

Introduction / Comments:

Install Instructions For Exterior Plug & Play Lights For Ford Lightning

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 Exterior Plug And Play Lights For Ford Lightning

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*****TORQUE*****
Torque all strobe
fasteners to 10 in-lbs.
DO NOT OVER TIGHTEN

DO NOT MOUNT ON A
CURVED SURFACE

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

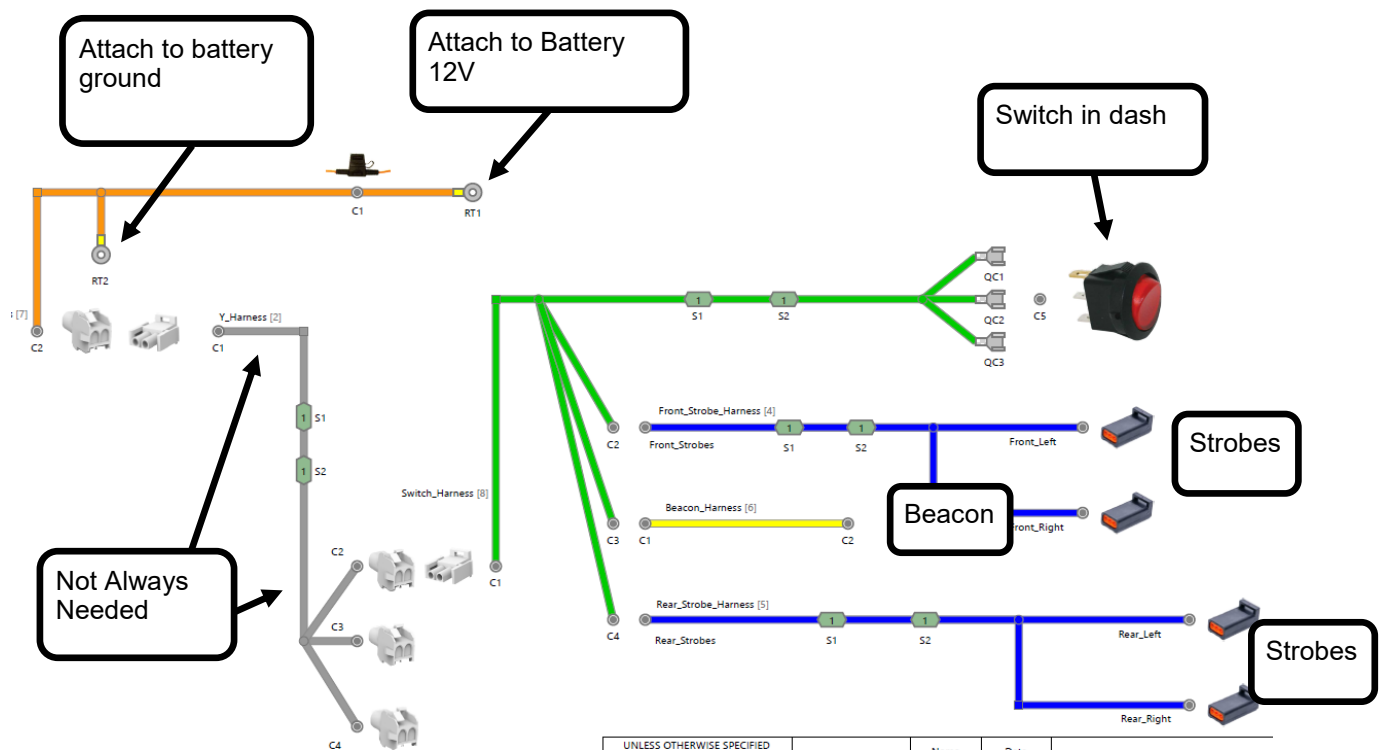
Before installation, disconnect the OEM negative battery cable.

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.

Please reference the order drawing and spec sheet to see what components are going to be installed on this particular upfit.

These installation instructions are for most cases and for reference. Not all installs will have strobes, beacons, and lightbars. Reference the instructions for only what you are installing.

Overall Harness Diagram



Tools required:

11mm, 10mm, and 7mm socket

20 torx bit

Phillips bit and 5/16" step drill bit

Power drill and impact

Torque wrench



Components



	Part Number	Description
1	67093	Power Harness #2
2	67097	Switch Harness #1
3	67105	Front Strobe Harness #5 (If Applicable)
4	67106	Rear Strobe Harness #1 (If Applicable)
5	67113	Beacon/Lightbar Harness #3 (If Applicable)
6	67686 or 67687	Strobes (If Applicable)
7	67689 or 67690	Beacons (If Applicable)
8	52769 or 56075	Beacon/Lightbar Mount (If Applicable)
9	67691 or 67692 or 96118 or 67693	Lightbars (If Applicable)



The purpose of plug and play lighting is to be completely modular. Due to this feature, refer to the order drawing for all exact lighting placements. These installation instructions are for most cases and for reference. Not all installs will have strobes, beacons, and lightbars. Reference the instructions for only what you are installing.

Harness pictures are for reference only.

Placements

Switch placement: Dash panel under headlight buttons



Front Strobes: Front Bumper



*****TORQUE STROBES TO 10-IN-LB'S MAXIMUM*****

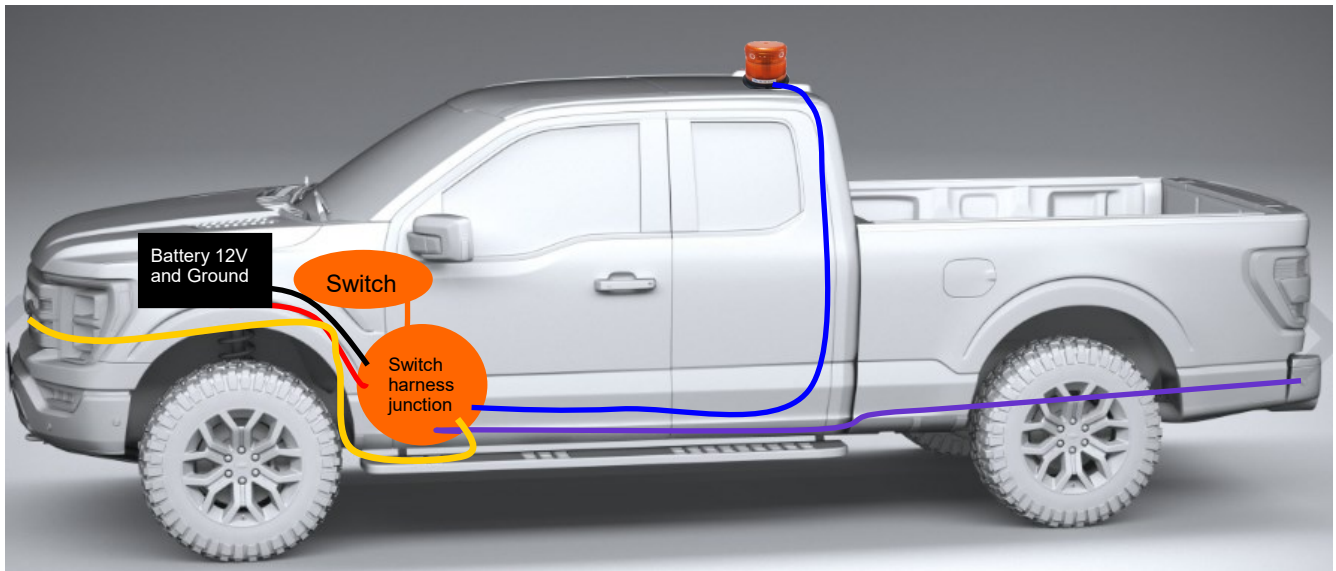
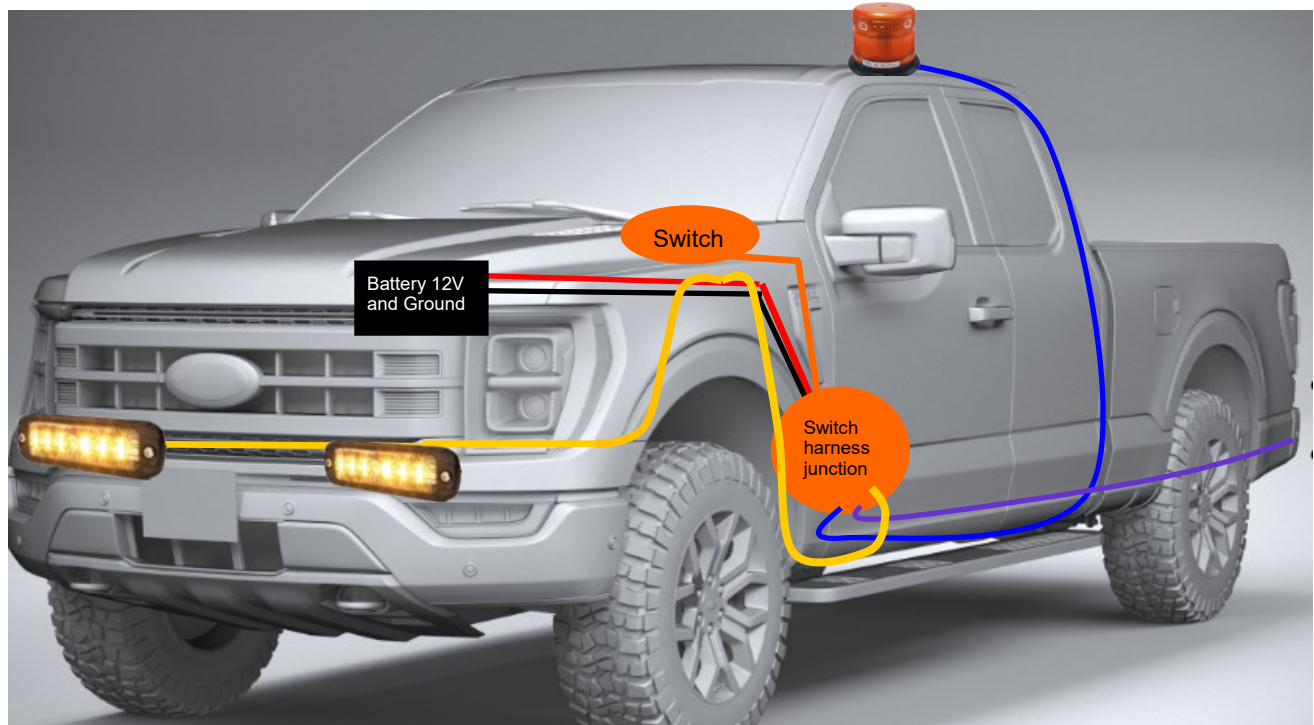
Beacon or Lightbar: On CHMSL above 3rd brake light—on some sort of mount



Rear Strobes: Rear Bumper



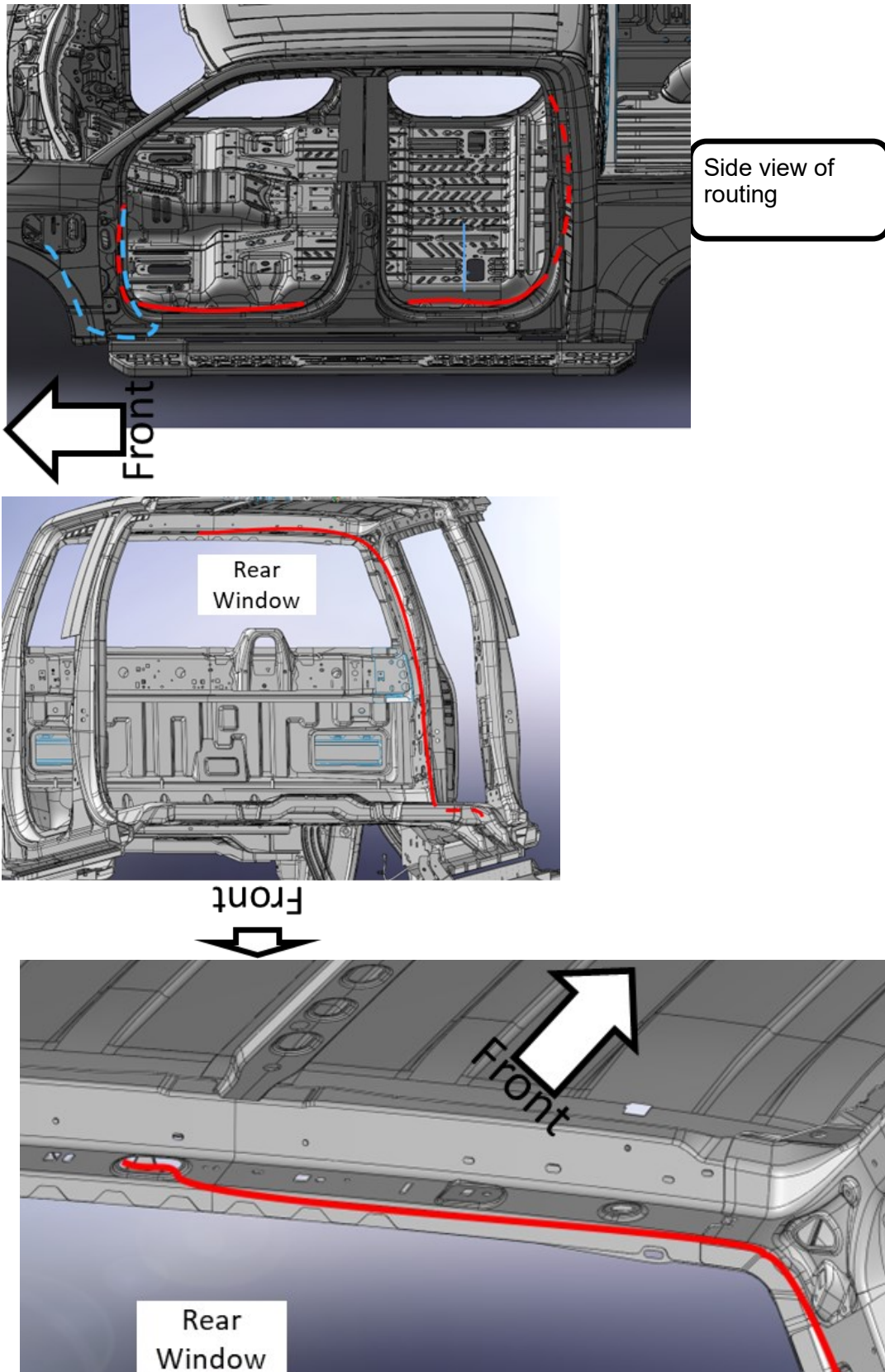
Routing Overview



Color	Key - Items
Yellow	Strobes - Front strobe harness
Red/Black	Power harness: Battery to kick panel
Orange	Switch harness: Switch in dash
Blue	Beacon harness: Switch to beacon
Purple	Strobes - Rear strobe harness



Overview of Routing-Beacon/Lightbar Wire Harness:



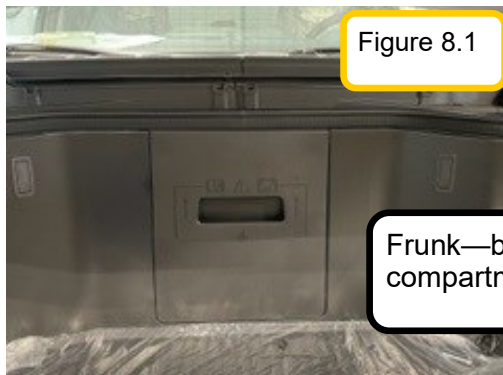


Figure 8.1

Frunk—battery compartment

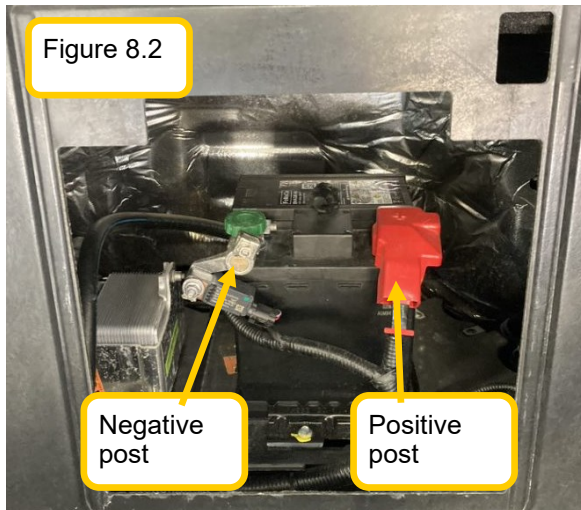


Figure 8.2

Negative post

Positive post

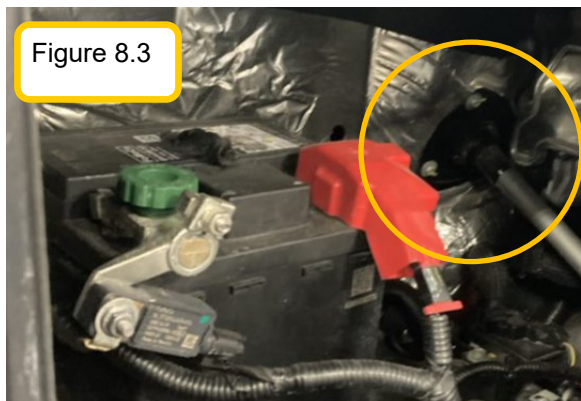


Figure 8.3

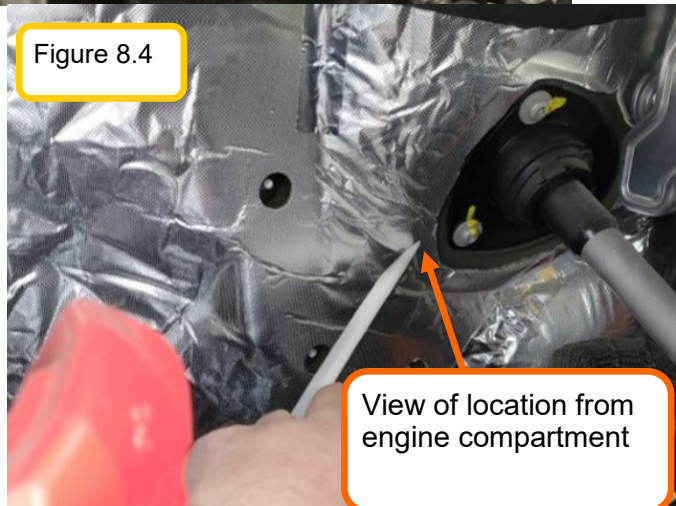


Figure 8.4

View of location from engine compartment

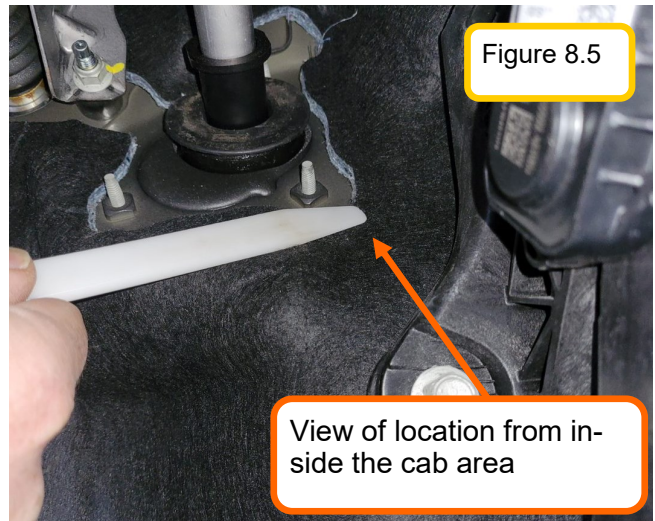


Figure 8.5

View of location from inside the cab area

Step 1: Locate the power harness #67093.

Remove the fuse from the inline fuse holder until the end of the install

Locate the OEM battery in the frunk, behind the trim panel. Figure 8.1.

Step 2:

Attach the red wire with the ring terminal to the battery positive post.

Attach the black wire with the ring terminal to the battery negative post. Figure 8.2.

Step 3:

Locate the steering shaft located behind the battery to the right (driver's side) Circled in figure 8.3.

Drill a hole on the bottom left of the shaft pointed out in figure 8.4. The hole should fit the grommet on the power harness.

The hole location can also be seen in the cab area by the pedals, shown in figure 8.5.

****BE SURE TO CHECK THAT THE OPPOSING SIDE OF THE FIREWALL IS CLEAR BEFORE DRILLING.****

Route the white connector end through the firewall and insert the grommet on the sheet metal.

Be sure not to disrupt any orange high voltage cabling. Do NOT zip tie to the high voltage wiring.

Power harness

Switch Harness



Step 4:

Locate the switch harness #67097

Connect the switch harness connector to the power harness in the kick panel area.

Disassemble the IP trim to gain access behind the dash. Figure 9.1 and 9.2.

Route the switch end of the switch harness up the dash and through the opening in the IP. Figure 9.3.

Secure to the OEM harnesses behind the IP.

Figure 9.1

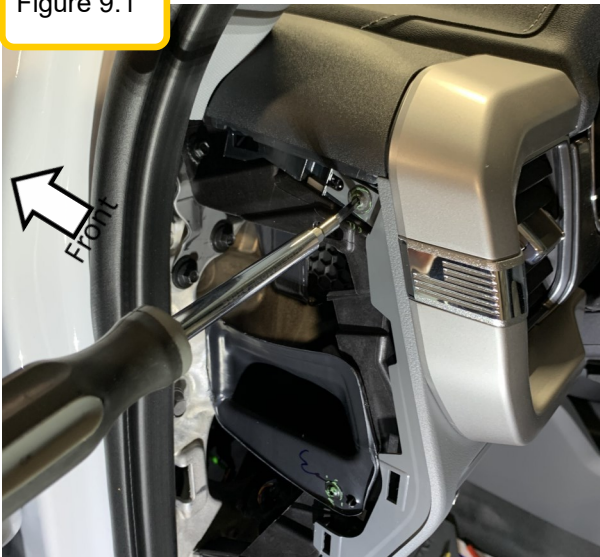


Figure 9.3

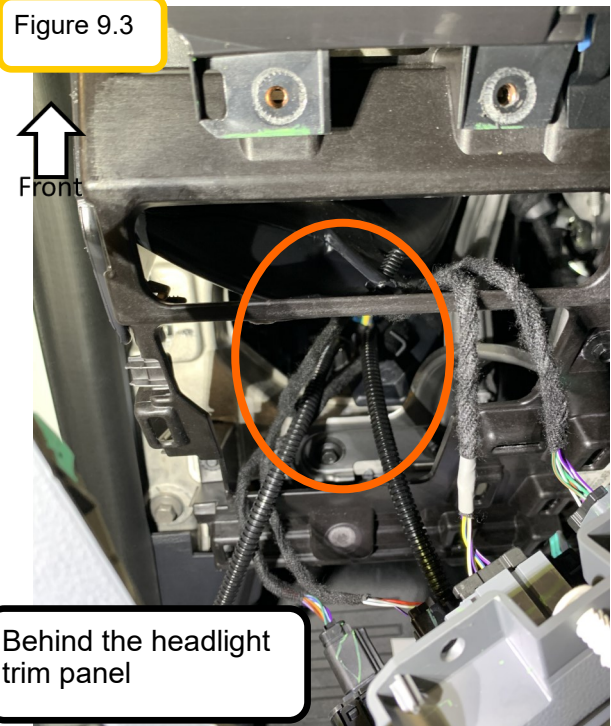
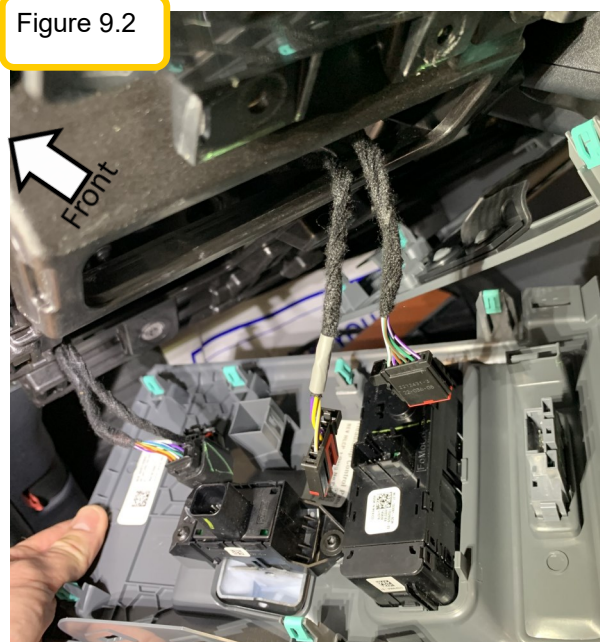


Figure 9.2



Behind the headlight trim panel



Step 5:

Drill a hole for the switch, in the trim panel like shown below.

The hole will be 1.25" inches down from the bottom of the headlight trim panel and 1" from the edge of the parking brake button. (4.25 from the edge of the IP panel). Figure 10.1.

Route the harnesses through the hole

Step 6:

Connect the ground spade to the gold pin on the rocker switch

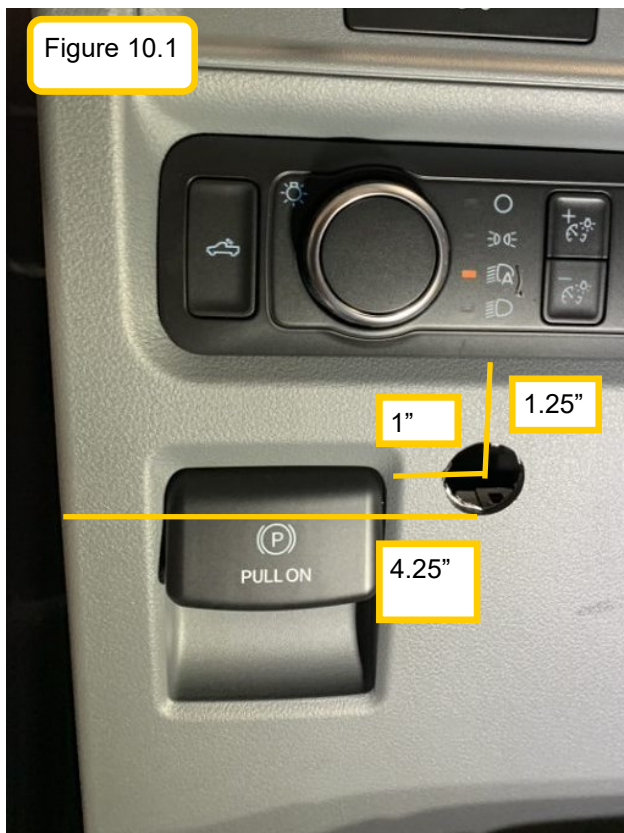
Connect the white battery power spade to the opposite terminal on the switch.

Connect the red spade to the middle pin

Insert the switch into the hole and place the strobe/beacon decal (if supplied) around the switch.

Reassemble all trim and secure wiring.

Figure 10.1



Strobe Install—If Applicable

Strobe pictures are for reference only. Please refer to product structure/spec sheets for the actual strobes for the install.

Figure 11.1



Step 1:

Locate the rear strobe harness #67106.

Connect the rear strobe harness to the switch harness (one of the remaining unused connectors) in the driver's foot well. Figure 11.1.

Step 2:

Locate the driver's side door sill area. Figure 11.2.

Use a trim tool to remove the trim panels in the driver's step well and dash/kick panel.

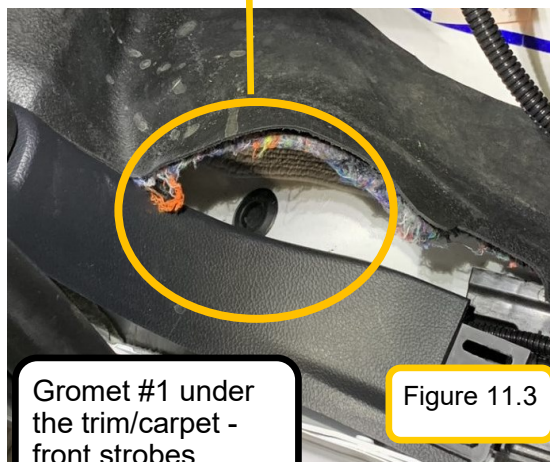
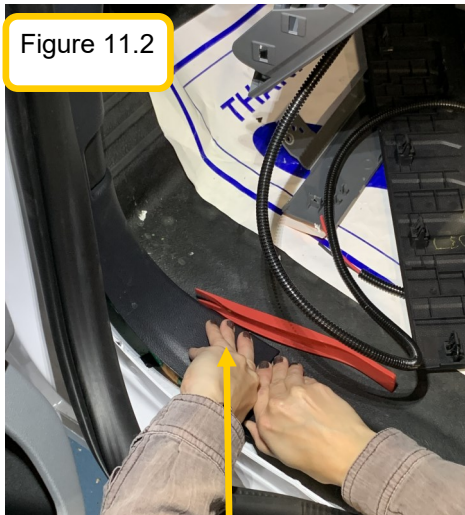
Locate the OEM grommets under the carpet. There will be one right next to the foot sill area and one to the right closer to the driver's seat.

The front strobes will use the one closest to the foot sill and the rear strobes will use the grommet closest to the driver's seat. Figure 11.3 and 11.4.

Cut an "X" in the grommet. Route the rear strobe harness through the grommet (by the seat) to the underneath of the vehicle.

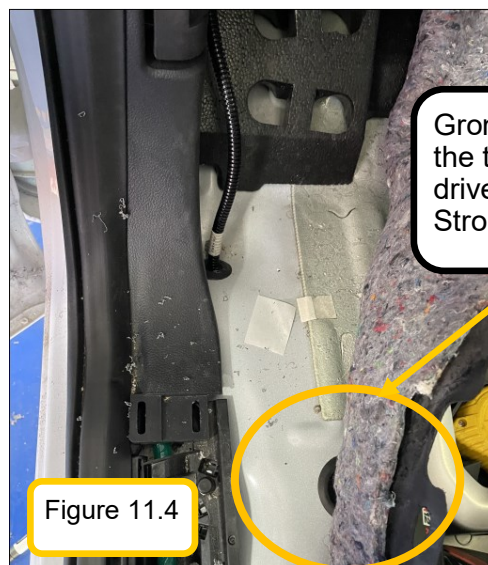
Silicone the grommet when done.

Figure 11.2



Grommet #1 under the trim/carpet - front strobes

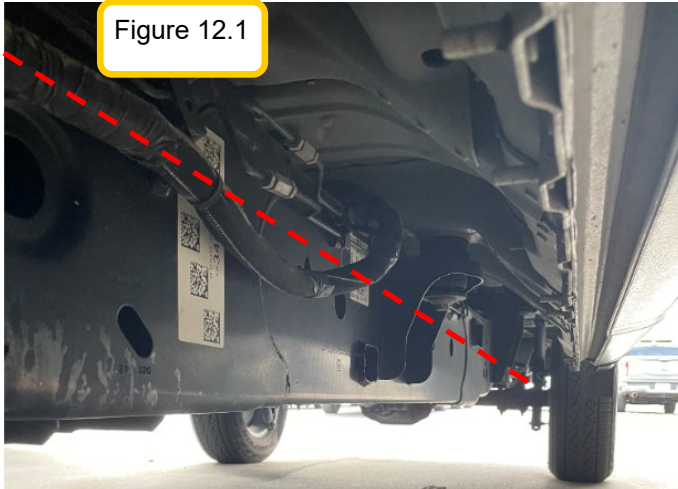
Figure 11.3



Grommet #2 under the trim/carpet - drivers seat (rear Strobes)

Figure 11.4

Figure 12.1



Step 3: Routing (Refer to routing diagrams at the beginning of the instructions)

Route the strobe harness rearward following the frame (red dotted line). Secure with zip ties to the OEM harness. Figure 12.1 and 12.2.

Be sure not to interfere with any orange high voltage cabling.

Step 4: Mounting Strobes

Find the left most reverse sensor.

Figure 12.2

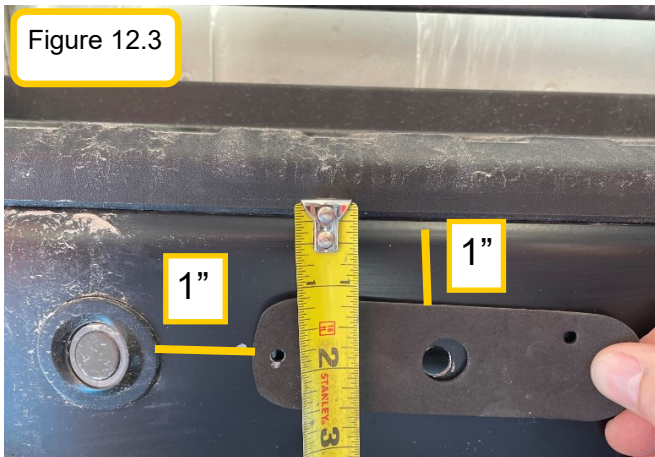


Place the strobes in line with the sensor horizontally (about 1" down from the bumper crease) and 1" over from the sensor. Figure 12.3.

Use the strobe as a template, mark the center hole location on the bumper (for routing the wires through).

Drill a 3/8" hole for the wire pass through of the strobe. Use primer on the hole to prevent rusting. Figure 12.3.

Figure 12.3



Connect the strobe light to the harness and silicone the hole.

Place the strobes in their desired locations and fasten them onto the bumper with the **ASCO SUPPLIED SCREW AND NUT: FAS0501 and FAS0503 (for rear bumper only—front will use the strobe supplied screws)**

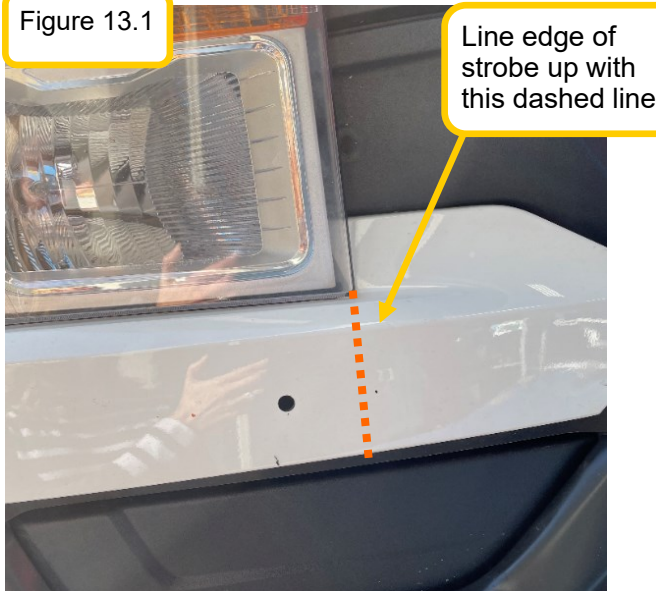
Figure 12.4.

*****TORQUE STROBES TO 10-IN-LB'S MAXIMUM*****

Figure 12.4



Figure 13.1



Step 7: Mounting Front Strobes

Locate the left front headlight area.

Line the farthest right edge of the strobe with the right edge of the headlight.

Figure 13.1.

Place the strobe 1.5" (or centered) up from the bottom edge of the front fascia.

Figure 13.2.

Use the strobe as a template, mark the center hole location on the panel (for routing the wires through).

Drill a 3/8" hole for the wire pass through on the strobe.

Do the following step after routing has been completed:

Place the strobes in their desired locations and fasten them onto the grill with the supplied screws.

Figures 13.3 and 13.4.

*****TORQUE STROBES TO 10-IN-LB'S MAXIMUM*****

Repeat for the other side strobe.

Figure 13.2

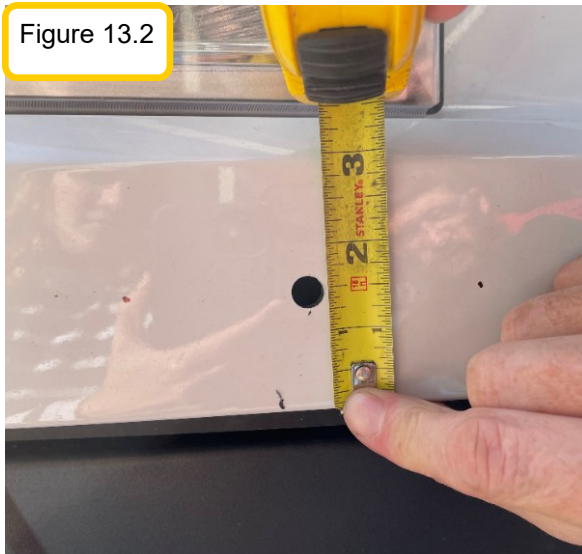


Figure 13.3

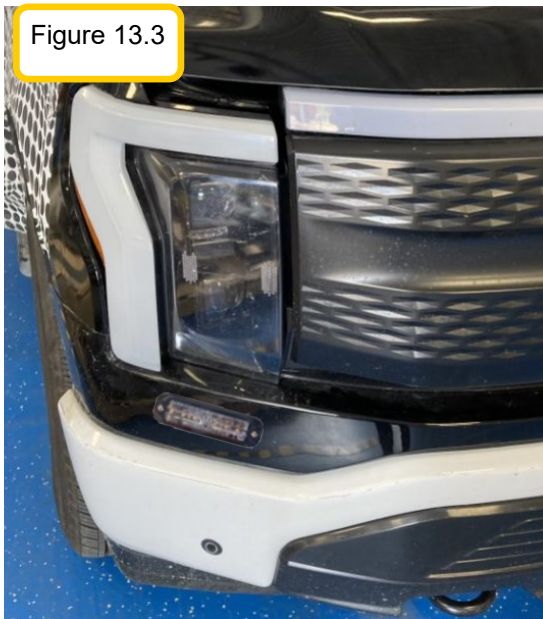
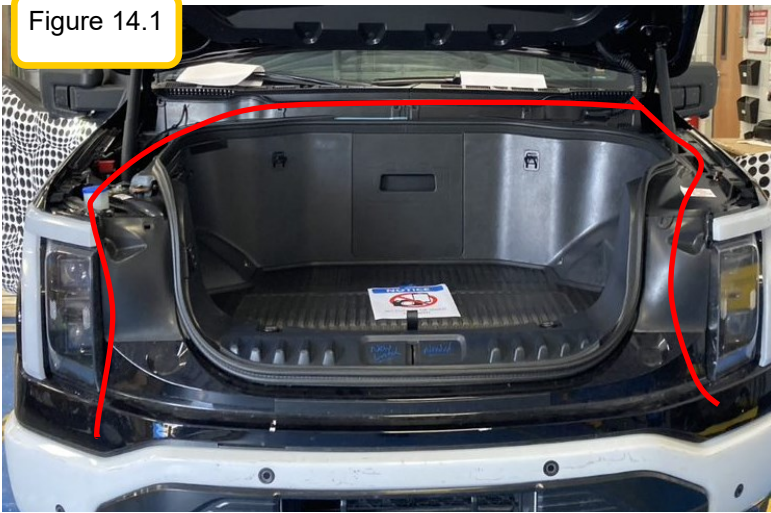


Figure 13.4



Figure 14.1



Step 5: Locate the front strobe harness #67105.

Connect the passenger side strobe to the harness. Route the harness over to the other strobe location, following the red path shown in figure 14.1.

Using a fish tape may help with the install.

Be sure not to interfere with any high voltage cabling.

Be sure not to secure or route the harness anywhere near moving or hot objects.

Connect the second connector to the driver's side strobe.

Figure 14.2



End to route through the OEM grommet—front strobe harness

Grommet: Cab view
Also, strobe harness connected to switch

Step 6:

Start by routing the inside connector end of the harness to the firewall. Figure 14.2.

Locate the grommet by the driver's foot sill in the cab area (found previously on page 11)

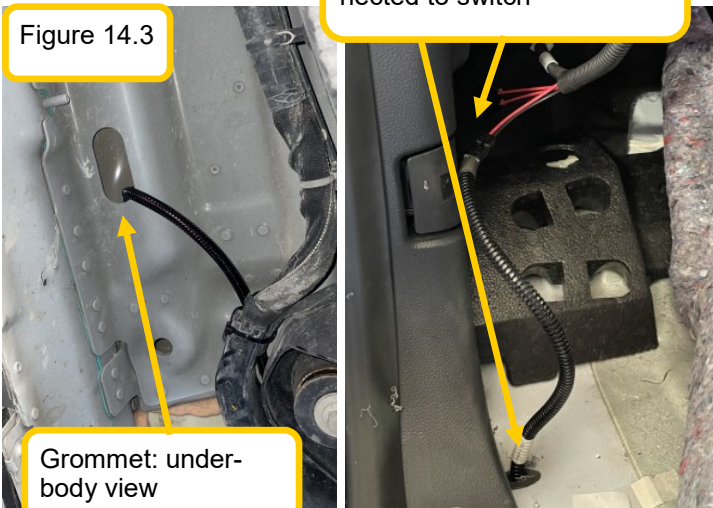
Route the harness down to the underneath of the vehicle, following the OEM harnesses.

Cut and X in the grommet and route the connector through. Figure 14.3.

Connect the front strobe harness to the switch harness (one of the remaining unused connectors) in the driver's foot well. Figure 14.4.

Secure wiring with zip ties.
Silicone the grommet. Figure 14.5.

Figure 14.3



Grommet: under-body view

Figure 14.4

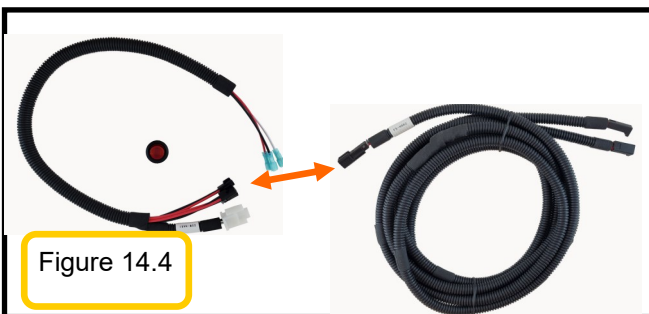
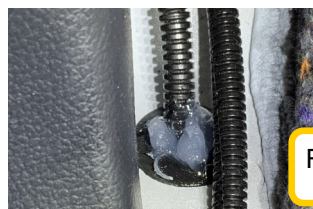
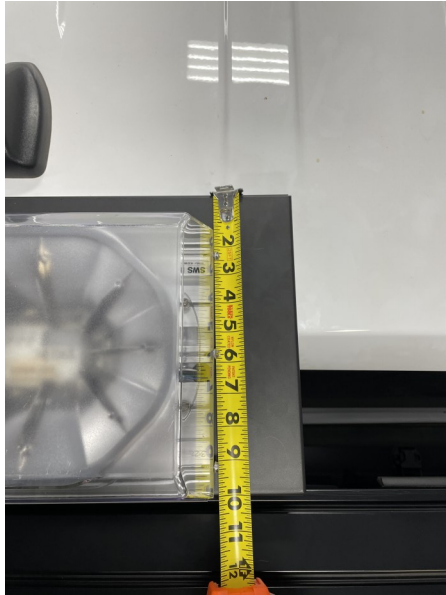


Figure 14.5



Beacon/Lightbar Install—If Applicable

Lightbar/ beacon/ and mount pictures are for reference only. Please refer to product structure/ spec sheets for the actual beacon/lightbar/mount for the install.



Step 1: On a table/bench: Assemble the light

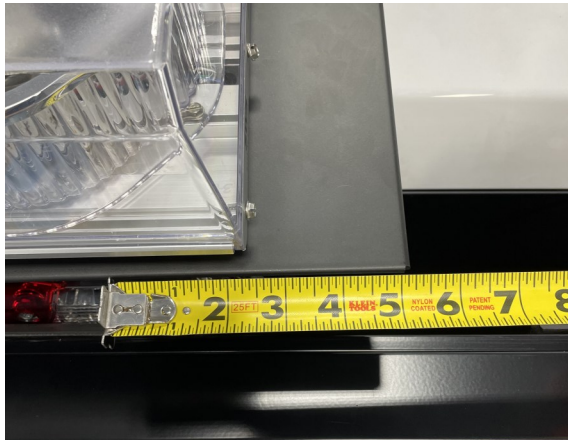
Assemble the lightbar or beacon to the mount, using the supplied fasteners and rubber spacers with the lightbar.

If installing a Whelen lightbar, use the provided screws (FAS0869), washers (FAS0871), and nuts (FAS0501) in the ASCO kit. They are not provided with the light.

All other lights will have their own hardware.

Note: Lightbar (SWS Apollo) in pictures is for reference only.

Center the lightbar or beacon onto the mount, side to side, then slide the lightbar to the rear of the mount until it is flush. See pictures for reference.

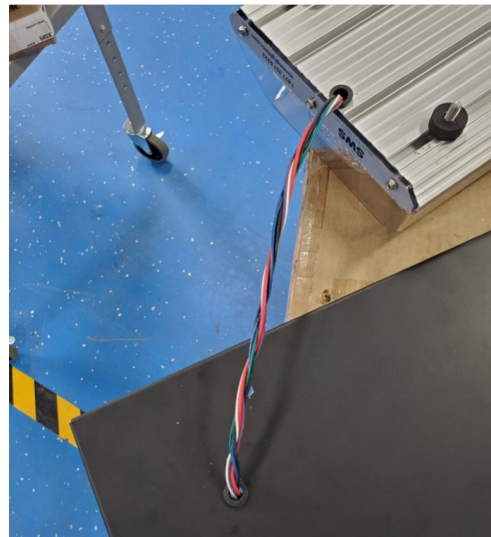
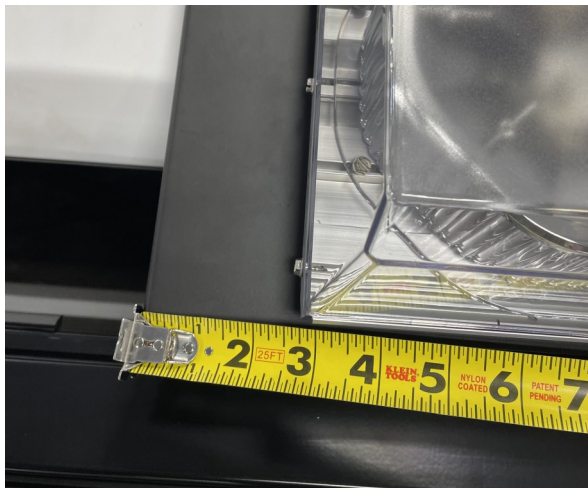


Use the lightbar/beacon as template, mark the needed holes for mounting. Drill the needed holes for mounting.

Drill the hole for the wiring pass through and insert the provided grommet (if applicable).

If there is a connector on the end of the lightbar/beacon, use the 1" grommet (36096-0). If there is not a connector, use the 3/8" grommet (70805) and refer to the next page.

Silicone the grommet/pass thru wiring.



If Lightbar/Beacon does not have a connector on the wires:

Figure 16.1



Figure 16.2



After mounting the light to the Acari mount and pulling the wire through the grommet (70805)

Locate the connector housing inside the lightbar/beacon box. Figure 16.1.

Note if it has a red insert inside the connector or not. Refer to figure 16.2 for red insert inside the connector.

Insert the lightbar wire terminals into the connector. **See steps below:**

In these steps be very careful to place the terminals into the correct side of the connector.

Line the red wire terminal up with cavity #1 and the black wire terminal up with cavity #2. Figure 16.3.

Note the connector has a "1" and a "2" noted on the connector (circled in red). Figure 16.4. The red wire will be inserted into the #1 cavity of the connector. The black wire will be inserted into the #2 cavity on the connector.

Be sure to align the terminal prongs up with the inside of the connector pin outs.

Carefully insert the terminals into their designated section. Figure 16.5.

Also be sure the terminals snap into position. You should feel or hear a click when they are correctly inserted.

Pull on the wiring to be sure the connectors have been inserted completely.

If not already done:

Insert the red plastic piece into the top end of the connector. This will also click into place. Figure 16.6 and 16.7.

Silicone the grommet/wiring.

Figure 16.3



Figure 16.4



Figure 16.5

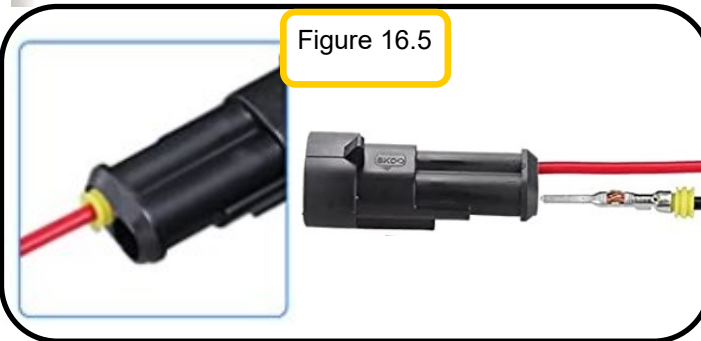


Figure 16.6

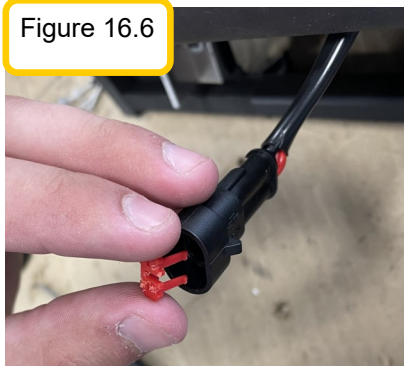


Figure 16.7

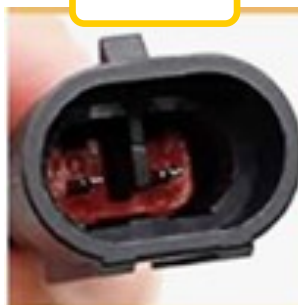




Figure 17.1



Figure 17.2

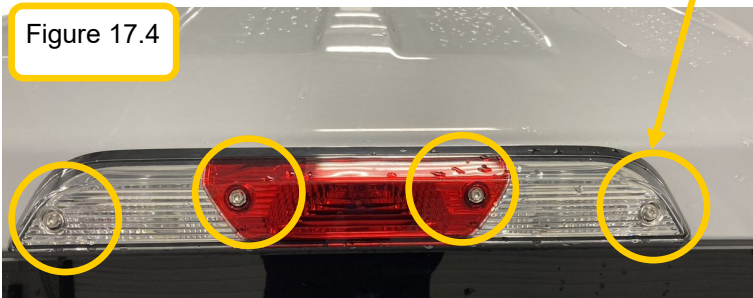


Figure 17.4

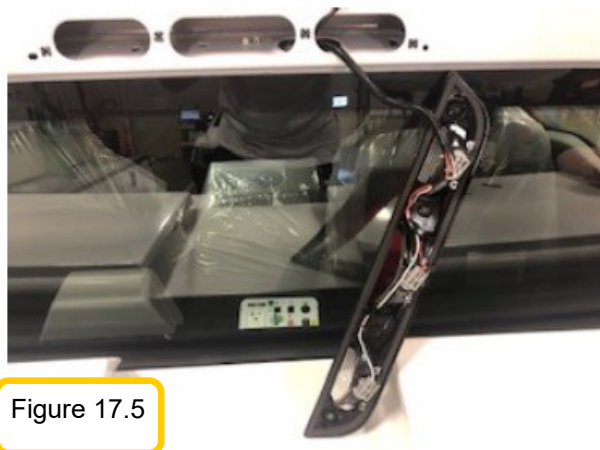


Figure 17.5

Pictures to the left are for beacon/lightbar mounting references.

Figure 17.1, 17.2, and 17.3



Figure 17.3

Step 2: Disconnect OEM Light

Using a torx T20 bit, remove the 4 screws holding the 3rd brake light to the CHMSL. Figure 17.4.

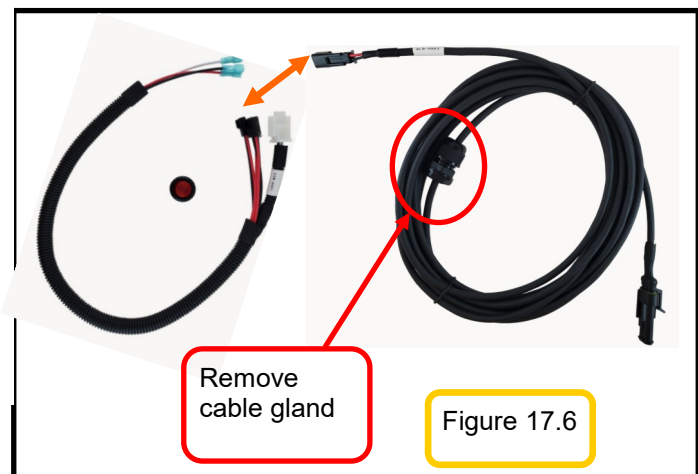
Remove the OEM light from the CHMSL and disconnect the OEM harness clip. Figure 17.5.

Step3:

Locate the beacon/lightbar harness (67113).

Remove the cable gland off the beacon/lightbar harness. This will not be needed to the CMSL mounted light install.

Connect the harness to the switch harness (one of the remaining unused connectors) in the driver's foot well. Figure 17.6.



Remove cable gland

Figure 17.6

Beacon/Lightbar Install—If Applicable

Step 4: Routing (Refer to routing diagrams at the beginning of the instructions)

Route the beacon harness following the OEM harness rearward along the foot sill and then up the rear C pillar. Figure 18.1 and 18.2.

****BE SURE TO AVOID ALL SEAT BELT RETENTIONERS****

Step 5: Feed the fish tape through the CHMSL opening towards the driver's side C pillar. Tape the harness to the fish tape and pull through the CHMSL opening. Figure 18.3.

Make sure harness is tucked head liner and C pillar trim. Figure 18.4.

See pictures for routing references. Secure all wiring with cable ties and trim panels.

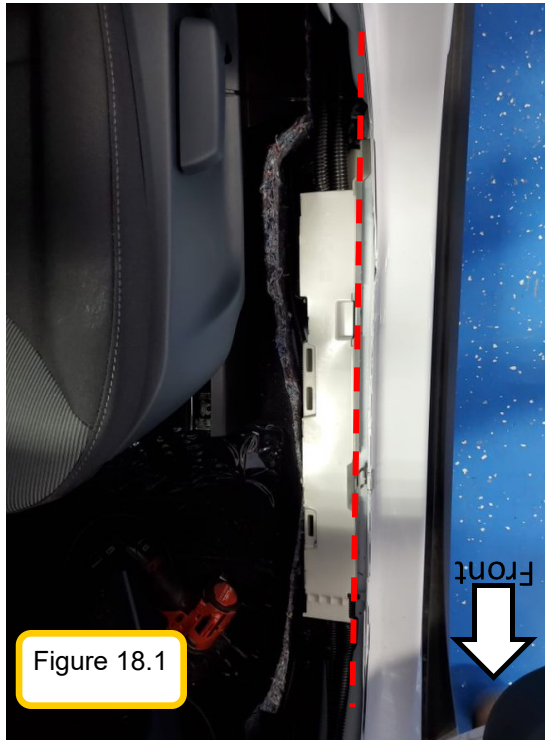


Figure 18.1



Figure 18.2

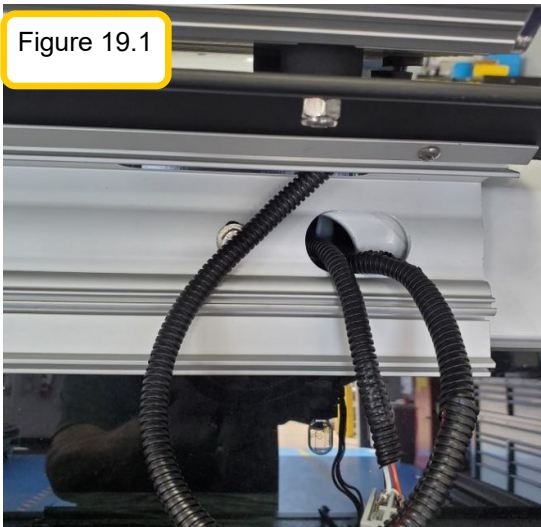


Figure 18.3



Figure 18.4

Figure 19.1



Step 5: Mounting the light:

Using the mount manufacturer supplied instructions, attach the mount to the vehicle body.

Pull the lightbar harness through the mount opening like seen in the picture to the left—before re-installing the OEM light and black trim plastic piece. Figure 19.1, 19.2, and 19.3.

Connect the beacon/lightbar harness with the beacon/lightbar.

Figure 19.2



Tape up all non-needed wires from the lightbar/beacon.

Assemble the rest of the needed lightbar/beacon mount pieces.

Re-connect all the OEM light wiring and attach the light back to the Acari mount/vehicle. Figure 19.4.

Figure 19.3



Figure 19.4





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. Re-assure all pass through holes have been silicone. 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

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WWW.ADRIANSTEEL.COM



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

DRAWN BY
MDG

DATE DRAWN
10/26/2006

ECN NUMBER
18021

ECN DATE
11/13/2015

PART WEIGHT
0.01 LBS.

REV. LEVEL
D

PART NUMBER
13905-0

PART NUMBER

26618-0**ITEM DESCRIPTION: SILICONE, 1oz. TUBE**

SPECIFICATIONS: SU5005 RTV SILICONE
1oz. TUBE
CLEAR OR EQUIVILENT
SELF PIERCING CAP

SPECIAL NOTES:

SUPPLIED BY: THIS ITEM IS ADRIAN AVAILABLE!

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**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
JLC

DATE DRAWN
7/21/2001

ECN NUMBER
16551

ECN DATE
7/22/2014

PART WEIGHT
0.02 LBS.

REV. LEVEL
C

PART NUMBER
26618-0

PART NUMBER

26618-0**ITEM DESCRIPTION: SILICONE, 1oz. TUBE**

SPECIFICATIONS: SU5005 RTV SILICONE
1oz. TUBE
CLEAR OR EQUIVILENT
SELF PIERCING CAP

SPECIAL NOTES:

SUPPLIED BY: THIS ITEM IS ADRIAN AVAILABLE!

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
JLC

DATE DRAWN
7/21/2001

ECN NUMBER
16551

ECN DATE
7/22/2014

PART WEIGHT
0.02 LBS.

REV. LEVEL
C

PART NUMBER
26618-0

PART NUMBER

36096-0

ITEM DESCRIPTION: GROMMET,RUBBER,1" ID



MANUFACTURER: CTW (or equiv.)
MANUFACTURERS PART NUMBER: G2930

SPECIFICATIONS: 1" I.D.
1-1/4" PANEL HOLE DIA.
3/16" MAX PANEL THICKNESS
1-1/2" O.D.
7/16" THICKNESS

SPECIAL NOTES: NONE

SUPPLIED BY: THIS ITEM IS ADRIAN AVAILABLE!**PURCHASED PRODUCT DATA SHEET (PPDS)**

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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
HJE

DATE DRAWN
04/01/2008

ECN NUMBER
19252

ECN DATE
01/31/2017

PART WEIGHT
0.01 LBS.

REV. LEVEL
D

PART NUMBER
36096-0

ITEM DESCRIPTION: NO DRILL PLATFORM, FORD FSPU, LOW PROFILE

MANUFACTURER: ACARI

MANUFACTURERS PART NUMBER: RTM-101-LP-FORD

SPECIFICATIONS: 22" Low Profile no drill mount for beacons and lightbars

SPECIAL NOTES: 2015+ Ford F-150 and 2017+ Ford F250/350 Pickups only.

SUPPLIED BY: THIS ITEM IS ADRIAN AVAILABLE!**PURCHASED PRODUCT DATA SHEET (PPDS)**

Page 1 of 1

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**ADRIAN STEEL**Cargo Management Solutions for Commercial Vehicles

906 JAMES STREET
ADRIAN, MI 49221
517-265-6194

WWW.ADRIANSTEEL.COM

**CAUTION**

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DRAWN BY
RBB

DATE DRAWN
10/04/2016

ECN NUMBER
19221

ECN DATE
01/27/2017

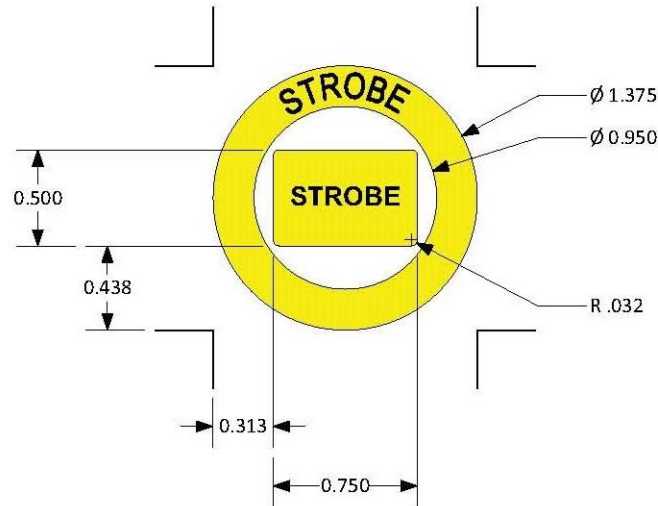
PART WEIGHT
3.00 LBS.

REV. LEVEL
C

PART NUMBER

52769

ITEM DESCRIPTION: STROBE SWITCH DECAL SET



MANUFACTURER: VANNER

MANUFACTURERS PART NUMBER: TBD

SPECIFICATIONS: (1) Circular Yellow Decal (ID=0.950", OD=1.375") with "STROBE" in black letters
 (1) Rectangular Yellow Decal (H=0.500", L=0.750") with "STROBE" in black letters

SPECIAL NOTES: For round rocker switch (OD=0.780") and Ford Transit Upfitter Switches.

SUPPLIED BY: THIS ITEM IS ADRIAN AVAILABLE!**PURCHASED PRODUCT DATA SHEET (PPDS)**

Page 1 of 1

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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
 RJB

DATE DRAWN
 11/15/2017

ECN NUMBER
 XXXX

ECN DATE
 XXXXXX

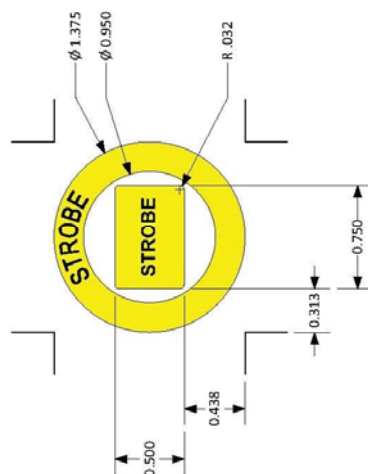
PART WEIGHT
 0.02 LBS.

REV. LEVEL
 A

PART NUMBER
55073

REVISIONS			
REV	DESCRIPTION	DATE	RE/ECO

- NOTES:
1. MATERIAL : .002 YELLOW POLYESTER
 2. ARTWORK FROM D91XXXX-A PAGE 1, PMS BLACK
 3. .001 OVERLAMINATE
 4. ADHESIVE BACKED



VANNER INCORPORATED		HILLIARD, OHIO USA	
TOL. LABEL/ METAL .x ± .025 .xx ± .015 .xxx ± .005		TITLE: LABEL, STROBE TXT, .95ID ROUND SWITCH	
TOL. CABLES .xxx ± .25		DRAWING/ PART NO. D01XXXX	
DRNDATE MEO 11/14/17	CHKDATE XXX XXXXXX	SHEET 1 OF 1	REV A
SCALE: NONE REA/ECO NO.: XXXX			
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PART NUMBER
55073

Page 2 of 1

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517-265-6194
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DRAWN BY
RJB

DATE DRAWN
11/15/2017

ECN NUMBER
XXXX

ECN DATE
XXXXXXX

PART WEIGHT
0.02 LBS.

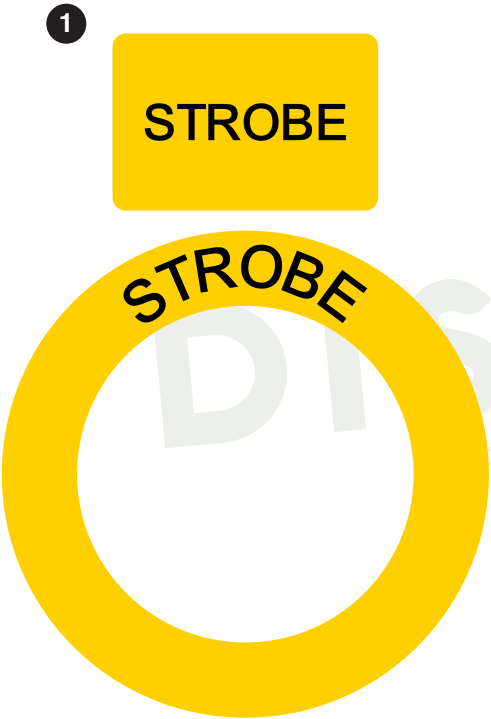
REV. LEVEL
A

PART NUMBER
55073

LOC | QTY | Part # | Description | Size

Material: IJ39 | Lamination: 8518

1 1: 6039597.Strobe Switch-1.52" x 2.07"



Note: Part will not be weeded, just cut.

Kit# 8001872 | Adrian Steel Part # 55073

06/01/2023 • JY
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ASCO REV.1 6/14/2023

DISTYLL GRAPHIC SOLUTIONS FINAL DESIGN	CLIENT NAME:		Switch Decals		O-ID: O15319-1
	Adrian Steel				Rev #: XXXX
	DATE:	DESIGNER:			Opt #: A
	O5/31/2023	TRN			

Please check information to confirm accurate vehicle specifications.

CLEANING INSTRUCTIONS All surfaces must be considered contaminated. Clean the vehicle surface immediately before applying the film. Dust and other contaminates can collect quickly on the surface and prevent the film from adhering properly. Even a freshly painted surface can collect dust before graphics can be applied.

For the best success with the films recommended for vehicle graphics, always apply the graphics when the air and vehicle surface are both above 60°F (16°C) and below 90°F (32°C) before beginning the installation.

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: This is also from HellermannTyton: Their Part Number is 156-00592



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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:	22671
CURRENT ECN:	22671
ECN DESCRIPTION:	
RELEASE TO PRODUCTION	
REVISED BY: EMS	

PURCHASED
COMPONENT

REFERENCED SUPPLIER AND/OR MANUFACTURER
Fastenal
REFERENCED SUPPLIER AND/OR MANUFACTURER PART NUMBER
0787863
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

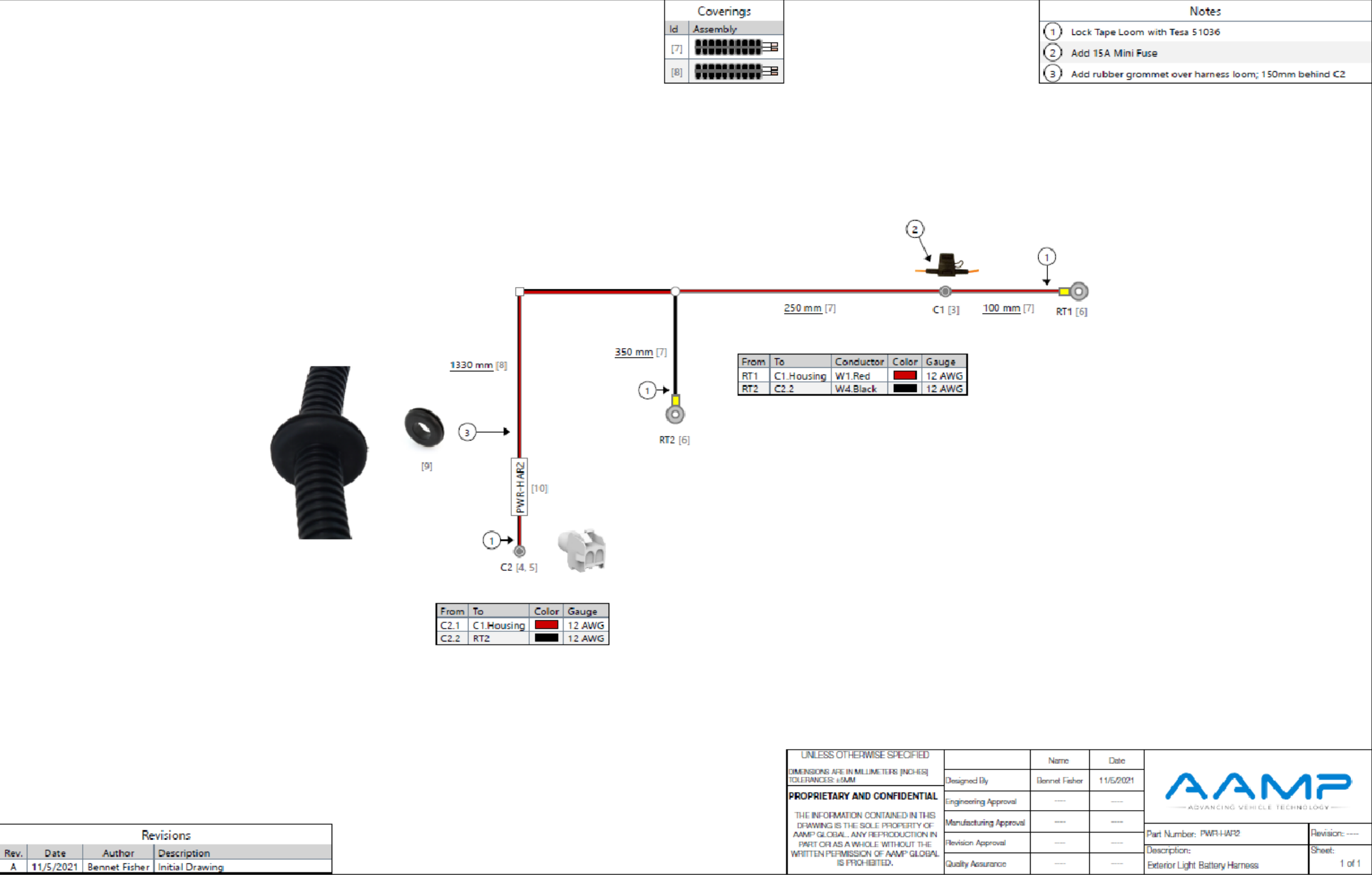
Sheet 1 of 1

PART / PRODUCT IDENTIFICATION

ADRIAN STEEL®		ADRIAN STEEL COMPANY 906 JAMES STREET, ADRIAN, MI 49221	REVISION LEVEL A
MAT'L USED:		DESIGNED BY: EMS	
DESCRIPTION: Clip, Black UV Tie, HellermannTyton			
WEIGHT (Lbs.): 0.5	SEGMENT CODE: ELE	PART NUMBER: 59713	

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: 25378
CURRENT ECN: 25378
ECN DESCRIPTION:
RELEASE FOR PRODUCTION
REVISED BY:

PURCHASED COMPONENT

REFERENCED SUPPLIER AND/OR MANUFACTURER
AAMP GLOBAL

REFERENCED SUPPLIER AND/OR MANUFACTURER PART NUMBER
67093 OR PWR-HAR2

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

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Sheet 1 of 1

PART / PRODUCT IDENTIFICATION		
 ADRIAN STEEL [®]	ADRIAN STEEL COMPANY 906 JAMES STREET, ADRIAN, MI 49221	REVISION LEVEL A
MAT'L USED: PURCHASED	DESIGNED BY: E.BURKE	
DESCRIPTION: POWER HARNESS EXTERIOR 2		
WEIGHT (Lbs.): 0.2	SEGMENT CODE: ELE	PART NUMBER: 67093

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	RELEASE & REVISIONS	
UNLESS OTHERWISE SPECIFIED	INITIAL ECN: 25378	
ALL BEND ANGLES ARE 90 DEGREES	CURRENT ECN: 25378	
ALL DIMENSIONS ARE IN INCHES.	ECN DESCRIPTION:	
REFERENCE DIMENSIONS (X.XXX) DO NOT REQUIRE INSPECTION	RELEASE FOR PRODUCTION	
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		
	REVISED BY:	

PURCHASED COMPONENT
REFERENCED SUPPLIER AND/OR MANUFACTURER
AAMP GLOBAL
REFERENCED SUPPLIER AND/OR MANUFACTURER PART NUMBER
SSW-HAR1 OR 67097
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 HARNESS 1 EXTERIOR LIGHTING			
WEIGHT (Lbs.):	0.2	SEGMENT CODE:	ELE
		PART NUMBER:	67097

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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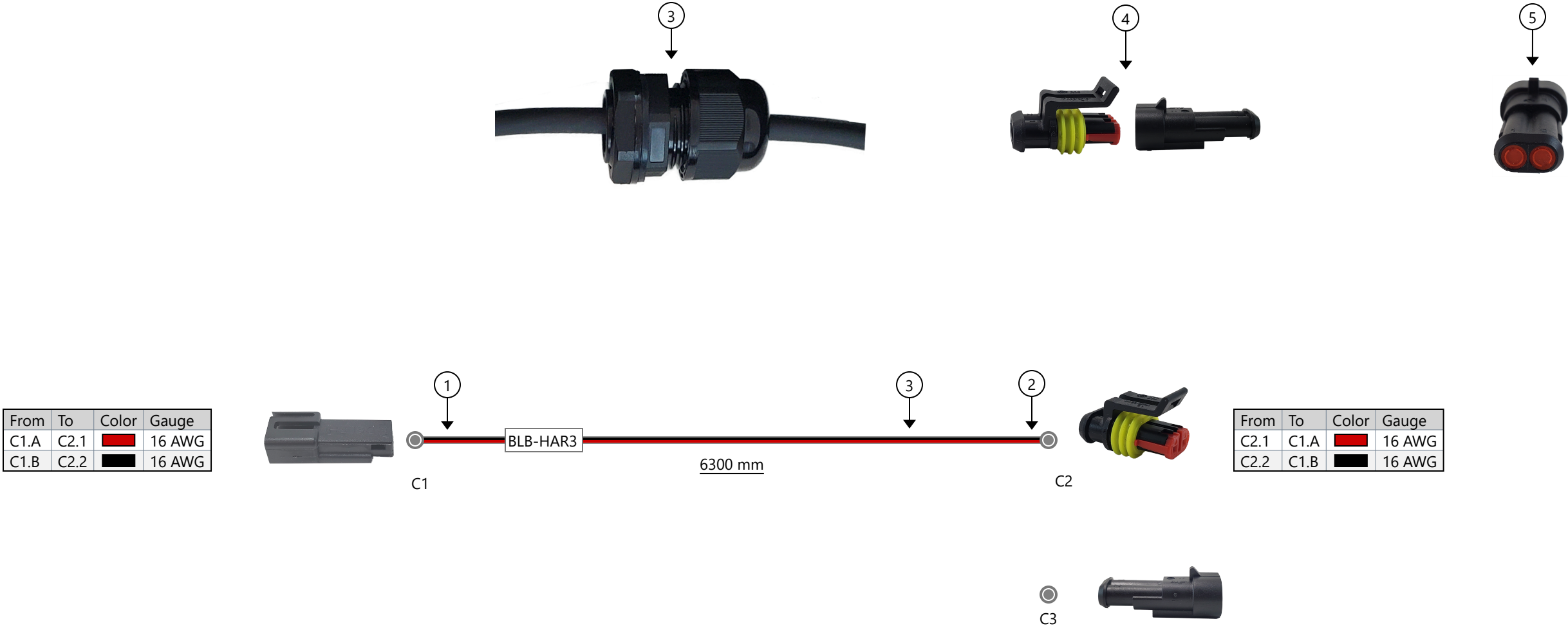
TOLERANCES & INSPECTION	RELEASE & REVISIONS
UNLESS OTHERWISE SPECIFIED	INITIAL ECN: 25378
ALL BEND ANGLES ARE 90 DEGREES	CURRENT ECN: 25378
ALL DIMENSIONS ARE IN INCHES.	ECN DESCRIPTION:
REFERENCE DIMENSIONS (X.XXX) DO NOT REQUIRE INSPECTION	RELEASE FOR PRODUCTION
FEATURES 0.0 = ± .125 0.00 = ± .062 0.000 = ± .031	
HOLES/SLOTS 0.0 = ± .062 0.00 = ± .031 0.000 = ± .015	
ANGLES 0° = ± 2° 0.0° = ± 1°	
Material Thickness: per ASTM Std. Weld Callouts per AWS	REVISED BY:

PURCHASED COMPONENT
REFERENCED SUPPLIER AND/OR MANUFACTURER
AAMP GLOBAL
REFERENCED SUPPLIER AND/OR MANUFACTURER PART NUMBER
BLB-HAR3 OR 67113
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			
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	REVISION LEVEL		A
MAT'L USED:	PURCHASED		DESIGNED BY: E.BURKE
DESCRIPTION: BEACON/LIGHTBAR HARNESS 3			
WEIGHT (Lbs.):	0.2	SEGMENT CODE: EBE	PART NUMBER: 67113

Bill of Materials				
Id	Type	Manufacturer	Part Number	Quantity
1	Cable		16AWG 2C FT2 TPU Cable	6300 mm
2	Cord Grip		PG11	1

Notes	
①	Heat shrink cable jacket and wire 20mm behind connector (Heat shrink = 38mm long)
②	Place adhesive lined heat shrink over C2 connector wire cavities and cable jacket (Heat shrink = 38mm long)
③	Install Cable Gland/Cord Grip 300mm behind C2
④	Plug C3 into C2
⑤	C3 Cavities are sealed



Revisions			
Rev.	Date	Author	Description
	11/5/2021	Bennet Fisher	Initial Drawing
	3/21/2022	Bennet Fisher	Added 300mm to harness; changed female connector
A	4/26/2022	Bennet Fisher	Added adhesive lined heat shrink to C2

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	04/26/2022		
	Engineering Approval				
	Manufacturing Approval				
	Revision Approval			Part Number: BLB-HAR3_	
	Quality Assurance			Description: Beacon/Light Bar Harness - 6.3 Meters	
				Revision: A Sheet: 1	

PURCHASED
COMPONENT
KEY FEATURES

DESCRIPTION OF REQUIREMENTS
DIMENSIONAL REQUIREMENTS (AS SHOWN ON DRAWING)
N/A
LOAD/RATING REQUIREMENT
N/A
MATERIAL REQUIREMENT
N/A
PACKAGING REQUIREMENT
N/A
OTHER REQUIREMENTS
WHELEN LIGHTBAR: R2LPPCA WITH EXTERIOR PLUG AND PLAY CONNECTOR CLEAR LENS AMBER LED'S
CUSTOM R2LPPCA WITH W446, WPF. 2 SOCK CONNECTR KIT AMP WITH LOOM / GROMET / PATTERN WIRE TAPE / SETTING OF THE PATTERN
WHELEN PART NUMBER: R2LPPCA-AS CUSTOM / 01-0689088C1P0



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TOLERANCES & INSPECTION	RELEASE & REVISIONS
UNLESS OTHERWISE SPECIFIED	INITIAL ECN: 25921
ALL BEND ANGLES ARE 90 DEGREES	CURRENT ECN: 28678
ALL DIMENSIONS ARE IN INCHES.	ECN DESCRIPTION:
REFERENCE DIMENSIONS (X.XXX) DO NOT REQUIRE INSPECTION	Add Updated Part Number to PPDS
FEATURES 0.0 = ± .125 0.00 = ± .062 0.000 = ± .031	REVISED BY: LJK
HOLES/SLOTS 0.0 = ± .062 0.00 = ± .031 0.000 = ± .015	
ANGLES 0° = ± 2° 0.0° = ± 1°	
Material Thickness: per ASTM Std. Weld Callouts per AWS	

PURCHASED COMPONENT
REFERENCED SUPPLIER AND/OR MANUFACTURER WHELEN
REFERENCED SUPPLIER AND/OR MANUFACTURER PART NUMBER R2LPPCA-AS CUSTOM / 01-0689088C1P0
COLOR (ONLY LIST IF COLOR SPECIFIC) CLEAR LENS / AMBER LED'S
COMODITY ITEM (Y/N) (YES = ALL DIMENSIONS AND NOTES ARE REFERENCE) (NOTE: DIMENSIONS AND FEATURES MAY VARY FOR A COMODITY ITEM.) NO

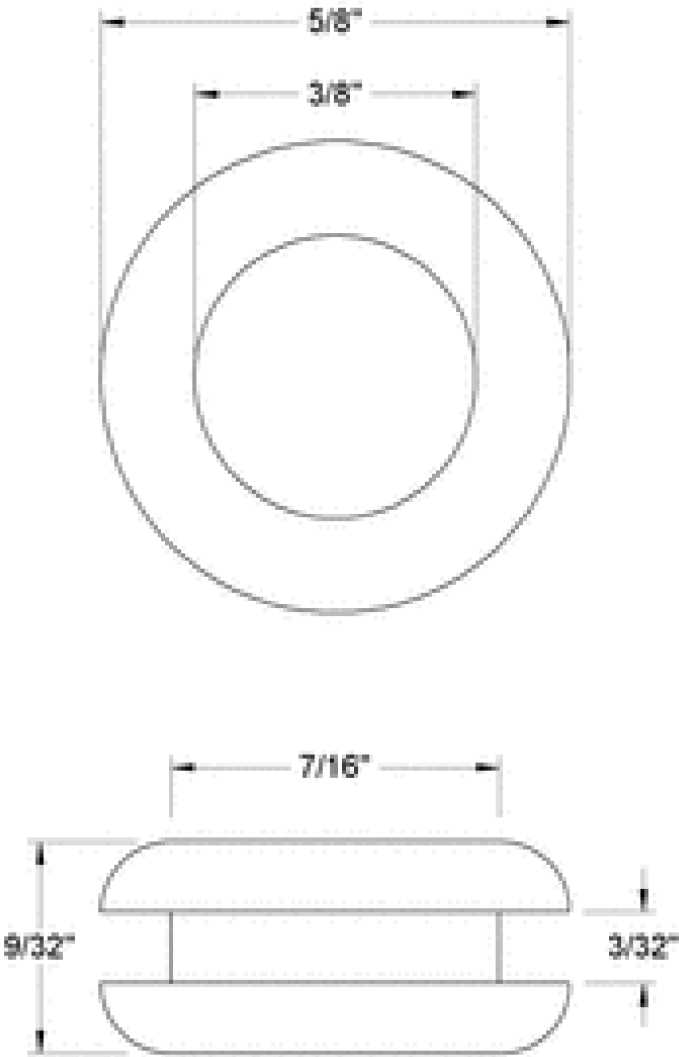
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Sheet 1 of 1

PART / PRODUCT IDENTIFICATION			
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	REVISION LEVEL		
	B		
	MAT'L USED: PURCHASED		DESIGNED BY: EMB
DESCRIPTION: WHELEN LP LGHTBR AM W/CON			
WEIGHT (Lbs.): 1.5	SEGMENT CODE: EBE	PART NUMBER: 67692	

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
RUBBER GROMMET: MCMASTER-CARR 9600K33 INNER DIAMATER: 3/8" PANEL HOLE DIAMETER: 7/16" PANEL THICKNESS: 3/32"



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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: 26411
CURRENT ECN: 26411
ECN DESCRIPTION:
RELEASE TO PRODUCTION
REVISED BY: N/A

PURCHASED
COMPONENT

REFERENCED SUPPLIER AND/OR MANUFACTURER
MCMASTR-CARR
REFERENCED SUPPLIER AND/OR MANUFACTURER PART NUMBER
9600K33
COLOR (ONLY LIST IF COLOR SPECIFIC)
BLACK/RUBBER
COMODITY ITEM (Y/N) (YES = ALL DIMENSIONS AND NOTES ARE REFERENCE) (NOTE: DIMENSIONS AND FEATURES MAY VARY FOR A COMODITY ITEM.)
NO

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Sheet 1 of 1

PART / PRODUCT IDENTIFICATION

 ADRIAN STEEL®		ADRIAN STEEL COMPANY 906 JAMES STREET, ADRIAN, MI 49221	REVISION LEVEL A
MAT'L USED: PURCHASED		DESIGNED BY: EMB	
DESCRIPTION: GROMMET,3/8"ID 7/16"OD			
WEIGHT (Lbs.): 0.01	SEGMENT CODE: EBE	PART NUMBER: 70805	