# KIT, PLUG & PLAY INTERIOR LIGHTING RAM PROMASTER CITY

***CATALOG NUMBER***

**82208**



*LED light strips placed on center roof bow & rear roof bow*

***PRODUCT FEATURES***

**Plug & Play Interior Lighting Kit with 2 LED Light Strips & 2 Control Switches For the 2027 RAM ProMaster City.**

- **This kit includes: (2) LED light strips centered on the ceiling of the van.**
- **The new timer lighting module (TLM) is also included to protect the battery in the event the lights are left on for too long.**
- **The lights are switch controlled. The (2) switches are located on the partition at the passenger door and the other is located at the rear door.**

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## Introduction / Comments:

Plug & Play Interior Lighting ‘27 RAM 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.



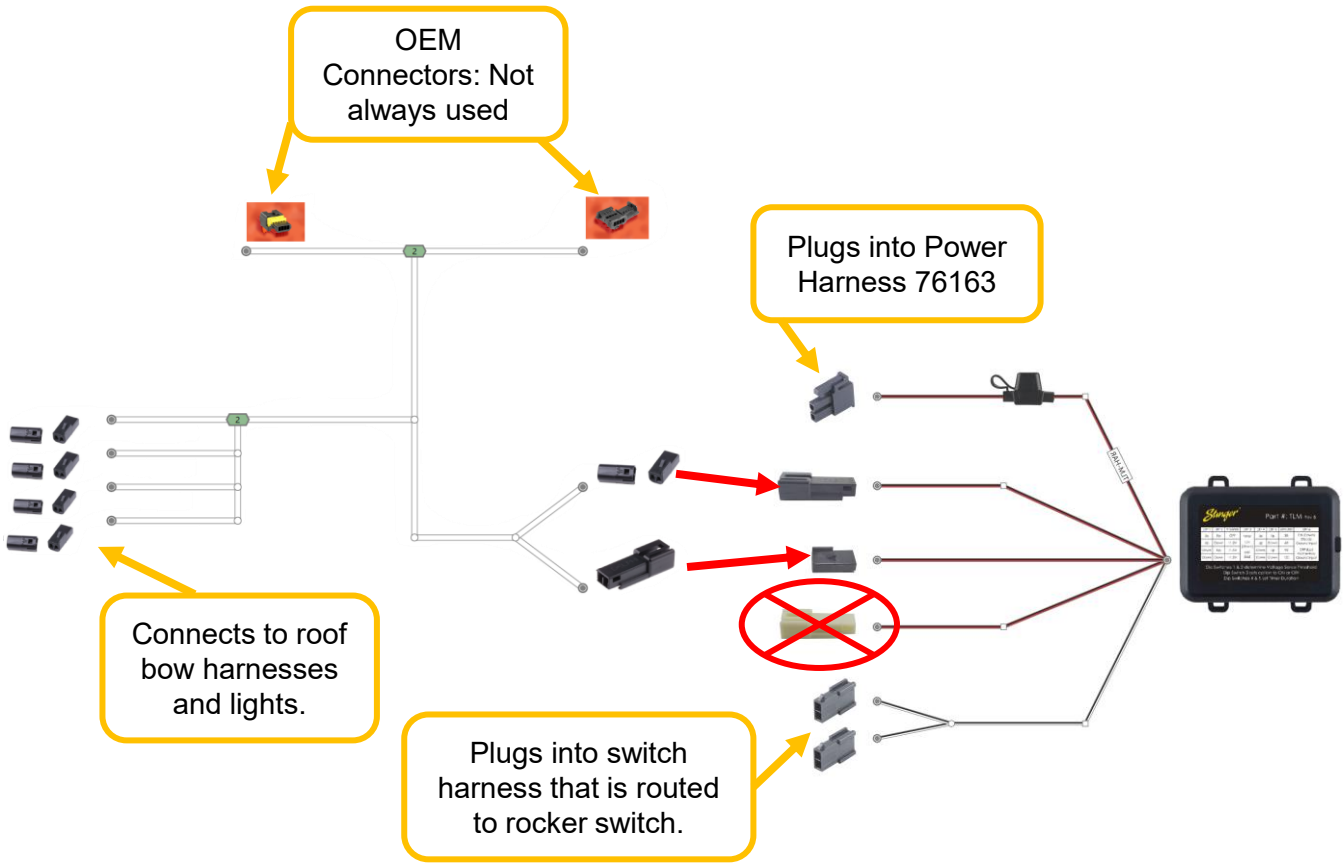
# 83356

## Plug & Play Interior Lighting
## 2027 RAM 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 65793 and 65794 (depending on roof bow height). 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 Design



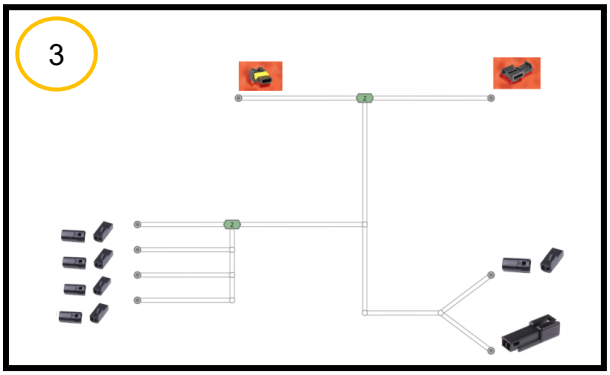
# Harnesses Needed







| | Part Number | Description |
|---|---|---|
| 1 | 71902 | TLM Rev B |
| 2 | 76163 | Battery to TLM Power Harness |
| 3 | 82238 | TLM to Lights Power Harness |
| 4 | 63481, 63482, 63483, 63484 | Roof Bow Harnesses #1-4 |
| 5 | 65788 & 65789 | Switch Harness #2 or #3 |
| 6 | 65347 or 63480 | 36” Light Strip & Dome Light |



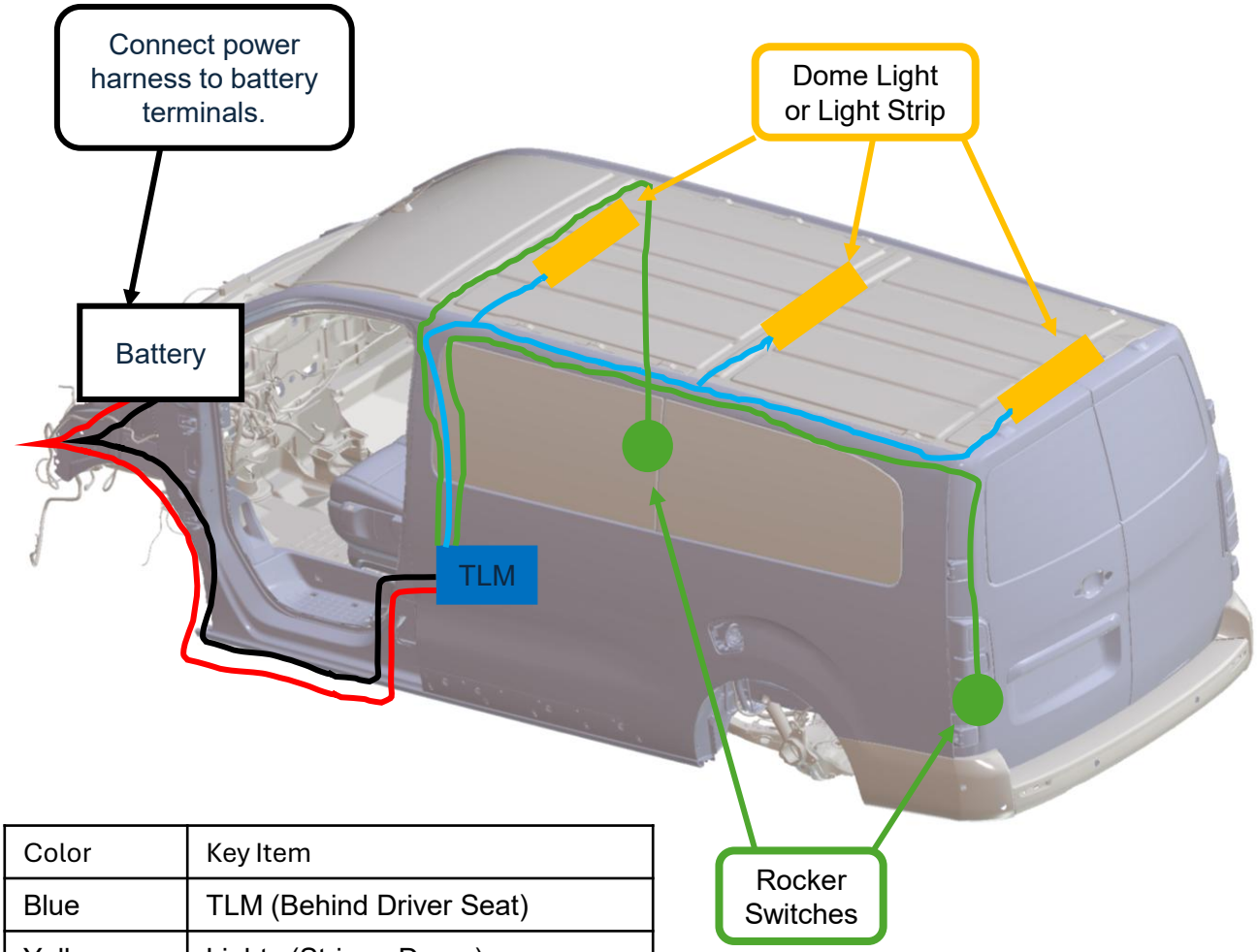









# Vehicle Routing



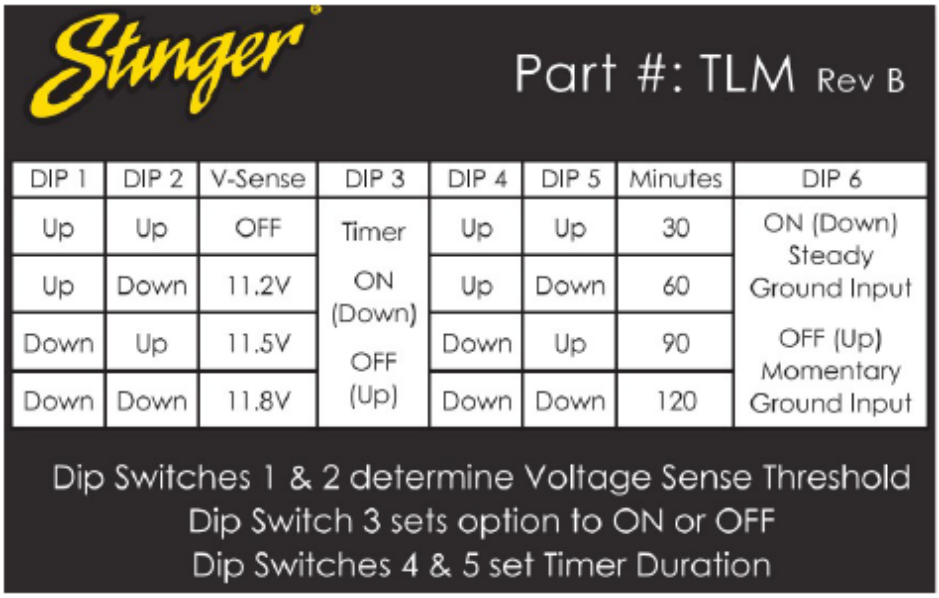

| Color | Key Item |
|---|---|
| Blue | TLM (Behind Driver Seat) |
| Yellow | Lights (Strip or Dome) |
| Green | Rock Switch (Passenger B-Pillar & Driver D-Pillar) |
| Black/Red | Power Harness Routing from Battery to TLM |
| Light Blue | Roof Bow Routing |

**THIS VEHICLE ONLY HAS ONE WHEEL BASE AND ROOF HEIGHT SO LIGHT PLACEMENT IS UNIVERSAL. FOR KITS WITH LESS THAN 3 LIGHTS CHECK THE PURCHASE ORDER DRAWING FOR LIGHT PLACEMENT.**

**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.**

# TLM Dip Switch Settings

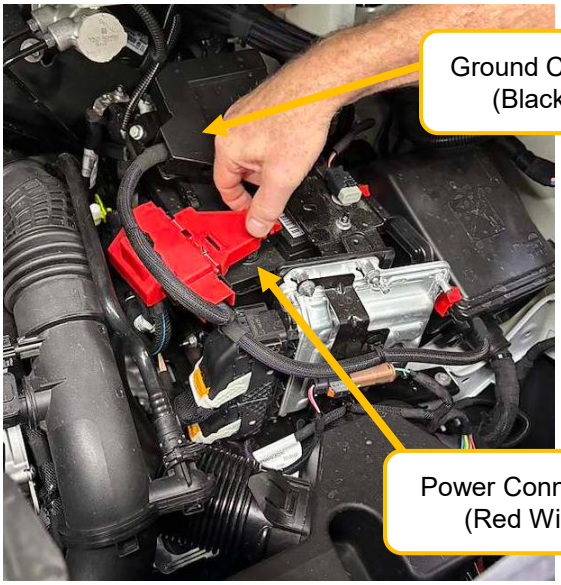
TLM Rev B:




Dip Switch Settings:

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

## Step 1:




Locate power harness 76163 and remove the in-line fuse.

Open the vehicles hood and connect the ring terminals to the battery posts. Red wire to positive bolt and black wire to negative bolt.

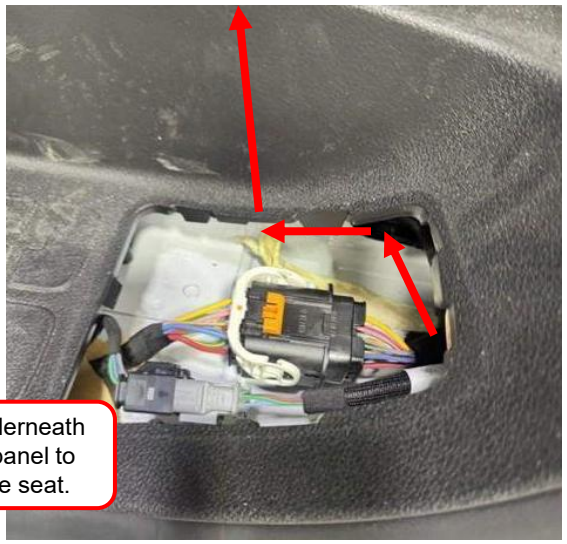
The positive wire will need to be angled so that the plastic cover will be able to close.

Then route the harness towards the driver side of the vehicle.

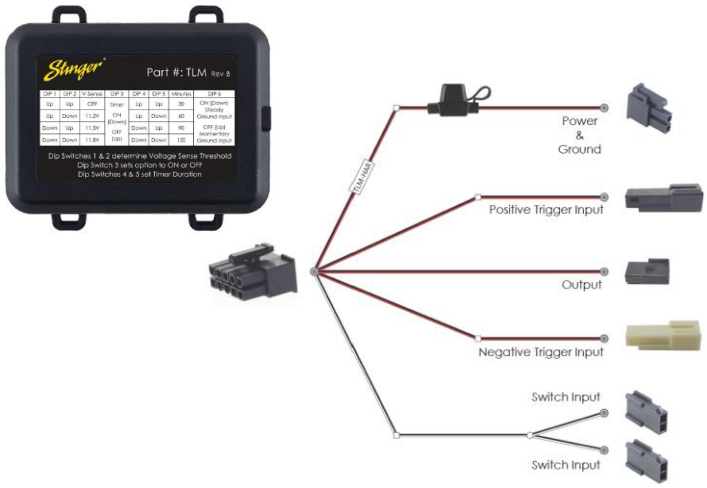
## Step 2:



Feed the harness down the open cavity above the wheel well.
The harness will come out underneath the very front of the driver door.
In the driver footstep, remove the square piece of trim. (Right Side of Step)
Now feed the power harness through the grommet in the floor below this trim piece.



## Step 3:




Feed the harness up the side of the opening to the underneath of the driver seat as shown.

Now locate the TLM and harness provided with the module. Plug the harness into the TLM.

Now plug the power harness into the power connector.

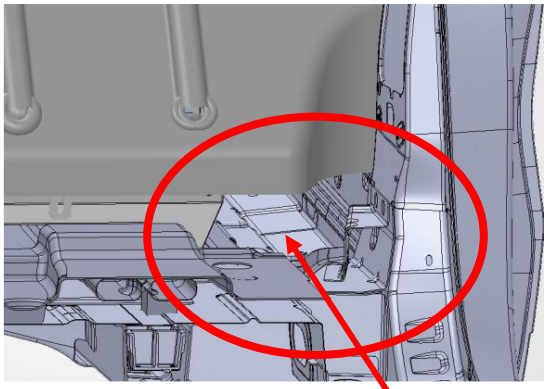
## Step 4:

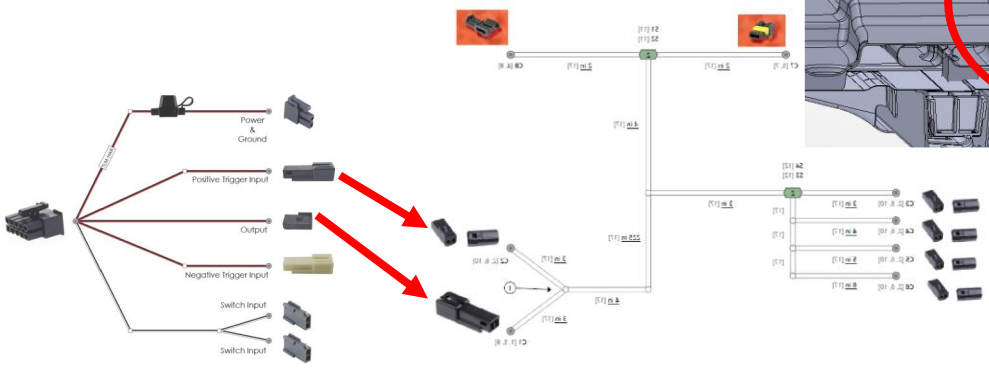



Now locate the TLM to lights power harness 82238 and plug that into the input and output connectors on the TLM.

Feed that harness through the opening of the partition in the corner on the driver side and then up the partition.

Continue routing the harness rearward behind the black trim on the driver wall.



## Step 5:

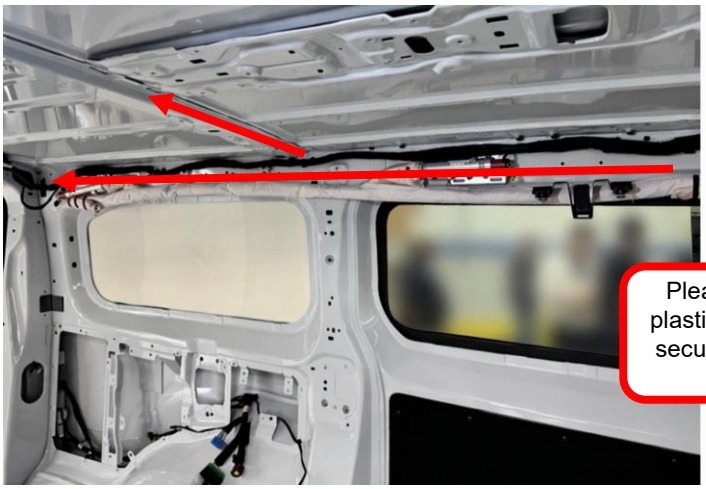


Locate and insert the roof bows into the power harness.

Locate the provided lights. For all lights center them on the roof bow.

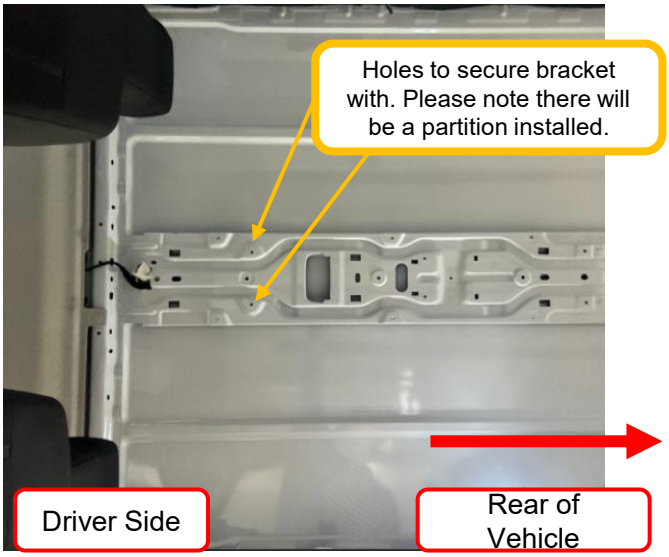
For the dome lights use the adhesive on the light as well as the self tappers provided with the light to secure them.

For the light strip make sure the mating connector is on the driver side of the light.




Connect the roof bow to the light and make sure to secure the harness to the vehicle.

Secure the harnesses behind the black plastic trim running along the wall.

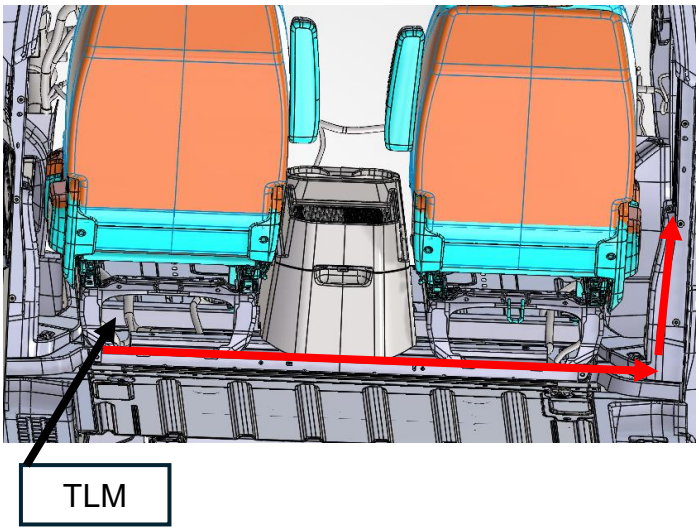



****For Kit 83355** (3 LED Dome Lights)**

Locate the 83492 bracket and bag83355. Use FAS0020 and FAS0021 to secure the dome light to the bracket. Then use FAS1040 to secure the bracket to the roof of the vehicle using OEM threaded holes in the roof.

Plug in the roof bow harness and route it along the top of the partition to the driver side of the vehicle.

## Step 6:



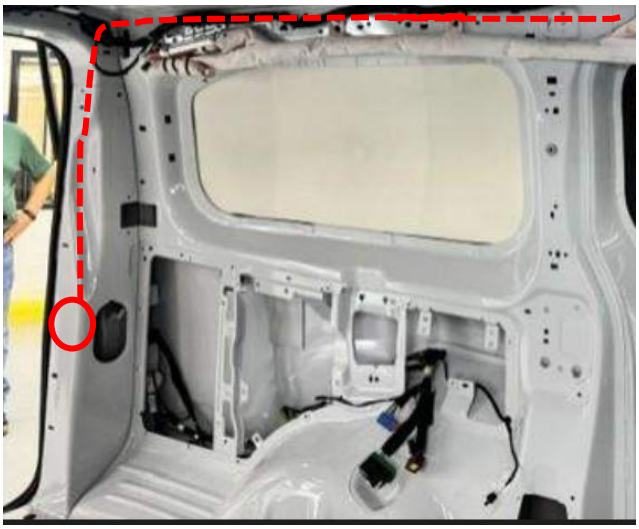

Locate the switch harnesses. Switch harness #2 will be used for the passenger side B-Pillar. Switch harness #3 will be used for the driver side D-Pillar.

Plug the harnesses into the TLM switch connectors.

Route switch harness two along the bottom of the partition to the passenger side of the vehicle.

Then up the B-Pillar of the partition to the hole for the rocker switch. Feed the quick connects through the hole and connect them to the switch and insert the switch into the partition.

## Step 7:



Switch harness #3 will be routed with the lights power harness and the rear light roof bow.

When the harness gets to the D-Pillar route it down.

Use a step bit to drill a hole for the switch, there will be an opening in the D-pillar, line the hole up with this so that the harness can be routed through and make the connection with the switch.

Make sure to secure the harness along the way.

# Finishing Up

Using the switches turn the lights on and off to make sure they work.

Make sure all trim panels are reinstalled.

Check that all harnesses are secured and routed properly.



PART NUMBER
13905-0

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



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

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

SPECIAL NOTES: PART NUMBER IS BLACK.

# SUPPLIED BY: THIS ITEM IS ADRIAN AVAILABLE!

## PURCHASED PRODUCT DATA SHEET (PPDS)

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ADRIAN STEEL
VAN AND PICKUP EQUIPMENT

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

**⚠ CAUTION ⚠**

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

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

PART NUMBER
**13905-0**

## Bill of Materials

| Id | Description | Manufacturer | Part Number | Quantity |
|---|---|---|---|---|
| 1 | Red, 18 AWG, TXL, 19/30 Stranding | Prysmian | 140586-91 | 102.42 in |
| 2 | Black, 18 AWG, TXL, 19/30 Stranding | Prysmian | 140104-91 | 102.42 in |
| 3 | Metri-Pack 150 Connector, 2pos, Receptacle | Aptiv | 12047663 | 1 |
| 4 | Metri-Pack 150 Lock, For Receptacle Connector | Aptiv | 12047665 | 1 |
| 5 | Metri-Pack Contact, 18-16 AWG, Pin | Aptiv | 12047581 | 2 |
| 6 | Metri-Pack 150 Connector, 2pos, Plug | Aptiv | 12047662 | 1 |
| 7 | Metri-Pack 150 Lock, For Plug Connector | Aptiv | 12047664 | 1 |
| 8 | Metri-Pack 150 Contact, 18-16 AWG, Socket | Aptiv | 12047767 | 2 |
| 9 | Anti-Abrasion Wire Harness Tape, Black | Tesa | TS51036 1. | |
| 10 | Generic Heat Shrink Label | | Label | 1 |
| 11 | Fir Tree Cable Tie, 8" Long, 1/4" Mount, Black | HellermannTyton | T50RTM250HSM4 | 5 |

## Coverings

| Id | Assembly |
|---|---|
| [9] |  |

## Notes



C2 [6, 7, 8]

102 in [9]

63482

[10]

C1 [3, 4, 5]



| From | To | Color | Size | From Contact PN |
|---|---|---|---|---|
| C2.A | C1.A | | 18 AWG | 12047767 |
| C2.B | C1.B | | 18 AWG | 12047767 |

| From | To | Color | Size | From Contact PN |
|---|---|---|---|---|
| C1.A | C2.A | | 18 AWG | 12047581 |
| C1.B | C2.B | | 18 AWG | 12047581 |



[11]

## Revisions

| Rev. | Date | Author | Description |
|---|---|---|---|
| A | 10/27/26 | Andrew Oswalt | Initial Drawing |

| | | | |
|---|---|---|---|
| Initial ECN | 24359 | Drawn By | APO |
| Current ECN | 24359 | Weight (lb) | 0.2 |
| ECN Description | | Sheet | 1 of 1 |
| RELEASE FOR PRODUCTION | | Size | 11" x 17" |

Part Number 63483 Or P-HARRB3 Segment EAU

Description ROOF BOW HARNESS #3

All dimensions in inches unless otherwise specified.
Harness length tolerance = +/- 5%, max ≤ 5 in.
Loom/tape to connector gap = 1 in. +/- 10%
Wires in bundle length tolerance = +/- 5%, max ≤ 1 in.
Terminal wire strip length tolerances controlled by MFG.

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## Bill of Materials

| Id | Description | Manufacturer | Part Number | Quantity |
|---|---|---|---|---|
| 1 | Red, 18 AWG, TXL, 19/30 Stranding | Prysmian | 140586-91 | 137.42 in |
| 2 | Black, 18 AWG, TXL, 19/30 Stranding | Prysmian | 140104-91 | 137.42 in |
| 3 | Metri-Pack 150 Connector, 2pos, Receptacle | Aptiv | 12047663 | 1 |
| 4 | Metri-Pack 150 Lock, For Receptacle Connector | Aptiv | 12047665 | 1 |
| 5 | Metri-Pack Contact, 18-16 AWG, Pin | Aptiv | 12047581 | 2 |
| 6 | Metri-Pack 150 Connector, 2pos, Plug | Aptiv | 12047662 | 1 |
| 7 | Metri-Pack 150 Lock, For Plug Connector | Aptiv | 12047664 | 1 |
| 8 | Metri-Pack 150 Contact, 18-16 AWG, Socket | Aptiv | 12047767 | 2 |
| 9 | Anti-Abrasion Wire Harness Tape, Black | Tesa | TS51036 1. | |
| 10 | Generic Heat Shrink Label | | Label | 1 |
| 11 | Fir Tree Cable Tie, 8" Long, 1/4" Mount, Black | HellermannTyton | T50RTM250HSM4 | 5 |

## Coverings

| Id | Assembly |
|---|---|
| [9] |  |

## Notes



C2 [6, 7, 8]

137 in [9]

63484

[10]

C1 [3, 4, 5]



| From | To | Color | Size | From Contact PN |
|---|---|---|---|---|
| C2.A | C1.A | | 18 AWG | 12047767 |
| C2.B | C1.B | | 18 AWG | 12047767 |

| From | To | Color | Size | From Contact PN |
|---|---|---|---|---|
| C1.A | C2.A | | 18 AWG | 12047581 |
| C1.B | C2.B | | 18 AWG | 12047581 |



[11]

## Revisions

| Rev. | Date | Author | Description |
|---|---|---|---|
| A | 10/27/26 | Andrew Oswalt | Initial Drawing |

| | | | |
|---|---|---|---|
| Initial ECN | 24359 | Drawn By | APO |
| Current ECN | 24359 | Weight (lb) | 0.2 |
| ECN Description | | Sheet | 1 of 1 |
| RELEASE FOR PRODUCTION | | Size | 11" x 17" |

Part Number 63484 Or P-HARRB4 Segment EAU

Description ROOF BOW HARNESS #4

All dimensions in inches unless otherwise specified.
Harness length tolerance = +/- 5%, max ≤ 5 in.
Loom/tape to connector gap = 1 in. +/- 10%
Wires in bundle length tolerance = +/- 5%, max ≤ 1 in.
Terminal wire strip length tolerances controlled by MFG.

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# PURCHASED COMPONENT KEY FEATURES

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

**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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## TOLERANCES & INSPECTION

*UNLESS OTHERWISE SPECIFIED*

ALL BEND ANGLES ARE 90 DEGREES

ALL DIMENSIONS ARE IN INCHES.

REFERENCE DIMENSIONS (X.XXX) DO NOT REQUIRE INSPECTION

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

Material Thickness: per ASTM Std.
Weld Callouts per AWS

## RELEASE & REVISIONS

INITIAL ECN: 24697

CURRENT ECN: 25778

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

REVISED BY: JLT

## PURCHASED COMPONENT

REFERENCED SUPPLIER AND/OR MANUFACTURER
**AAMP**

REFERENCED SUPPLIER AND/OR MANUFACTURER PART NUMBER
**CL-36BLED rev.B**

COLOR (ONLY LIST IF COLOR SPECIFIC)

COMODITY ITEM (Y/N) (YES = ALL DIMENSIONS AND NOTES ARE 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**

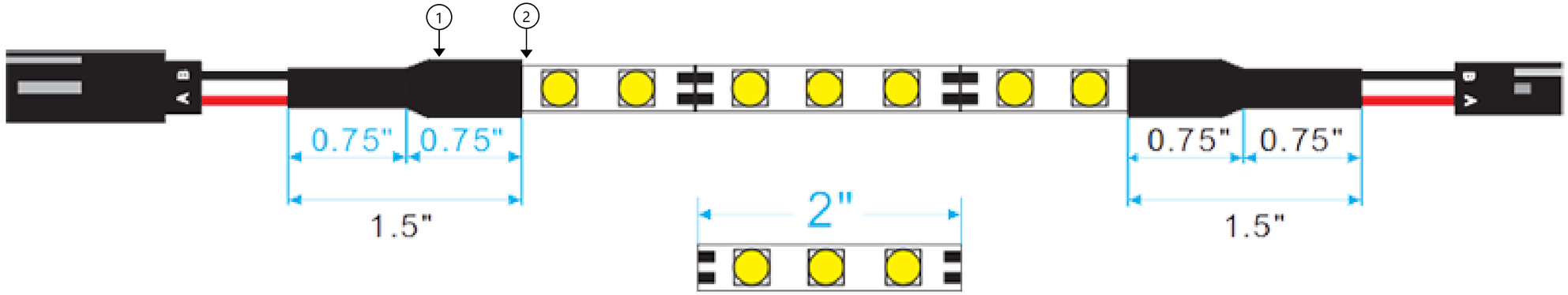
DESCRIPTION: **MODULE DOME LED STRIP 36"**

WEIGHT (Lbs.): **0.3**

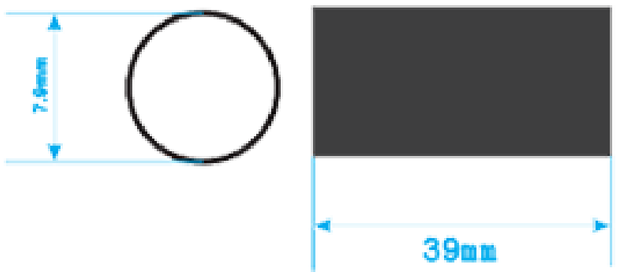
SEGMENT CODE: **EAU**

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)<br>**N/A** |
| LOAD/RATING REQUIREMENT<br>**N/A** |
| MATERIAL REQUIREMENT<br>**N/A** |
| PACKAGING REQUIREMENT<br>**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 |



C1 [3, 4]

5.675 m [6]

75 mm

QC1 [5]

75 mm

QC2 [5]

| From | To | Color | Gauge |
|---|---|---|---|
| QC1 | C1.1 | | 20 AWG |

| From | To | Color | Gauge |
|---|---|---|---|
| QC2 | C1.2 | | 20 AWG |



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

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

**PROPRIETARY AND CONFIDENTIAL**

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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)<br>**N/A** |
| LOAD/RATING REQUIREMENT<br>**N/A** |
| MATERIAL REQUIREMENT<br>**N/A** |
| PACKAGING REQUIREMENT<br>**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-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 |



C1 [3, 4]

7.85 m [6]

75 mm

QC1 [5]

75 mm

QC2 [5]

| From | To | Color | Gauge |
|---|---|---|---|
| QC1 | C1.1 | | 20 AWG |

| From | To | Color | Gauge |
|---|---|---|---|
| QC2 | C1.2 | | 20 AWG |



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

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

**PROPRIETARY AND CONFIDENTIAL**

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







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## TOLERANCES & INSPECTION

*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 | Up | Up | 30 | ON (Down) Steady Ground Input |
| Up | Down | 11.2V | ON (Down) | Up | Down | 60 | |
| Down | Up | 11.5V | OFF (Up) | Down | Up | 90 | OFF (Up) Momentary Ground Input |
| Down | Down | 11.8V | | Down | Down | 120 | |

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

NOTE: Voltage Sense takes precedence over Timer.

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

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

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

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

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

## Steady Ground Input Applications

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

## Momentary Ground Input Applications

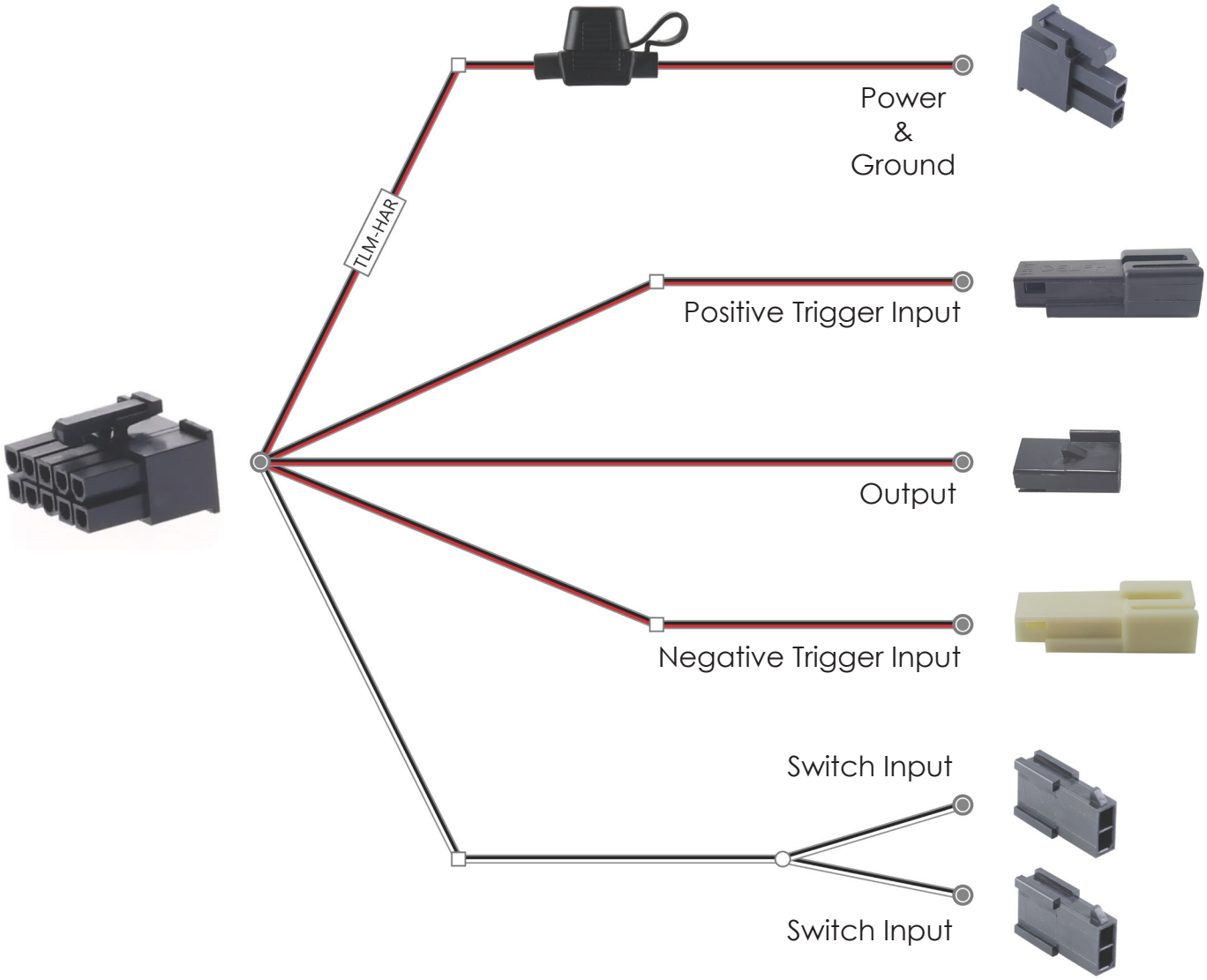
| Trigger Input | Switch Input | Output | Voltage Sense (ON) | Timer (ON) |
|---|---|---|---|---|
| Active | N/A | ON | Monitoring Input Voltage | N/A |
| Not Active | N/A | OFF | N/A | N/A |
| Not Active | Activated (Pulsed) | ON | Monitoring Input Voltage | Timer Starts |
| Not Active | Activated (Pulsed)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

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

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

# WIRING DIAGRAMS:

## TLM Harness

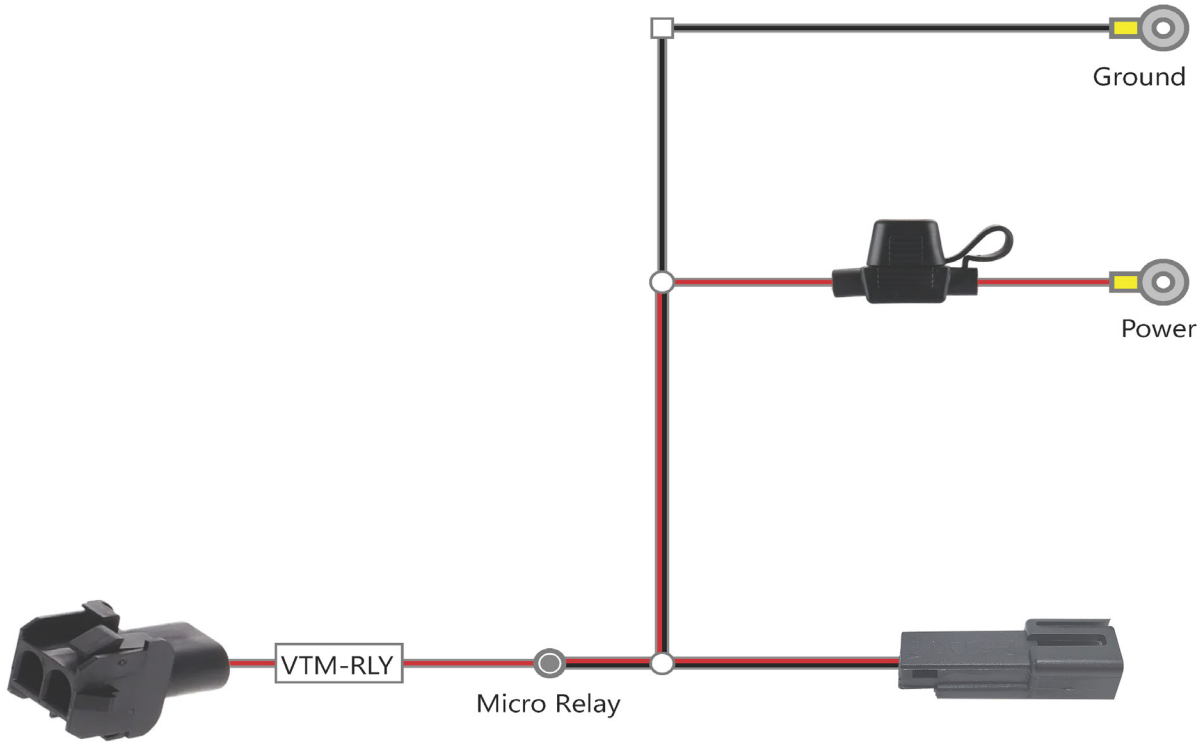



If necessary, connectors may be removed for hardwire applications.

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

# VTM-RLY (Optional Harness)

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




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

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

## Troubleshooting Table:

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




**Phone – 866-931-8021 (option 3)**

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

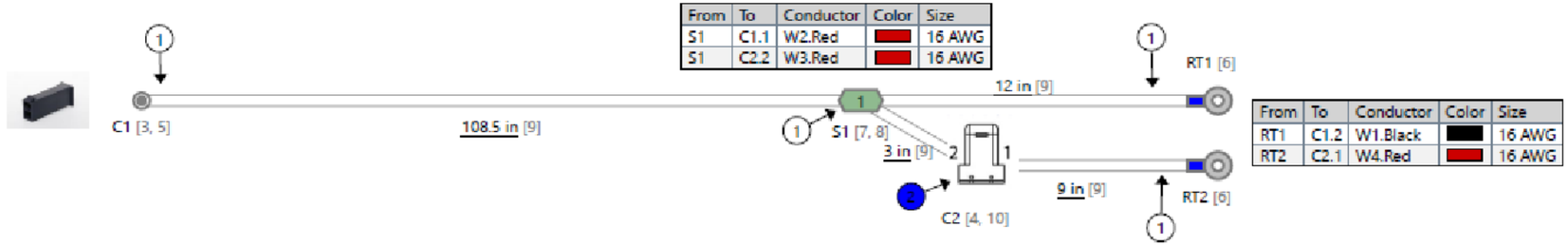
**StingerSolutions.com**



**REV. B**

# PURCHASED COMPONENT KEY FEATURES

| DESCRIPTION OF REQUIREMENTS |
|---|
| DIMENSIONAL REQUIREMENTS (AS SHOWN ON DRAWING)<br>**N/A** |
| LOAD/RATING REQUIREMENT<br>**N/A** |
| MATERIAL REQUIREMENT<br>**N/A** |
| PACKAGING REQUIREMENT<br>**N/A** |
| OTHER REQUIREMENTS<br>**10 foot power harness for the TLM** |




| From | To | Conductor | Color | Size |
|---|---|---|---|---|
| S1 | C1.1 | W2.Red | | 16 AWG |
| S1 | C2.2 | W3.Red | | 16 AWG |

| From | To | Conductor | Color | Size |
|---|---|---|---|---|
| RT1 | C1.2 | W1.Black | | 16 AWG |
| RT2 | C2.1 | W4.Red | | 16 AWG |

| From | To | Conductor | Color | Size | From Contact PN |
|---|---|---|---|---|---|
| C2.1 | RT2 | W4.Red | | 16 AWG | |
| C2.2 | S1 | W3.Red | | 16 AWG | |

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## TOLERANCES & INSPECTION

*UNLESS OTHERWISE SPECIFIED*

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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: **28473**

CURRENT ECN: **28473**

ECN DESCRIPTION:
**Release**

REVISED BY: **LJK**

## PURCHASED COMPONENT

REFERENCED SUPPLIER AND/OR MANUFACTURER
**Stinger**

REFERENCED SUPPLIER AND/OR MANUFACTURER PART NUMBER
**76163**

COLOR (ONLY LIST IF COLOR SPECIFIC)

COMMODITY 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: **JWS**

DESCRIPTION: **HARN, PWR TLM BATTERY 10'**

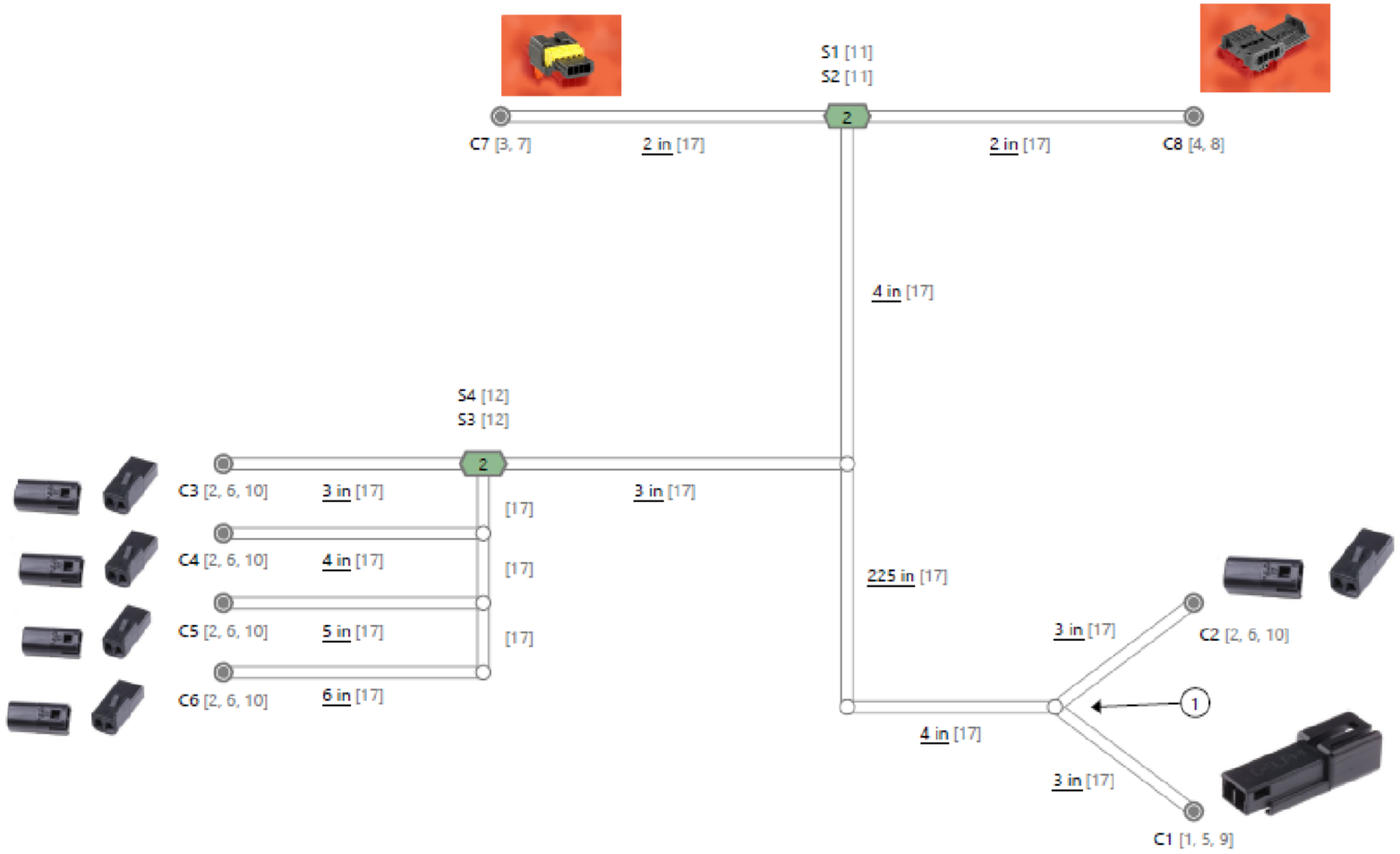
WEIGHT (Lbs.): **.20**

SEGMENT CODE: **ELE**

PART NUMBER: **76163**

# PURCHASED COMPONENT KEY FEATURES

| DESCRIPTION OF REQUIREMENTS |
|---|
| DIMENSIONAL REQUIREMENTS (AS SHOWN ON DRAWING)<br>**N/A** |
| LOAD/RATING REQUIREMENT<br>**N/A** |
| MATERIAL REQUIREMENT<br>**N/A** |
| PACKAGING REQUIREMENT<br>**N/A** |
| OTHER REQUIREMENTS<br>**Validated for model year 2027.**<br>**Used with the TLM. Designed for Interior Lighting.** |

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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: **29853**

CURRENT ECN: **29853**

ECN DESCRIPTION:

**RELEASE FOR MARKET FILL**

REVISED BY: **N/A**

## PURCHASED COMPONENT

REFERENCED SUPPLIER AND/OR MANUFACTURER
**Stinger**

REFERENCED SUPPLIER AND/OR MANUFACTURER PART NUMBER
**82238**

COLOR (ONLY LIST IF COLOR SPECIFIC)

COMMODITY 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:

DESIGNED BY: **L. KALENIECKI**

DESCRIPTION: **HARN,INT LGT PWR PMC MY27**

WEIGHT (Lbs.): **1.0**

SEGMENT CODE: **ELE**

PART NUMBER: **82238**

## Bill of Materials

| Id | Description | Manufacturer | Part Number | Quantity |
|---|---|---|---|---|
| 1 | Combination Line Connector, 2 Contact(s), Male, Crimp Terminal, Receptacle | Aptiv | 12047663 | 1 |
| 2 | Conn Housing RCP 2 POS Crimp ST Cable Mount Black Automotive | Aptiv | 12047662 | 5 |
| 3 | Molex crimp housing Automotive connector male plug, 4road, 10A, Cable installation installation | Molex | 98822-1041 | 1 |
| 4 | Rectangular Power Connector, 4 Contact(s), Female, Crimp Terminal | Molex | 98817-1041 | 1 |
| 5 | Delphi Metri-Pack 150 Tin Plated Unsealed Male Terminal for 20-18 AWG (5, 000 Units per Reel) | Aptiv | 12047581 | 2 |
| 6 | Delphi Metri-Pack 150 Tin Plated Unsealed Female Terminal for 18-16 AWG (4, 500 Units per Reel) | Aptiv | 12047767 | 10 |
| 7 | NSCC Receptacle Terminal Size 1.5, Wire Size 0.95 up to 1.87mm2 | Molex | 98897-1129 | 4 |
| 8 | Automotive 1.5 Male SICMA-4 Clean Body SN Terminal | Aptiv | 33512109 | 4 |
| 9 | Metri-Pack 150 Lock, For Receptacle Connector | Aptiv | 12047665 | 1 |
| 10 | Metri-Pack 150 Lock, For Plug Connector | Aptiv | 12047664 | 5 |
| 11 | Heat Shrink Butt Splice, 22-18 to 16-14 Ga. | Molex | 19164-0043 | 2 |
| 12 | Heat Shrink Butt Splice, 16-14 to 12-10 Ga. | NSPA | KS56-14 | 2 |
| 13 | Red, 16 AWG, TXL, 19/29 Stranding | Prysmian | 140339-91A | ≥ 496 in |
| 14 | Black, 16 AWG, TXL, 19/29 Stranding | Prysmian | 140591-91W | ≥ 496 in |
| 18 | White, 16 AWG, TXL, 19/29 Stranding | Prysmian | 140297-91 | 8 in |
| 17 | Anti-Abrasion Wire Harness Tape, Black | Tesa | TS51036 1. | |

## Coverings

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

## Notes

1. Tape stops 3 in behind connectors.

| From | To | Conductor | Color | Size |
|---|---|---|---|---|
| S1 | C2.1 | W3.Red | | 16 AWG |
| S1 | C7.2 | W20.Red | | 16 AWG |
| S1 | C8.2 | W21.Red | | 16 AWG |

| From | To | Conductor | Color | Size |
|---|---|---|---|---|
| S2 | C2.2 | W13.Black | | 16 AWG |
| S2 | C7.4 | W22.Black | | 16 AWG |
| S2 | C8.4 | W23.Black | | 16 AWG |

S1 [11]
S2 [11]





C7 [3, 7] — 2 in [17] — 2 — 2 in [17] — C8 [4, 8]

| From | To | Conductor | Color | Size |
|---|---|---|---|---|
| C7.1 | C8.1 | W24.White | | 16 AWG |
| C7.2 | S1 | W20.Red | | 16 AWG |
| C7.3 | C8.3 | W25.White | | 16 AWG |
| C7.4 | S2 | W22.Black | | 16 AWG |

| From | To | Conductor | Color | Size |
|---|---|---|---|---|
| C8.1 | C7.1 | W24.White | | 16 AWG |
| C8.2 | S1 | W21.Red | | 16 AWG |
| C8.3 | C7.3 | W25.White | | 16 AWG |
| C8.4 | S2 | W23.Black | | 16 AWG |

4 in [17]

| From | To | Conductor | Color | Size |
|---|---|---|---|---|
| S4 | C1.2 | W2.Black | | 16 AWG |
| S4 | C3.2 | W4.Black | | 16 AWG |
| S4 | C4.2 | W11.Black | | 16 AWG |
| S4 | C5.2 | W9.Black | | 16 AWG |
| S4 | C6.2 | W10.Black | | 16 AWG |

| From | To | Conductor | Color | Size |
|---|---|---|---|---|
| S3 | C1.1 | W1.Red | | 16 AWG |
| S3 | C3.1 | W5.Red | | 16 AWG |
| S3 | C4.1 | W6.Red | | 16 AWG |
| S3 | C5.1 | W7.Red | | 16 AWG |
| S3 | C6.1 | W8.Red | | 16 AWG |

S4 [12]
S3 [12]

| From | To | Conductor | Color | Size |
|---|---|---|---|---|
| C3.1 | S3 | W5.Red | | 16 AWG |
| C3.2 | S4 | W4.Black | | 16 AWG |

| From | To | Conductor | Color | Size |
|---|---|---|---|---|
| C4.1 | S3 | W6.Red | | 16 AWG |
| C4.2 | S4 | W11.Black | | 16 AWG |

| From | To | Conductor | Color | Size |
|---|---|---|---|---|
| C5.1 | S3 | W7.Red | | 16 AWG |
| C5.2 | S4 | W9.Black | | 16 AWG |

| From | To | Conductor | Color | Size |
|---|---|---|---|---|
| C6.1 | S3 | W8.Red | | 16 AWG |
| C6.2 | S4 | W10.Black | | 16 AWG |



C3 [2, 6, 10] — 3 in [17] — 2 — [17] — 3 in [17]
C4 [2, 6, 10] — 4 in [17] — [17]
C5 [2, 6, 10] — 5 in [17] — [17]
C6 [2, 6, 10] — 6 in [17] — [17]

| From | To | Conductor | Color | Size |
|---|---|---|---|---|
| C2.1 | S1 | W3.Red | | 16 AWG |
| C2.2 | S2 | W13.Black | | 16 AWG |

225 in [17]



3 in [17] — C2 [2, 6, 10]

1

4 in [17]



3 in [17] — C1 [1, 5, 9]

| From | To | Conductor | Color | Size |
|---|---|---|---|---|
| C1.1 | S3 | W1.Red | | 16 AWG |
| C1.2 | S4 | W2.Black | | 16 AWG |

## Revisions

| Rev. | Date | Author | Description |
|---|---|---|---|
| A | 8/18/2026 | Luke Kaleniecki | Interior Lighting Harness |

| | | | | | |
|---|---|---|---|---|---|
| Initial ECN | ---- | Drawn By | ---- | Part Number 82238 | Segment ---- |
| Current ECN | ---- | Weight (lb) | ---- | Description | |
| ECN Description | | Sheet | 1 of 1 | All dimensions in inches unless otherwise specified.<br>Harness length tolerance = +/- 5%, max ≤ 5 in.<br>Loom/tape to connector gap = 1 in. +/- 10%<br>Wires in bundle length tolerance = +/- 5%, max ≤ 1 in.<br>Terminal wire strip length tolerances controlled by MFG. | |
| ---- | | Size | 11" x 17" | | |

ADRIAN

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| | |
|---|---|
| **Title:** | ---- |
| **Part Number:** | 82238 |
| **Description:** | |

| Rev. | Date | Author | Description |
|---|---|---|---|
| A | 8/18/2026 | Luke Kaleniecki | Interior Lighting Harness |

| | |
|---|---|
| **Title:** | ---- |
| **Part Number:** | 82238 |
| **Description:** | |

| Flag | Quantity | Note |
|---|---|---|
| (1) | 1 | Tape stops 3 in behind connectors. |

| | |
|---|---|
| **Title:** | ---- |
| **Part Number:** | 82238 |
| **Description:** | |

| Id | Description | Manufacturer | Part Number | IPN | Quantity | Usage |
|---|---|---|---|---|---|---|
| 1 | Combination Line Connector, 2 Contact(s), Male, Crimp Terminal, Receptacle | Aptiv | 12047663 | | 1 | C1 |
| 2 | Conn Housing RCP 2 POS Crimp ST Cable Mount Black Automotive | Aptiv | 12047662 | | 5 | C2, C3, C4, C5, C6 |
| 3 | Molex crimp housing Automotive connector male plug, 4road, 10A, Cable installation installation | Molex | 98822-1041 | | 1 | C7 |
| 4 | Rectangular Power Connector, 4 Contact(s), Female, Crimp Terminal | Molex | 98817-1041 | | 1 | C8 |
| 5 | Delphi Metri-Pack 150 Tin Plated Unsealed Male Terminal for 20-18 AWG (5, 000 Units per Reel) | Aptiv | 12047581 | | 2 | See Wiring Table |
| 6 | Delphi Metri-Pack 150 Tin Plated Unsealed Female Terminal for 18-16 AWG (4, 500 Units per Reel) | Aptiv | 12047767 | | 10 | See Wiring Table |
| 7 | NSCC Receptacle Terminal Size 1.5, Wire Size 0.95 up to 1.87mm2 | Molex | 98897-1129 | | 4 | See Wiring Table |
| 8 | Automotive 1.5 Male SICMA-4 Clean Body SN Terminal | Aptiv | 33512109 | | 4 | See Wiring Table |
| 9 | Metri-Pack 150 Lock, For Receptacle Connector | Aptiv | 12047665 | | 1 | C1 |
| 10 | Metri-Pack 150 Lock, For Plug Connector | Aptiv | 12047664 | | 5 | C2, C3, C4, C5, C6 |
| 11 | Heat Shrink Butt Splice, 22-18 to 16-14 Ga. | Molex | 19164-0043 | 82200 | 2 | S1, S2 |
| 12 | Heat Shrink Butt Splice, 16-14 to 12-10 Ga. | NSPA | KS56-14 | 82199 | 2 | S3, S4 |
| 13 | Red, 16 AWG, TXL, 19/29 Stranding | Prysmian | 140339-91A | | ≥ 496 in | W1, W3, W5, W6, W7, W8, W14, W16, W20, W21 |
| 14 | Black, 16 AWG, TXL, 19/29 Stranding | Prysmian | 140591-91W | | ≥ 496 in | W2, W4, W9, W10, W11, W13, W15, W17, W22, W23 |
| 18 | White, 16 AWG, TXL, 19/29 Stranding | Prysmian | 140297-91 | | 8 in | W18, W19, W24, W25 |
| 17 | Anti-Abrasion Wire Harness Tape, Black | Tesa | TS51036 1. | 81685 | | See Drawing |

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| **Title:** | ---- |
| **Part Number:** | 82238 |
| **Description:** | |

| Id | Type | Manufacturer | Part Number | IPN | Description | Usage |
|---|---|---|---|---|---|---|
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|---|---|
| **Title:** | ---- |
| **Part Number:** | 82238 |
| **Description:** | |

| From | To | Conductor | Conductor PN | Twisted With | Size | Length | From Contact PN | Notes |
|---|---|---|---|---|---|---|---|---|
| C1.1 | S3 | W1.Red | 140339-91A | | 16 AWG | 235.38 in | 12047581 | |
| C1.2 | S4 | W2.Black | 140591-91W | | 16 AWG | 235.38 in | 12047581 | |
| C2.1 | S1 | W3.Red | 140339-91A | | 16 AWG | 236.38 in | 12047767 | |
| C2.2 | S2 | W13.Black | 140591-91W | | 16 AWG | 236.38 in | 12047767 | |
| C3.1 | S3 | W5.Red | 140339-91A | | 16 AWG | 3.38 in | 12047767 | |
| C3.2 | S4 | W4.Black | 140591-91W | | 16 AWG | 3.38 in | 12047767 | |
| C4.1 | S3 | W6.Red | 140339-91A | | 16 AWG | ≥ 4.38 in | 12047767 | |
| C4.2 | S4 | W11.Black | 140591-91W | | 16 AWG | ≥ 4.38 in | 12047767 | |
| C5.1 | S3 | W7.Red | 140339-91A | | 16 AWG | ≥ 5.38 in | 12047767 | |
| C5.2 | S4 | W9.Black | 140591-91W | | 16 AWG | ≥ 5.38 in | 12047767 | |
| C6.1 | S3 | W8.Red | 140339-91A | | 16 AWG | ≥ 6.38 in | 12047767 | |
| C6.2 | S4 | W10.Black | 140591-91W | | 16 AWG | ≥ 6.38 in | 12047767 | |
| C7.1 | C8.1 | W24.White | 140297-91 | | 16 AWG | 4 in | 98897-1129 | |
| C7.3 | C8.3 | W25.White | 140297-91 | | 16 AWG | 4 in | 98897-1129 | |
| S1 | C7.2 | W20.Red | 140339-91A | | 16 AWG | 2.38 in | | |
| S1 | C8.2 | W21.Red | 140339-91A | | 16 AWG | 2.38 in | | |
| S2 | C7.4 | W22.Black | 140591-91W | | 16 AWG | 2.38 in | | |
| S2 | C8.4 | W23.Black | 140591-91W | | 16 AWG | 2.38 in | | |

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| **Title:** | ---- |
| **Part Number:** | 82238 |
| **Description:** | |

| # | Type | Reference Designator | Manufacturer | Part Number | Color | Size | From Strip | To Strip | Length | Twisted With | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Wire | W1 | Prysmian | 140339-91A | Red | 16 AWG | | 0.375 in | 235.38 in | | |
| 2 | Wire | W2 | Prysmian | 140591-91W | Black | 16 AWG | | 0.375 in | 235.38 in | | |
| 3 | Wire | W3 | Prysmian | 140339-91A | Red | 16 AWG | | 0.375 in | 236.38 in | | |
| 4 | Wire | W4 | Prysmian | 140591-91W | Black | 16 AWG | | 0.375 in | 3.38 in | | |
| 5 | Wire | W5 | Prysmian | 140339-91A | Red | 16 AWG | | 0.375 in | 3.38 in | | |
| 6 | Wire | W6 | Prysmian | 140339-91A | Red | 16 AWG | | 0.375 in | ≥ 4.38 in | | |
| 7 | Wire | W7 | Prysmian | 140339-91A | Red | 16 AWG | | 0.375 in | ≥ 5.38 in | | |
| 8 | Wire | W8 | Prysmian | 140339-91A | Red | 16 AWG | | 0.375 in | ≥ 6.38 in | | |
| 9 | Wire | W9 | Prysmian | 140591-91W | Black | 16 AWG | | 0.375 in | ≥ 5.38 in | | |
| 10 | Wire | W10 | Prysmian | 140591-91W | Black | 16 AWG | | 0.375 in | ≥ 6.38 in | | |
| 11 | Wire | W11 | Prysmian | 140591-91W | Black | 16 AWG | | 0.375 in | ≥ 4.38 in | | |
| 12 | Wire | W13 | Prysmian | 140591-91W | Black | 16 AWG | | 0.375 in | 236.38 in | | |
| 13 | Wire | W20 | Prysmian | 140339-91A | Red | 16 AWG | 0.375 in | | 2.38 in | | |
| 14 | Wire | W21 | Prysmian | 140339-91A | Red | 16 AWG | 0.375 in | | 2.38 in | | |
| 15 | Wire | W22 | Prysmian | 140591-91W | Black | 16 AWG | 0.375 in | | 2.38 in | | |
| 16 | Wire | W23 | Prysmian | 140591-91W | Black | 16 AWG | 0.375 in | | 2.38 in | | |
| 17 | Wire | W24 | Prysmian | 140297-91 | White | 16 AWG | | | 4 in | | |
| 18 | Wire | W25 | Prysmian | 140297-91 | White | 16 AWG | | | 4 in | | |

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| **Title:** | ---- |
| **Part Number:** | 82238 |
| **Description:** | |

| # | Manufacturer | Part Number | Description | Label Text |
|---|---|---|---|---|
| | | | | |