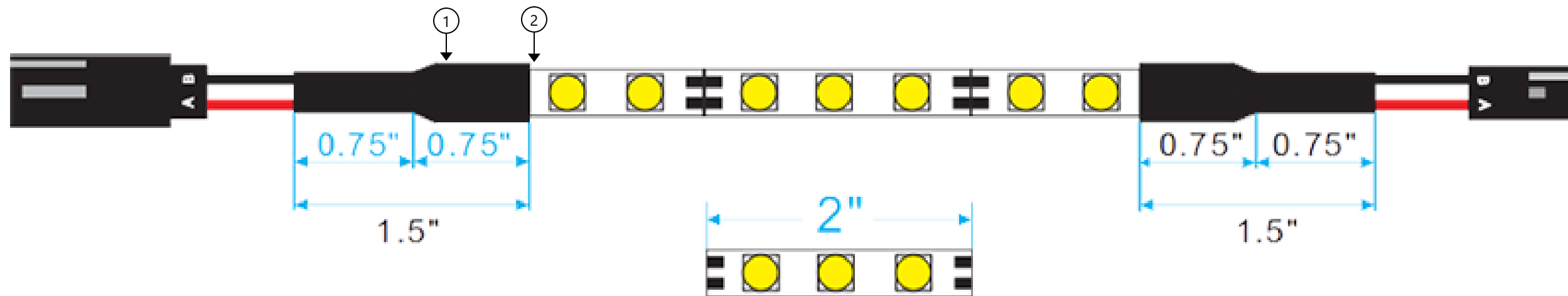
WEIGHT (Lbs.): **0.3**

SEGMENT CODE: **EAU**

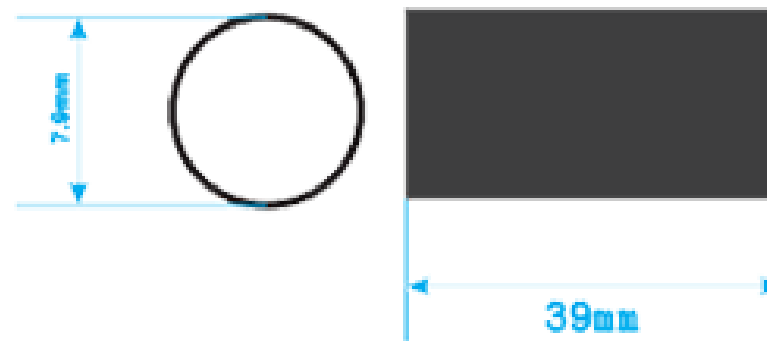
PART NUMBER: **65347**

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



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**

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	11/1/21
Engineering Approval		
Manufacturing Approval		
Revision Approval		
Quality Assurance		



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

**INCLUDES HARNESS - "P-VTM-HAR"**



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: **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 OR 65786**

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**

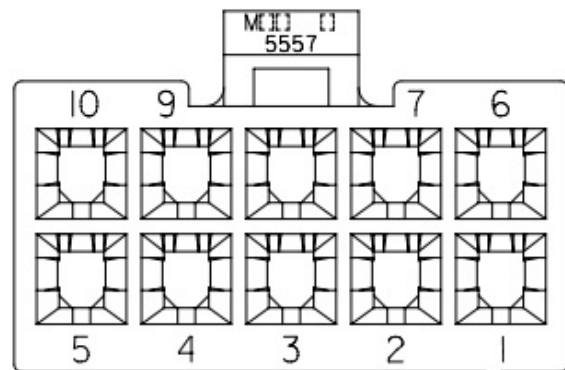
DESIGNED BY: **E.BURKE**

DESCRIPTION: **VOLTAGE TIMER MODULE**

WEIGHT (Lbs.): **0.2**

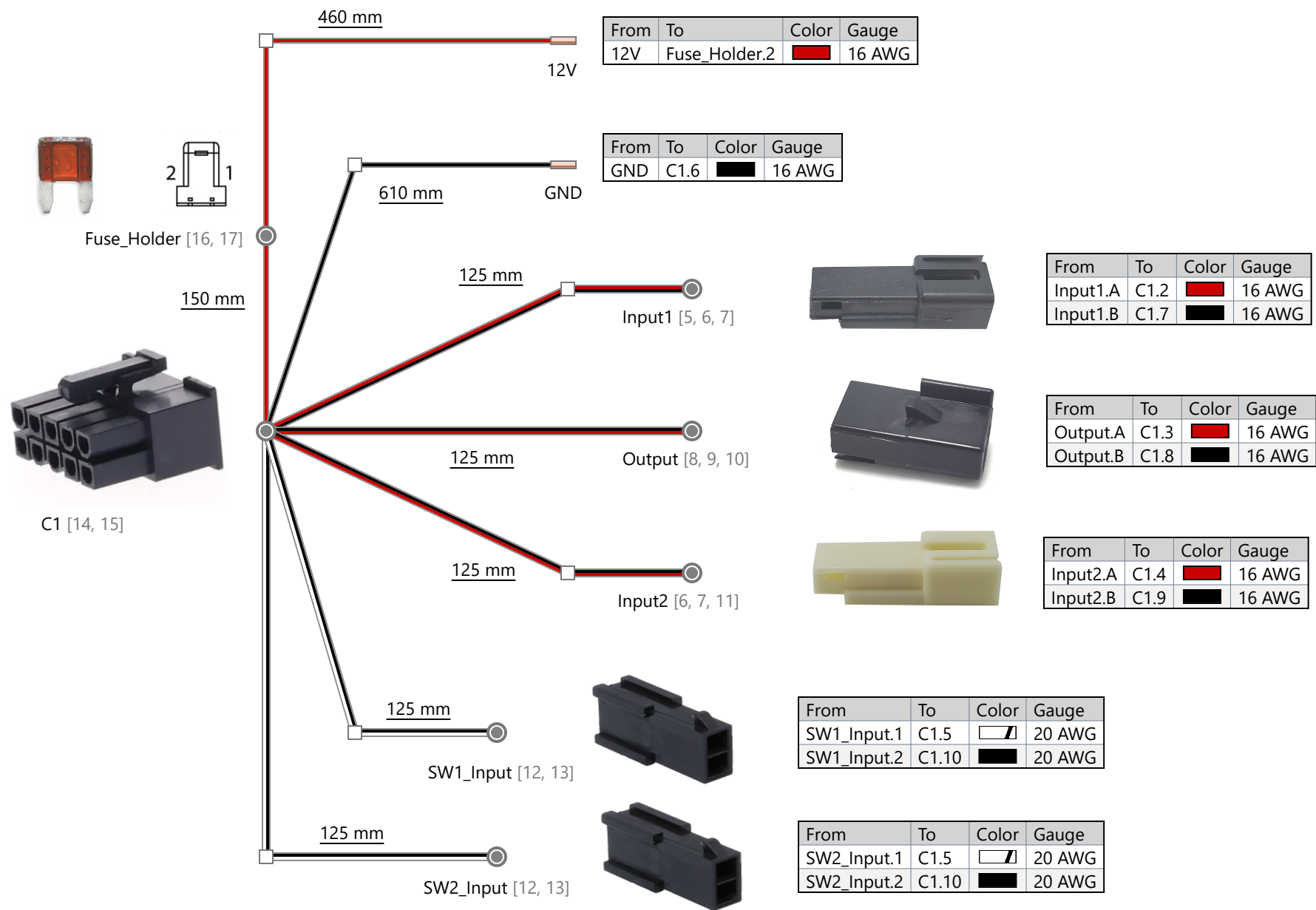
SEGMENT CODE: **ELE**

PART NUMBER: **65786**



Rear View of Connector - Wire Side of Connector

From	To	Color	Gauge
C1.1	Fuse_Holder.1	Red	16 AWG
C1.2	Input1.A	Red	16 AWG
C1.3	Output.A	Red	16 AWG
C1.4	Input2.A	Red	16 AWG
C1.5	SW1_Input.1	White	20 AWG
C1.5	SW2_Input.1	White	20 AWG
C1.6	GND	Black	16 AWG
C1.7	Input1.B	Black	16 AWG
C1.8	Output.B	Black	16 AWG
C1.9	Input2.B	Black	16 AWG
C1.10	SW1_Input.2	Black	20 AWG
C1.10	SW2_Input.2	Black	20 AWG



Input.1 for each switch is the ground signal that will be fed back to the timer module for activation

Input.2 for each switch is a ground that will be provided by the timer module

Revisions			
Rev.	Date	Author	Description
v1	03/26/21	Bennet Fisher	Initial Drawing
v2	7/1/2021	Bennet Fisher	Revised pin 4 and 9 connections; spliced switch inputs
v3	7/22/2021	Bennet Fisher	Changed second dome connector
v4	11/8/2021	Bennet Fisher	Eliminated White/Black and Black wire splices; Corrected contacts for C1.4, C1.5, C1.9, and C1.10

UNLESS OTHERWISE SPECIFIED			
DIMENSIONS ARE IN MILLIMETERS (INCHES)			
TOLERANCES: ±5MM			
Designated By	Name	Date	
Engineered By	Bennet Fisher	3/26/21	
Engineering Approval	----	----	
Manufacturing Approval	----	----	
Revision Approval	----	----	
Quality Assurance	----	----	
<b>PROPRIETARY AND CONFIDENTIAL</b> 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.			
Part Number: P-VTM-HAR_			Revision: ----
Description: Timer Module Harness			Sheet: 1 of 1



## VTM

## Voltage Timer Module

### INSTALLATION MANUAL





## Thank you for purchasing the **VTM**



### **WHAT'S INCLUDED:**

- Voltage Timer Module
- Voltage Timer Module Harness
- Screws

### **COMPATIBLE ACCESSORIES:**

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

### **FEATURES:**

- Selectable timer durations - 60, 90, 120, and 150 minutes
- Low voltage shut off at 11.8V
- Timer and Low Voltage sense work independently of each other
- Inputs for 2 momentary switches
- 7.5A max current output





## OPERATING INSTRUCTIONS:

DIP SWITCH 1 UP/DOWN	DIP SWITCH 2 UP/DOWN	DIP SWITCH 3	DIP SWITCH 4	Timer Duration (Minutes)
Voltage Sense ON/OFF	Timer ON/OFF	UP	DOWN	60
		UP	UP	90
		DOWN	UP	120
		DOWN	DOWN	150

If Voltage Sense is turned ON, low voltage shut down will occur when voltage input drops below 11.8V. 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. Voltage Sense is only active when the Switch Inputs are activated. Voltage Sense does not monitor VTM Trigger Input.

If Timer is ON and a switch input is activated, output voltage will be provided for specified timer duration.

While output voltage is active, pressing a switch will disable the output voltage. If pressed once again, output voltage will be re-activated and reset the timer.

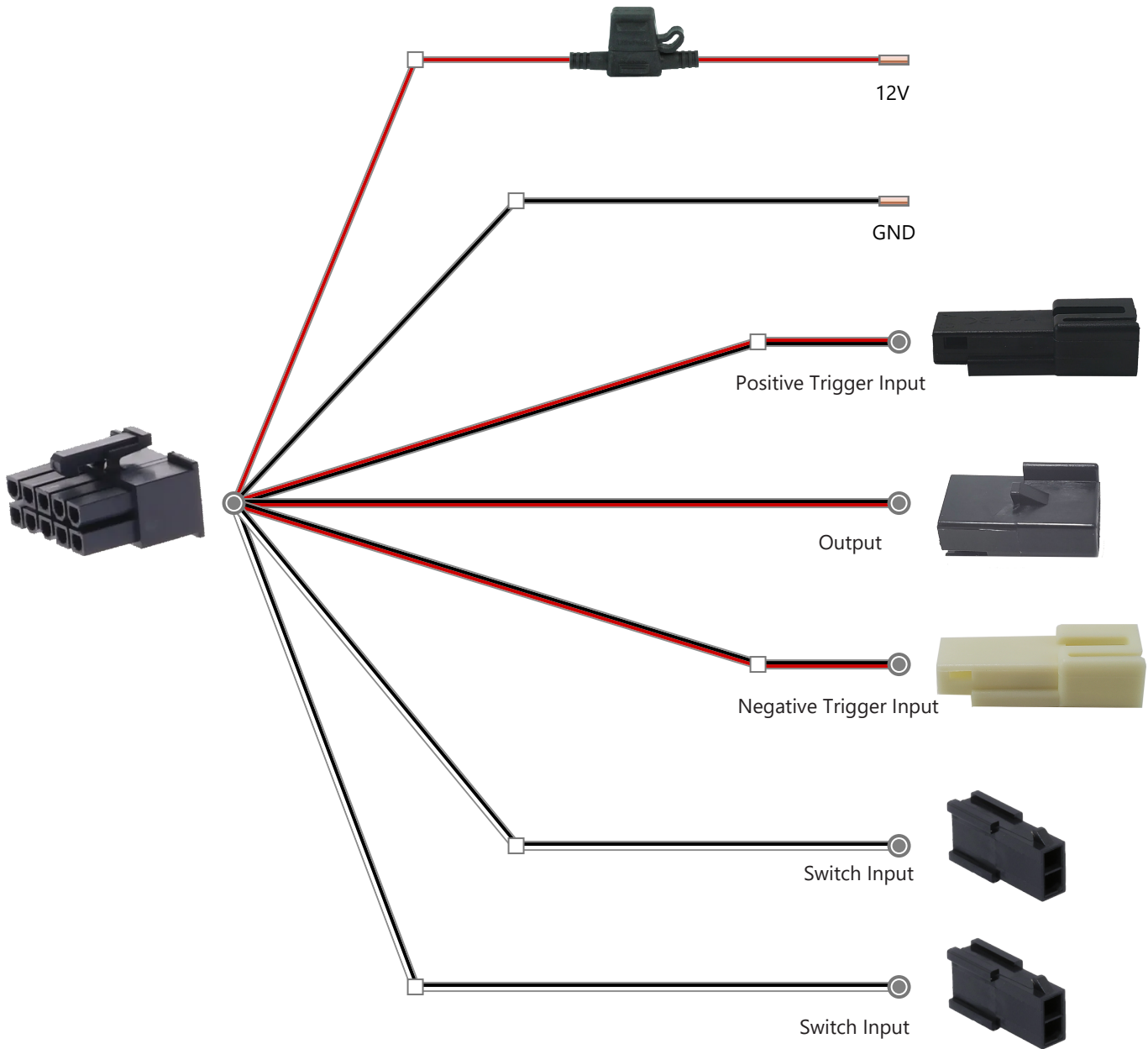
Trigger Input	Switch Input	Output	Voltage Sense (ON)	Timer (ON)
Active	N/A	ON	N/A	N/A
Deactivated	N/A	OFF	N/A	N/A
Not Active	Activated (Pressed)	ON	Monitoring Input Voltage	Timer starts
Not Active	Activated (Pressed)	OFF	N/A	Timer off
Not Active	Activated (Pressed)	ON	Monitoring Input Voltage	Timer resets

If VTM Trigger Input to the VTM module is active, its function takes precedence.



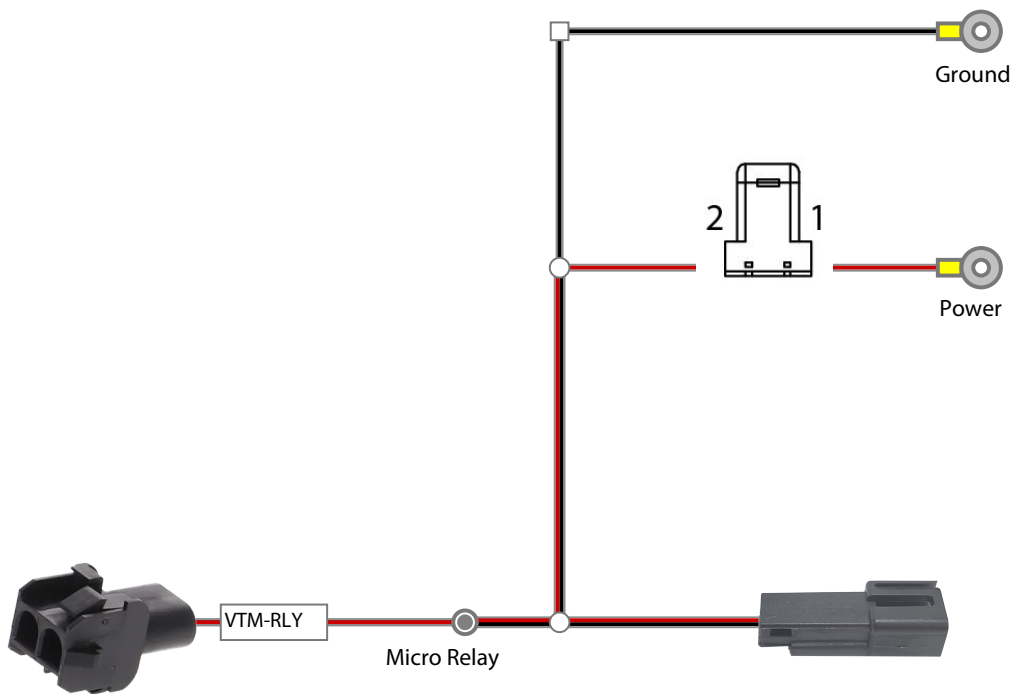
## WIRING DIAGRAMS:

### VTM Harness



## VTM-RLY (Optional Harness)

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



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

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





Phone – 866-931-8021 (option 3)

E-Mail – [support@echomasterfleetsolutions.com](mailto:support@echomasterfleetsolutions.com)



**EchoMaster Fleet Solutions is a Power Brand of AAMP Global**

[EchoMasterfleetsolutions.com](http://EchoMasterfleetsolutions.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



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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 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: **SWITCH 2 HARNESS FOR VTM**

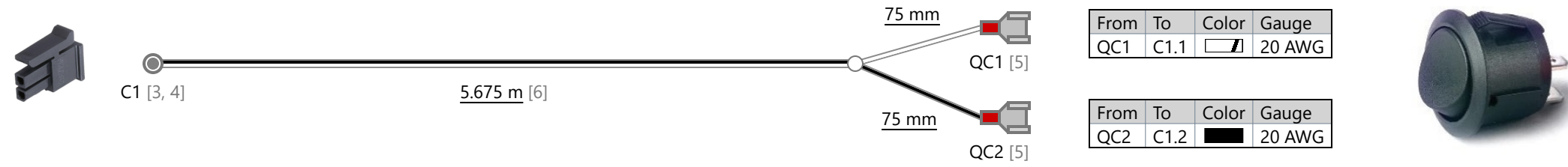
WEIGHT (Lbs.): **0.2**


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

<p>UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MILLIMETERS [INCHES] TOLERANCES: ±5MM</p> <p><b>PROPRIETARY AND CONFIDENTIAL</b></p> <p>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.</p>		Name	Date	 <p>— ADVANCING VEHICLE TECHNOLOGY —</p>				
	Designed By	Bennet Fisher	6/10/2021					
	Engineering Approval							
	Manufacturing Approval							
	Revision Approval							
Quality Assurance				<table border="1"> <tr> <td>Part Number: VTM-SW2</td> <td>Revision: 1</td> </tr> <tr> <td>Description: 5.675 Meter Switch Harness</td> <td>Sheet: ----</td> </tr> </table>	Part Number: VTM-SW2	Revision: 1	Description: 5.675 Meter Switch Harness	Sheet: ----
Part Number: VTM-SW2	Revision: 1							
Description: 5.675 Meter Switch Harness	Sheet: ----							

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

# 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

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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: **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 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: **SWITCH 3 HARNESS FOR VTM**

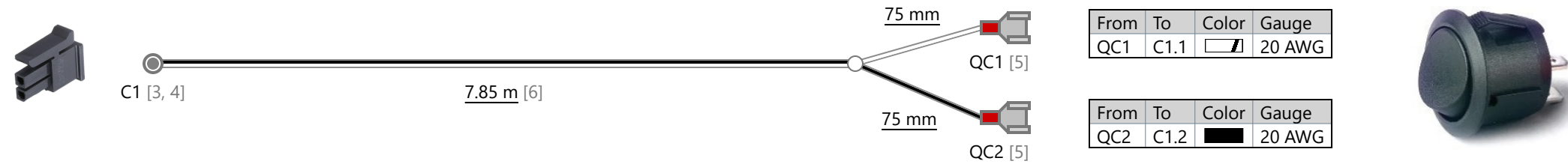
WEIGHT (Lbs.): **0.2**


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

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MILLIMETERS [INCHES] TOLERANCES: ±5MM  <b>PROPRIETARY AND CONFIDENTIAL</b>  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 —  Part Number: VTM-SW3 Description: 7.85 Meter Switch Harness	
	Designed By	Bennet Fisher	6/10/2021		Revision: 1
	Engineering Approval				Sheet:
	Manufacturing Approval				----
	Revision Approval				
Quality Assurance					

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

# PURCHASED COMPONENT KEY FEATURES

## DESCRIPTION OF REQUIREMENTS

DIMENSIONAL REQUIREMENTS (AS SHOWN ON DRAWING)

N/A

LOAD/RATING REQUIREMENT

N/A

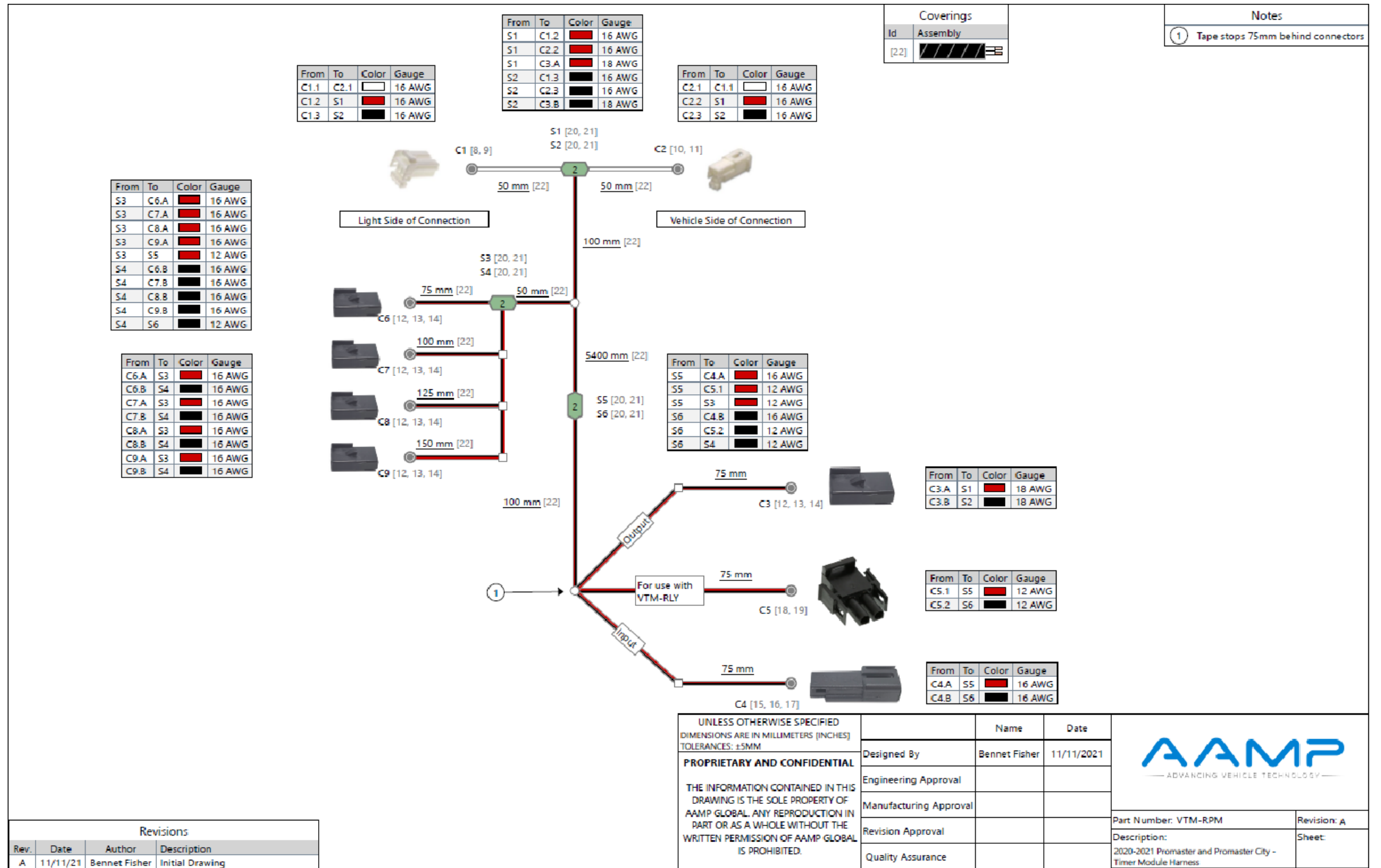
MATERIAL REQUIREMENT

N/A

PACKAGING REQUIREMENT

N/A

OTHER REQUIREMENTS



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## TOLERANCES & INSPECTION

UNLESS OTHERWISE SPECIFIED  
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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: **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**

DESCRIPTION: **HARN, POWER VTM-RPM**

WEIGHT (Lbs.): **0.2** SEGMENT CODE: **ELE** PART NUMBER: **65796**

REVISION LEVEL  
**A**

# 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*

ALL BEND ANGLES ARE 90 DEGREES

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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: **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 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: **EMB**

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

WEIGHT (Lbs.): **0.01**

SEGMENT CODE: **ELE**

PART NUMBER: **69511**

# PURCHASED COMPONENT KEY FEATURES

## DESCRIPTION OF REQUIREMENTS

DIMENSIONAL REQUIREMENTS (AS SHOWN ON DRAWING)

**MICRO2**

LOAD/RATING REQUIREMENT

**5 AMP**

MATERIAL REQUIREMENT

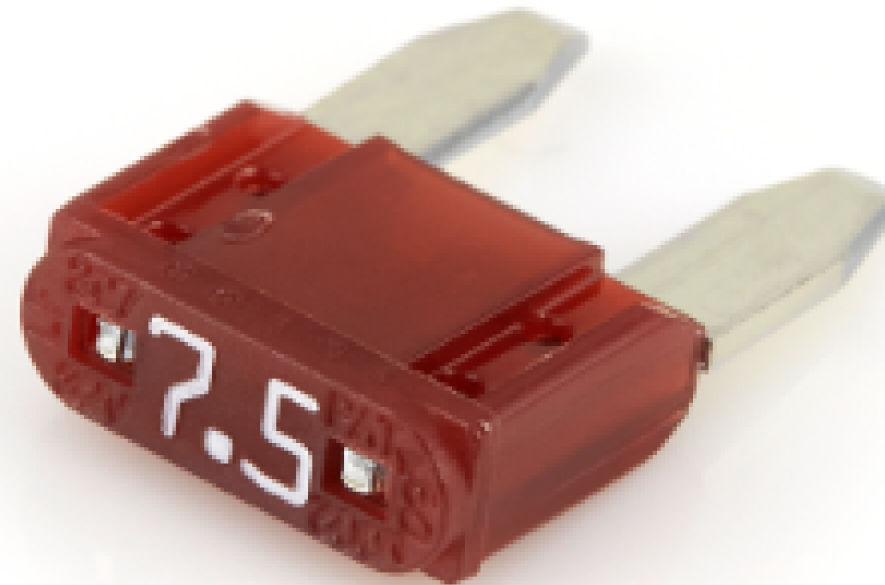
**N/A**

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
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0.00 = ± .062	0.00 = ± .031	0.0° = ± 1°
0.000 = ± .031	0.000 = ± .015	

Material Thickness: per ASTM Std.  
Weld Callouts per AWS

### RELEASE & REVISIONS

INITIAL ECN: **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**

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:

DESIGNED BY: **E.Burke**

DESCRIPTION:

**FUSE, MINI 7.5 AMP**

WEIGHT (Lbs.): **.10**

SEGMENT CODE: **ELE**

PART NUMBER: **69879**