

Introduction / Comments:

Install Instructions For Exterior Plug & Play Lights For Ranger

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 Ranger

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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****

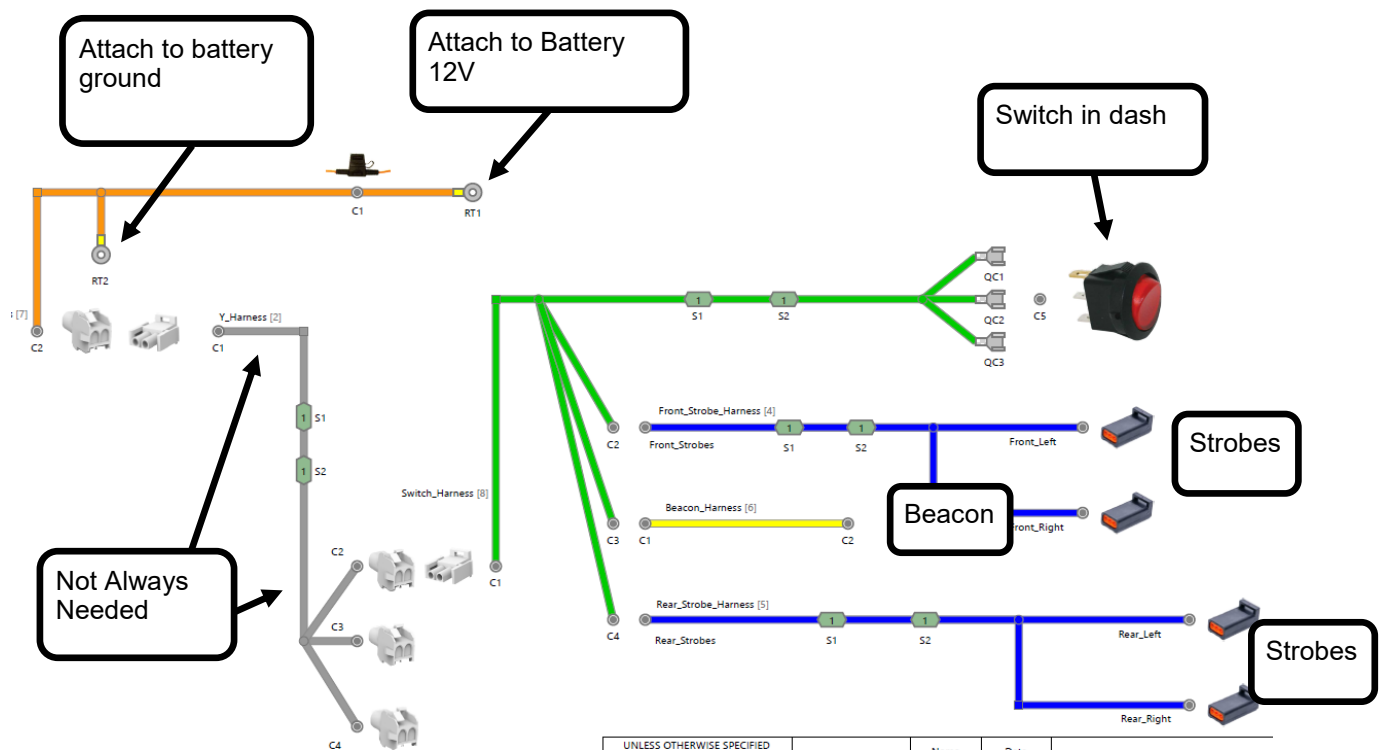
Before installation, disconnect the OEM negative battery cable.

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



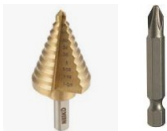
Tools required:

13 socket and 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	67101	Front Strobe Harness #1 (If Applicable)
4	67107	Rear Strobe Harness #2 (If Applicable)
5	67111	Beacon/Lightbar Harness #1 (If Applicable)
6	67686 or 67687	Strobes (If Applicable)
7	67689 or 67690	Beacons (If Applicable)
8	69776	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

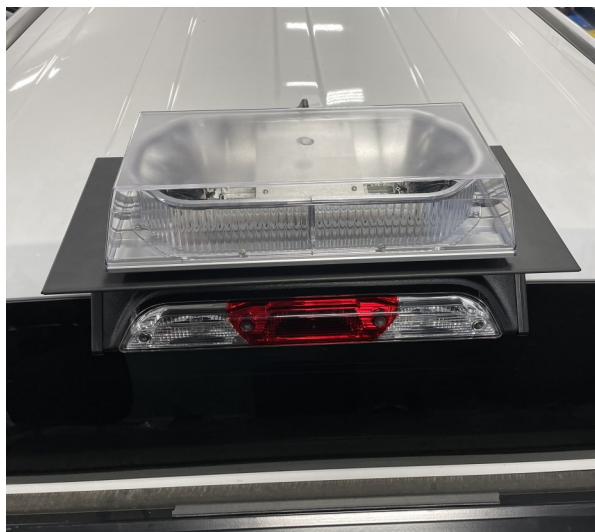


Front Strobes: Front Bumper, Below Headlights



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

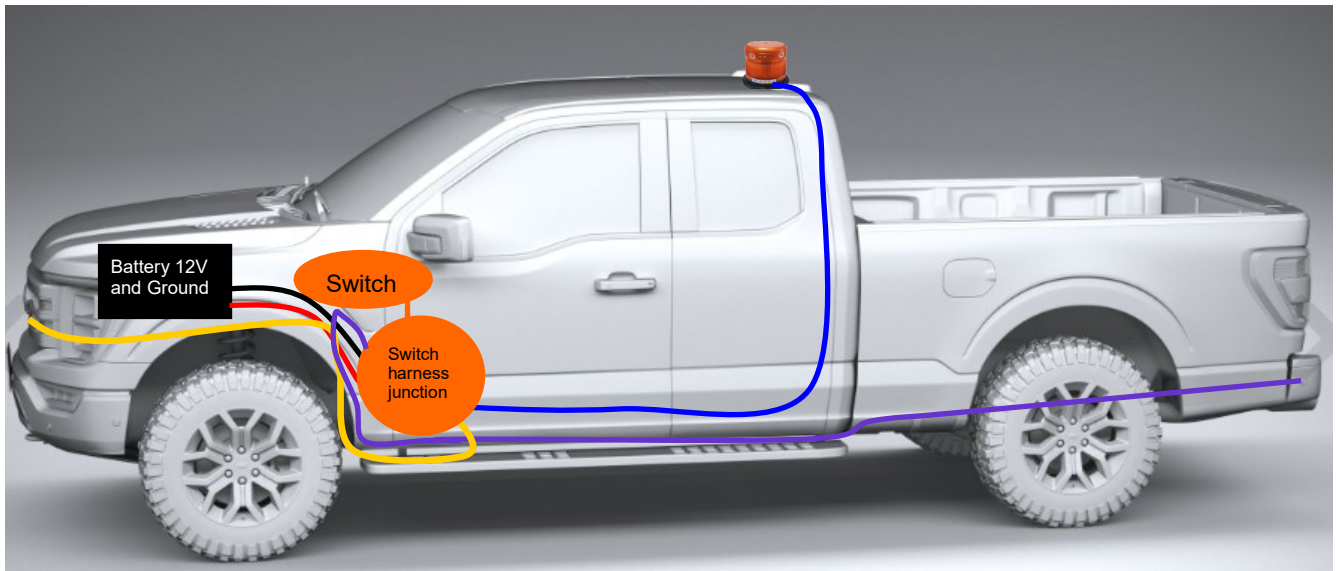
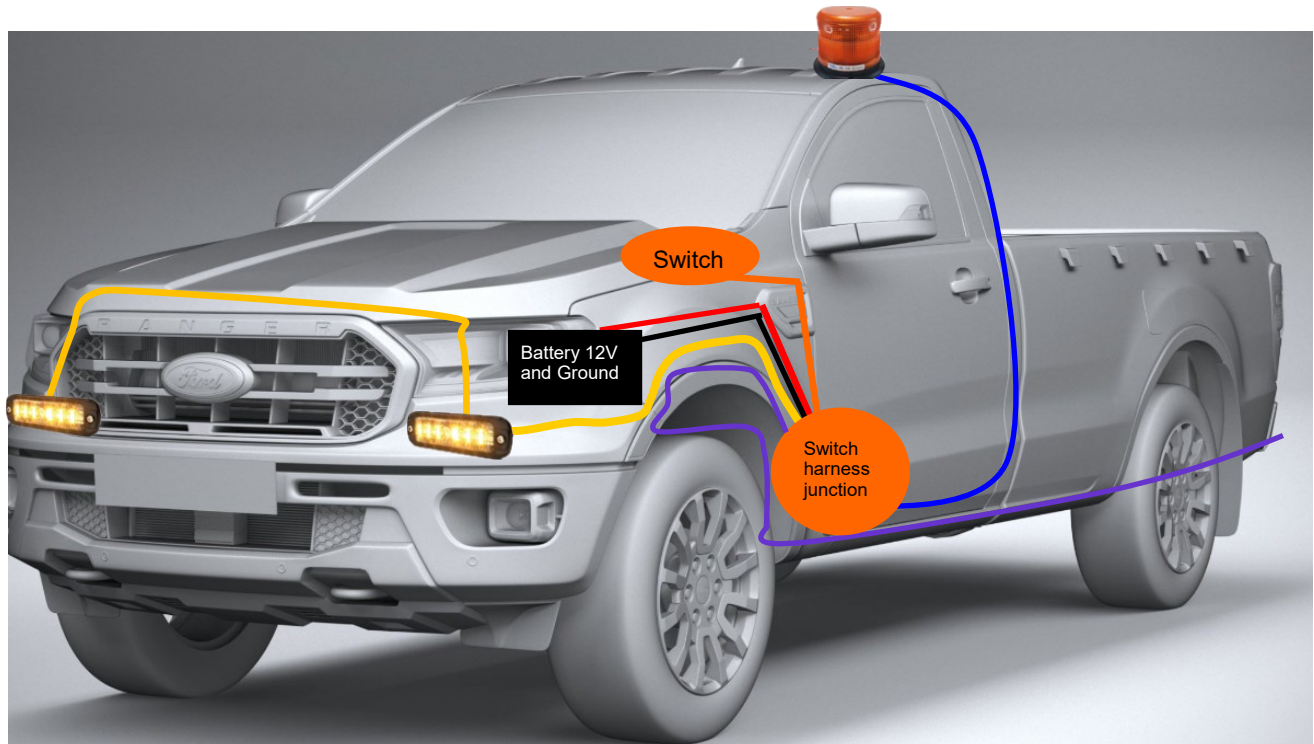
Beacon or Lightbar: On CHMSL above 3rd brake light—on some sort of mount



Rear Strobes: Rear Bumper



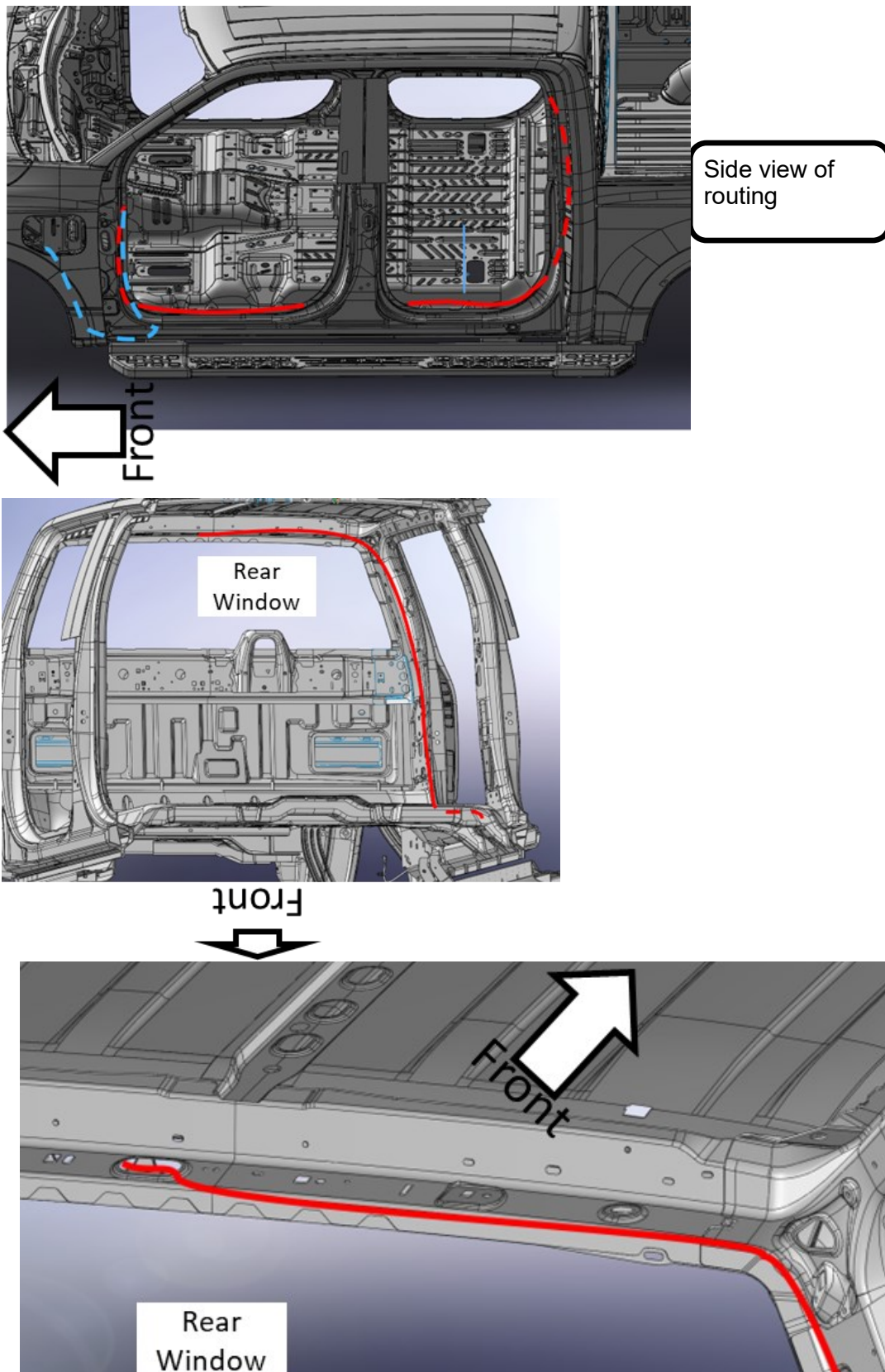
Routing Overview

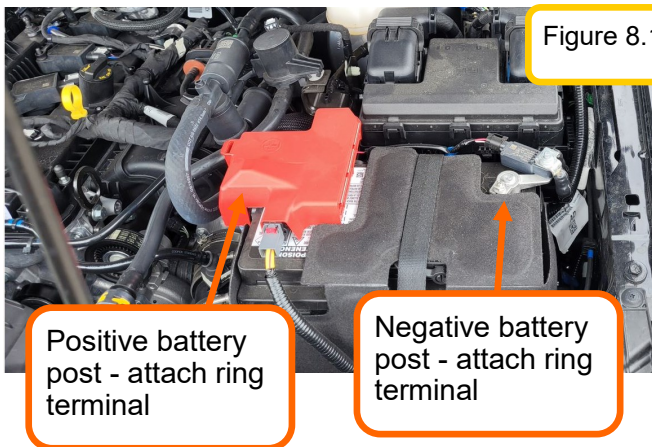


Color	Key - Items
Yellow	Strobes - Front strobe harness
Red/Black	Power harness: Battery to kick panel
Orange	Switch harness: Switch in dash
Blue	Beacon harness: Switch to beacon
Purple	Strobes - Rear strobe harness



Overview of Routing-Beacon/Lightbar Wire Harness:





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 under the hood.

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 8.1.



Route the white connector end rearward following the path called out in figure 8.2, to the firewall grommet.

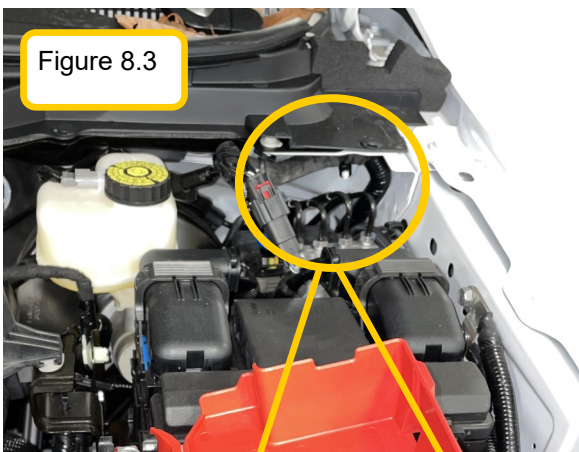
Locate the firewall grommet. Refer to figure 8.3 and 8.4 for the location.

If installing strobes:

If there is a plug in the OEM grommet, see if you can cut an "X" and route the strobe harnesses through first. If this is not attainable, remove the plug and drill out the hole as needed, and insert the ASCO provided grommet (36096-0).

Then drill a second hole to the right of the grommet for the power harness. Drill out the needed hole size to fit the grommet on the power harness (67093).

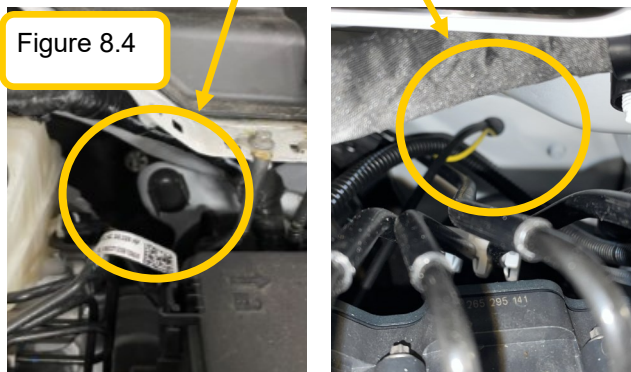
Route the power harness connector end through the hole and into the cab.



If not installing strobes:

Drill out the grommet to fit the power harness provided grommet. You will route the power harness through this grommet if not installing any strobes.

Route the power harness connector end through the hole and into the cab.



Secure wiring with zip ties.

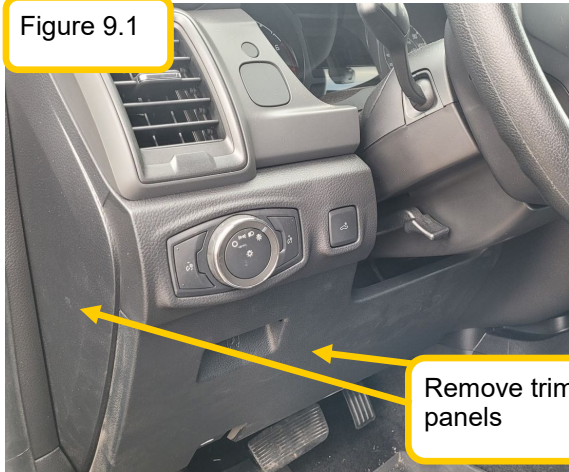
Silicone the hole.

Power harness

Switch Harness



Figure 9.1



Remove trim panels

Figure 9.2

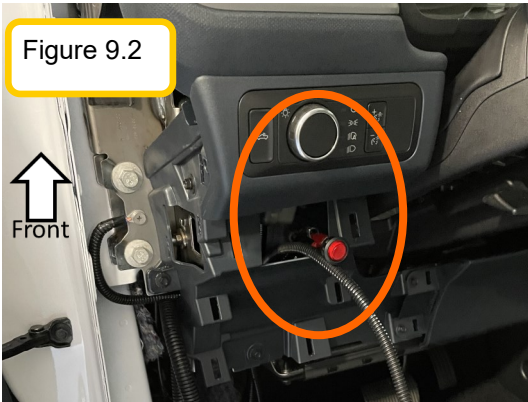


Figure 9.3

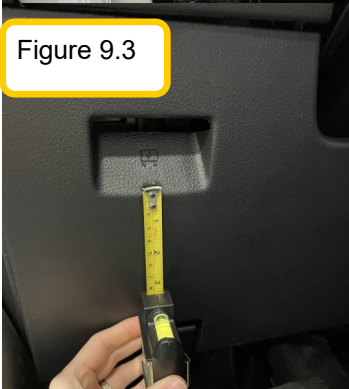
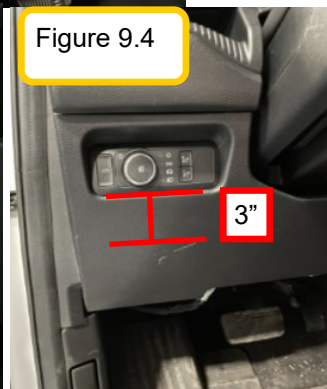


Figure 9.4



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.

Route the switch end of the switch harness up the dash and through the opening in the IP. Figure 9.2.

Secure to the OEM harnesses behind the IP.

Step 5:

Drill a hole for the switch in the trim panel: The hole will be 1" inch down from the OEM cut out in the dash panel. Center the hole with the cut out. Be sure the back side is free and able to be drilled out. Depending on year of the Ranger, you may need to drill through two layers of trim. Figure 9.3.

Please note if there is no cut out in the dash panel, center the switch side to side, and measure 3" down from the headlight switch cluster. Be sure to check the back side of the panel before drilling. If you need to adjust the switch position to clear harming any OEM wiring, you may do so. Refer to Figure 9.4.

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.

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 front and rear strobe harnesses #67101 and #67107.

Connect both the front and rear strobe harnesses to the switch harness (two of the remaining unused connectors) in the driver's foot well. Figure 11.1.

Step 2:

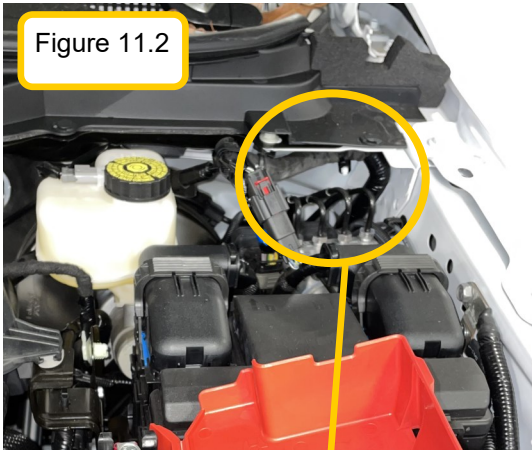
If you have not already drilled out the OEM firewall grommet, do that now (to fit the 36096-0 grommet).

Figure 11.2 and 11.3 for the OEM grommet location.

Route both the front and rear strobe harnesses through the grommet.

Silicone the hole once routed.

Figure 11.2



Leave the front strobe harness for now, locate the rear strobe harness.

Route the rear strobe harness down towards the wheel well, as close as possible to the firewall without interfering with any hot or rotating objects.

Continue routing the harness to the underbody frame.

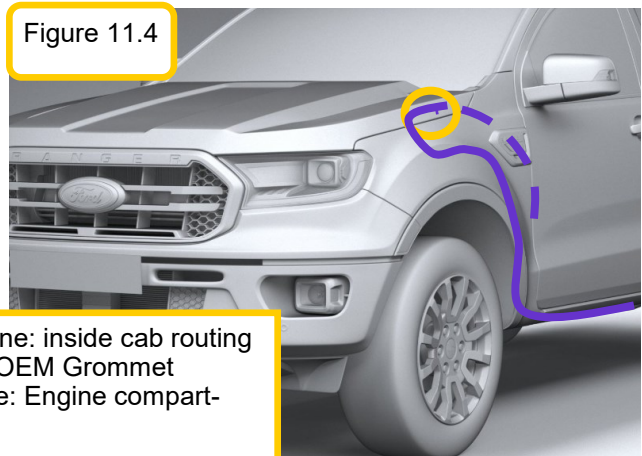
Refer to figure 11.4 for routing references.

Please note there will not be much slack in the harness, so please keep the harness tight.

Figure 11.3



Figure 11.4



Purple dotted line: inside cab routing
Orange circle: OEM Grommet
Purple solid line: Engine compartment routing

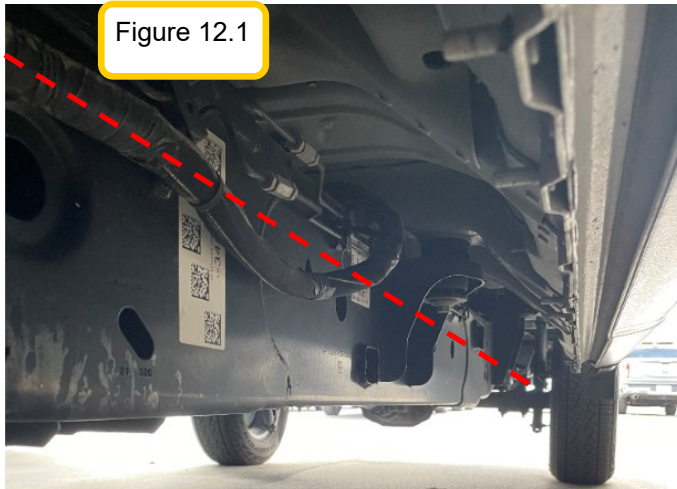


Figure 12.1

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.

Step 4: Mounting Strobes

Find the left most reverse sensor.

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.

If there is no sensor, measure ~1" over from the edge of the tailgate edge, or use your best judgement.

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.

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 Ecco supplied screws)**

See figure 12.4 to reference the F150 install.

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



Figure 12.2

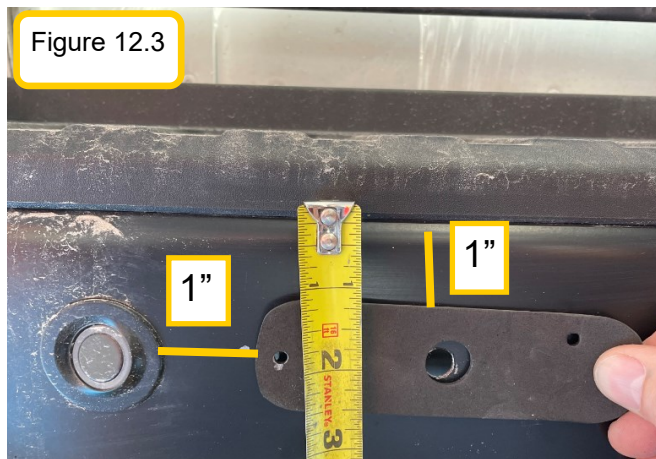


Figure 12.3

Figure 12.4



Figure 13.1



Figure 13.2



Figure 13.3

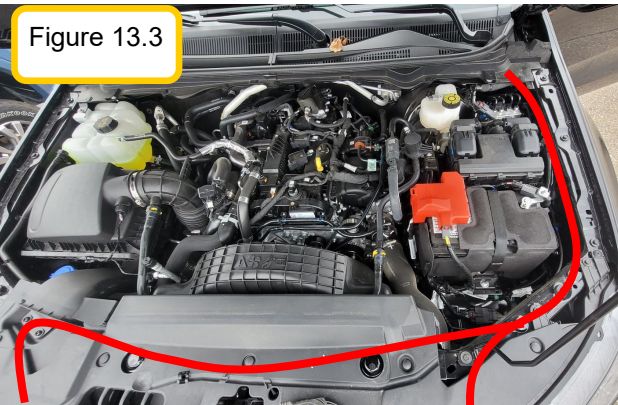


Figure 13.4



Figure 13.5



Step 5: Mounting Front Strobes

Locate the driver's side front headlight area.

Measure 1" left of the bumper edge contour. Line the farthest left edge of the strobe at that 1" mark. Figure 13.1.

Place the strobe centered vertically on the bumper panel. Curve the strobe a little so it fits with the bumper curvature.

Figure 13.2.

Use the strobe or gasket 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.

Step 6: Locate the front strobe harness #67101 that was previously routed to the engine compartment.

Following the routing path shown in figure 13.3, route the harness through the engine compartment to the desired strobe locations.

Using a fish tape may help with the install.

Connect the driver side strobe to the harness.

Connect the second connector to the passengers' side strobe.

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

Secure wiring with zip ties.

Place the strobes in their desired locations and fasten them onto the grill with the supplied screws. Figures 13.4.

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

Please note that the headlight changed from 2023 to 2024. This is a minor change. Measure 1" right of the headlight left edge of the headlight, then please follow the same measurements /strobe placements as above. Place the strobe the flat plane/surface below the headlight. Repeat on the passenger side. See figure 13.5 for the 2024 change.

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.

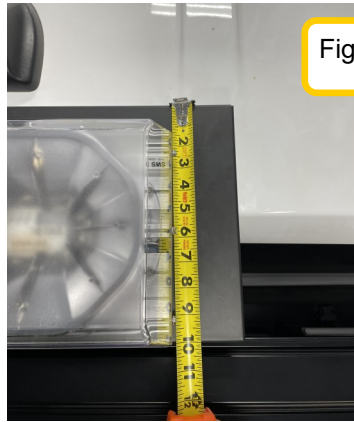


Figure 13.1

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 figures 13.1, 13.2, and 13.3 for reference.

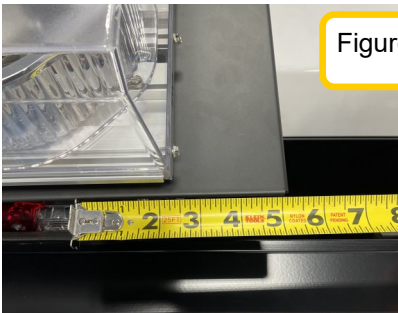


Figure 13.2

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

Needed holes: One through the top where the lightbar or beacon is mounted, and one through the perpendicular plane above the light placement. This will be where you route the wiring into the cab area. Figures 13.6 and 13.7.



Figure 13.3

Drill two holes for the wiring pass through and insert the provided grommet. **For the top plane: 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" bushing (40941) and refer to the next page.**

For the perpendicular plane use the 3/8" rubber grommet (70805)

Route the wires through the grommet and silicone.

Figure 13.4

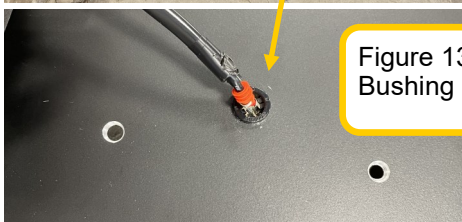


Figure 13.5
Bushing



Figure 13.6

Hole through the perpendicular plane:
rubber grommet

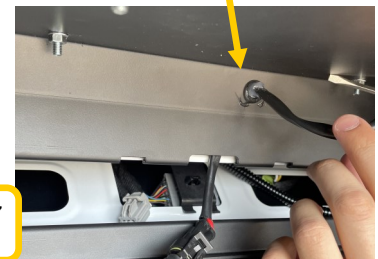


Figure 13.7

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

Figure 14.1



Figure 14.2



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 14.1.

Note if it has a red insert inside the connector or not. Refer to figure 14.2 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 14.3.

Note the connector has a "1" and a "2" noted on the connector (circled in red). Figure 14.4. 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 14.5.

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 14.6 and 14.7.

Silicone the grommet/wiring.

Figure 14.3



Figure 14.4



Figure 14.5

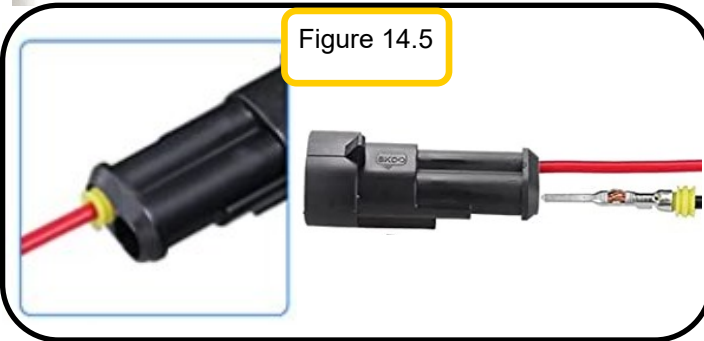


Figure 14.6

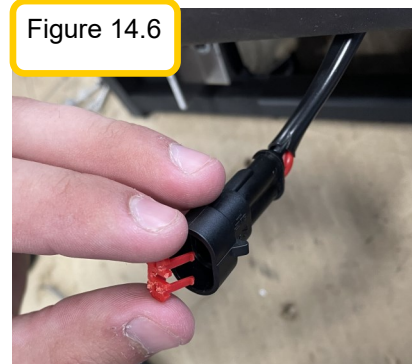


Figure 14.7

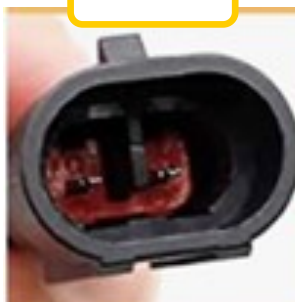




Figure 15.1



Figure 15.2

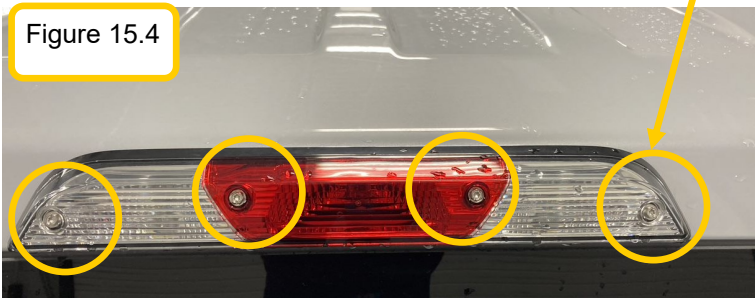


Figure 15.4



Figure 15.5

Pictures to the left are for beacon/lightbar mounting references.
Figure 15.1, 15.2, and 15.3



Figure 15.3

Step 2: Disconnect OEM Light

Using a torx T20 bit, remove the 4 screws holding the 3rd brake light to the CHMSL. Figure 15.4.

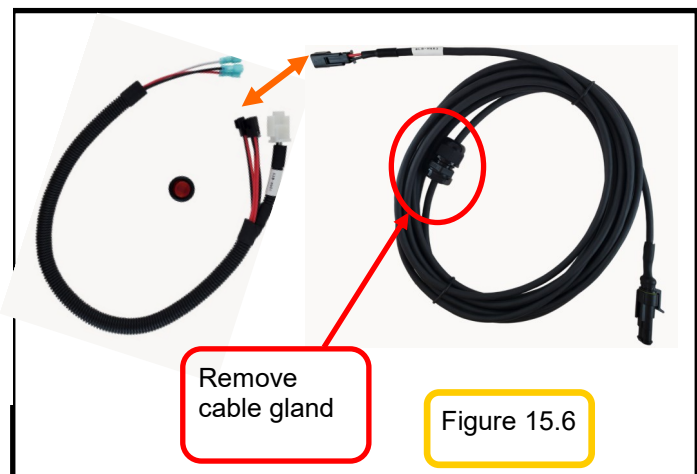
Remove the OEM light from the CHMSL and disconnect the OEM harness clip. Figure 15.5.

Step3:

Locate the beacon/lightbar harness (67111).

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 15.6.



Remove cable gland

Figure 15.6

Beacon/Lightbar Install—If Applicable



Figure 16.1

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 16.1, 16.2, and 16.3.

****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 16.4.



Figure 16.2

Make sure harness is tucked head liner and C pillar trim. Figure 16.6.

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

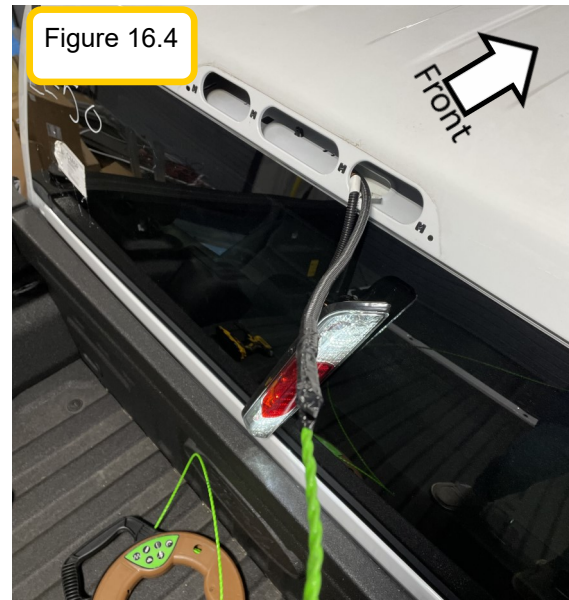


Figure 16.4

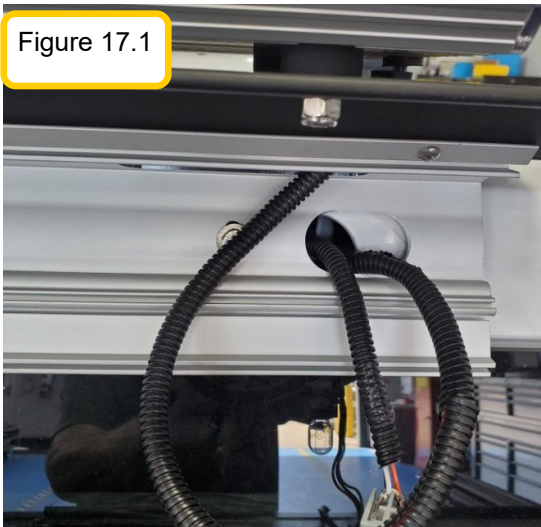


Figure 16.3



Figure 16.5

Figure 17.1



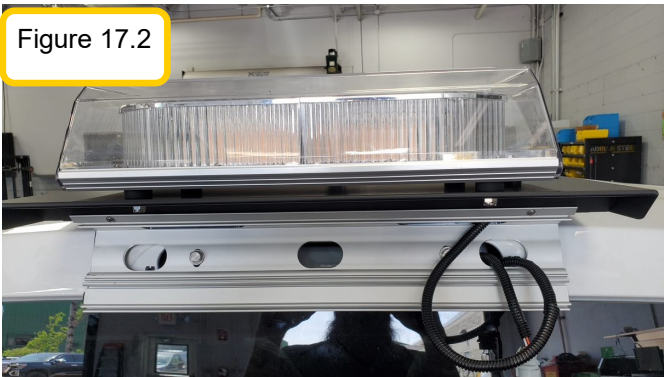
Step 5: Mounting the light:

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 17.1, 17.2, and 17.3.

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

Figure 17.2



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 17.4.

Figure 17.3



Figure 17.4





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.

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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ADRIAN, MI 49221
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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!

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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

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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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
HJE

DATE DRAWN
04/01/2008

ECN NUMBER
19252

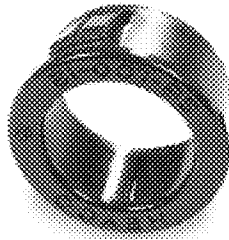
ECN DATE
01/31/2017

PART WEIGHT
0.01 LBS.

REV. LEVEL
D

PART NUMBER
36096-0

PART NUMBER

40941**ITEM DESCRIPTION: SNAP BUSHING 3/8 ID 1/2 OD HEYCO**

MANUFACTURER: WAYTEK
MANUFACTURERS PART NUMBER: 24102

SPECIFICATIONS: SNAP BUSHING
 INSIDE DIA 3/8"
 MOUNTING HOLE 1/2"

SPECIAL NOTES: NONE

SUPPLIED BY: THIS ITEM IS ADRIAN AVAILABLE

PURCHASED PRODUCT DATA SHEET (PPDS)

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LINES, CONTROL LINES AND ELECTRICAL
WIRING BEFORE DRILLING! ALWAYS USE
DRILL BITS WITH INTEGRAL STOPS
WHENEVER POSSIBLE!**

DRAWN BY
RBB

DATE DRAWN
5/9/2011

ECN NUMBER
13876

ECN DATE
05/10/2011

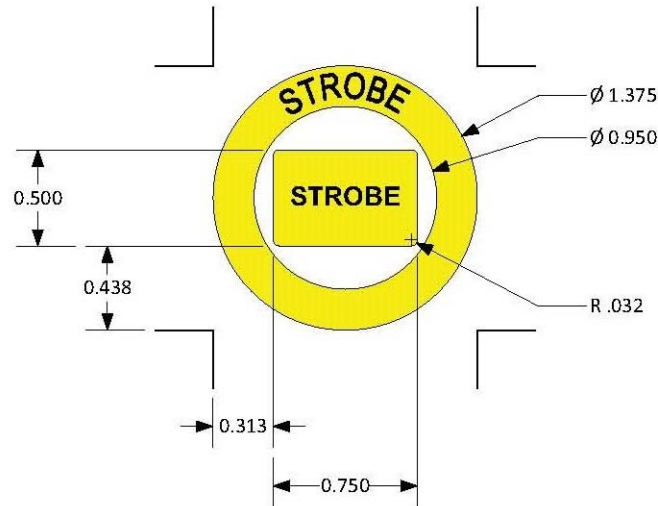
PART WEIGHT
0.10 LBS.

REV. LEVEL
A

PART NUMBER

40941

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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DRAWN BY
 RJB

DATE DRAWN
 11/15/2017

ECN NUMBER
 XXXX

ECN DATE
 XXXXXX

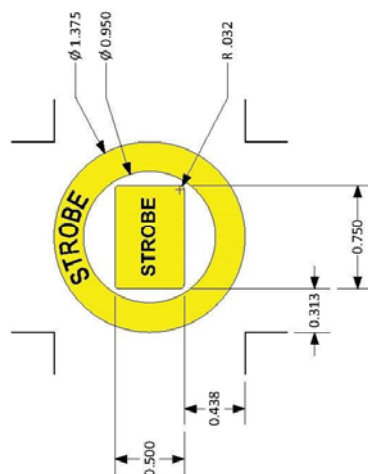
PART WEIGHT
 0.02 LBS.

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. .x ± .025 LABEL/ .xx ± .015 METAL .xxx ± .005		TITLE: LABEL, STROBE TXT, .95ID ROUND SWITCH	
		TOL. CABLES .xxx ± .25 DRNDATE MEO 11/14/17 CHKDATE XXX XXXXXX		DRAWING/ PART NO. D01XXXX SHEET 1 OF 1 REV A	
SCALE:	NONE	RE/ECO NO.:	XXXX	THIS DRAWING AND ALL INFORMATION CONTAINED HEREIN IS THE PROPERTY OF VANNER INC. AND MAY NOT BE COPIED, REPRODUCED OR DIVULGED TO UNAUTHORIZED PERSONS WITHOUT THE EXPRESS WRITTEN CONSENT OF VANNER INC. IT IS PROVIDED SOLELY FOR THE CONVENIENCE OF THE USER AND SHALL BE RETURNED UPON REQUEST.	

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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
RJB

DATE DRAWN
11/15/2017

ECN NUMBER
XXXX

ECN DATE
XXXXXXXX

PART WEIGHT
0.02 LBS.

REV. LEVEL
A

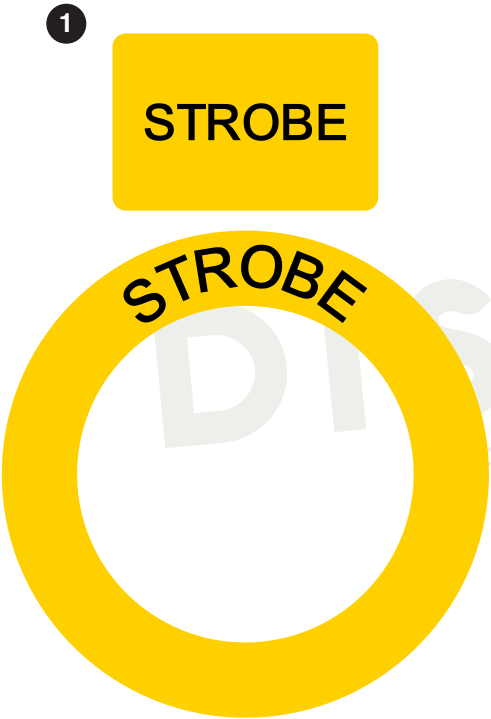
PART NUMBER
55073

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

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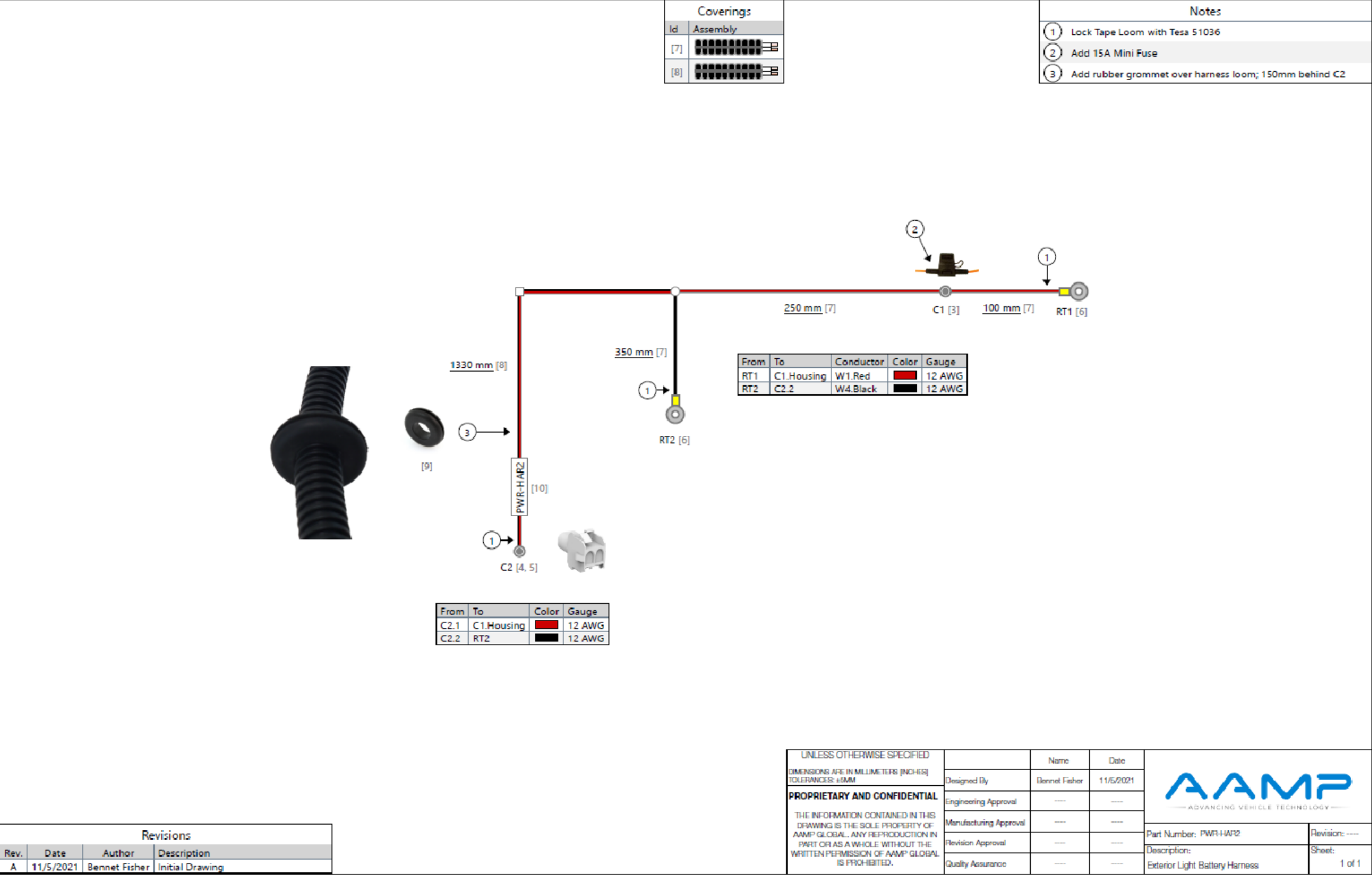
Sheet 1 of 1

PART / PRODUCT IDENTIFICATION

ADRIAN STEEL®		ADRIAN STEEL COMPANY 906 JAMES STREET, ADRIAN, MI 49221	REVISION LEVEL A
MAT'L USED:		DESIGNED BY: 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



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

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			PART / PRODUCT IDENTIFICATION					
UNLESS OTHERWISE SPECIFIED			AS ADRIAN STEEL® ADRIAN STEEL COMPANY 906 JAMES STREET, ADRIAN, MI 49221				REVISION LEVEL	
ALL BEND ANGLES ARE 90 DEGREES							A	
ALL DIMENSIONS ARE IN INCHES.			MAT'L USED: PURCHASED		DESIGNED BY: E.BURKE			
REFERENCE DIMENSIONS (X.XXX) DO NOT REQUIRE INSPECTION			DESCRIPTION: SWITCH HARNESS 1 EXTERIOR LIGHTING					
FEATURES			WEIGHT (Lbs.): 0.2		SEGMENT CODE: ELE		PART NUMBER: 67097	
HOLES/SLOTS								
ANGLES								
0.0 = ± .125								
0.00 = ± .062								
0.000 = ± .031								
0.0 = ± .062								
0.00 = ± .031								
0.0° = ± 2°								
0.0° = ± 1°								
Material Thickness: per ASTM Std. Weld Callouts per AWS								
RELEASE & REVISIONS			PURCHASED COMPONENT					
INITIAL ECN: 25378			REFERENCED SUPPLIER AND/OR MANUFACTURER AAMP GLOBAL					
CURRENT ECN: 25378			REFERENCED SUPPLIER AND/OR MANUFACTURER PART NUMBER SSW-HAR1 OR 67097					
ECN DESCRIPTION: RELEASE FOR PRODUCTION			COLOR (ONLY LIST IF COLOR SPECIFIC) NO					
REVISED BY:			COMODITY ITEM (Y/N) (YES = ALL DIMENSIONS AND NOTES ARE REFERENCE) (NOTE: DIMENSIONS AND FEATURES MAY VARY FOR A COMODITY ITEM.)					

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



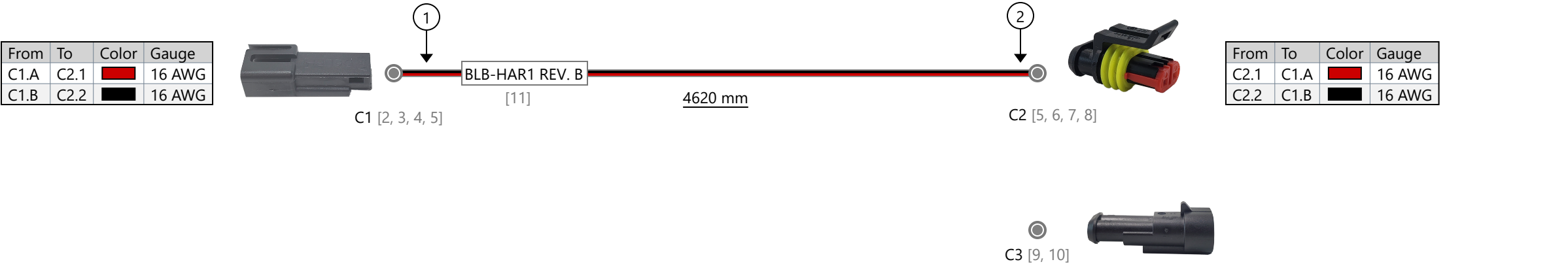
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TOLERANCES & INSPECTION	RELEASE & REVISIONS	
UNLESS OTHERWISE SPECIFIED	INITIAL ECN: 25378	
ALL BEND ANGLES ARE 90 DEGREES	CURRENT ECN: 26321	
ALL DIMENSIONS ARE IN INCHES.	ECN DESCRIPTION:	
REFERENCE DIMENSIONS (X.XXX) DO NOT REQUIRE INSPECTION	RELEASE 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
BLB-HAR1 OR 67111
COLOR (ONLY LIST IF COLOR SPECIFIC)
COMODITY ITEM (Y/N) (YES = ALL DIMENSIONS AND NOTES ARE REFERENCE) (NOTE: DIMENSIONS AND FEATURES MAY VARY FOR A COMODITY ITEM.)
NO

PRINTED DOCUMENT IS UNCONTROLLED			Sheet 1 of 1
PART / PRODUCT IDENTIFICATION			
	ADRIAN STEEL®		ADRIAN STEEL COMPANY 906 JAMES STREET, ADRIAN, MI 49221
	MAT'L USED: PURCHASED		DESIGNED BY: E.BURKE
DESCRIPTION: BEACON/LIGHTBAR HARNESS 1			REVISION LEVEL B
WEIGHT (Lbs.): 0.2	SEGMENT CODE: EBE	PART NUMBER: 67111	

Bill of Materials				
Id	Type	Manufacturer	Part Number	Quantity
1	Cable		16AWG 2C FT2 TPU Cable	4620 mm
2	Connector	Aptiv	12047663	1
3	Contact	Aptiv	12047581	2
4	Lock	Aptiv	12047665	1
5	Heat Shrink		Adhesive-Lined Heat Shrink	2
6	Connector	TE Connectivity	282080-1	1
7	Contact	TE Connectivity	282110-1	2
8	Wire Seal	TE Connectivity	281934-2	2
9	Connector	TE Connectivity	282104-1	1
10	Wire Seal	TE Connectivity	282081-1	2
11	Label		Heat Shrink Style Label	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	Plug C3 into C2
④	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
B	4/3/2023	Bennet Fisher	Removed cable gland from harness

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	Designed By	Bennet Fisher	04/26/2022	
	Engineering Approval			
	Manufacturing Approval			
	Revision Approval			
	Quality Assurance			

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
ECCO BEACON LIGHT: 7965A WITH EXTERIOR PLUG AND PLAY CONNECTOR AMBER LENS, WHITE LEDS



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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: 25921
CURRENT ECN: 25921
ECN DESCRIPTION:
RELEASE TO PRODUCTION
REVISED BY: N/A

PURCHASED
COMPONENT

REFERENCED SUPPLIER AND/OR MANUFACTURER
ECCO
REFERENCED SUPPLIER AND/OR MANUFACTURER PART NUMBER
7965A-ADR
COLOR (ONLY LIST IF COLOR SPECIFIC)
AMBER LENS/WHITE LEDS
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: ECCO LED BCN 7965 W/CONN						
WEIGHT (Lbs.): 1.5		SEGMENT CODE: EBE			PART NUMBER: 67689	

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
ACARI CHMSL NO DRILL MOUNT FOR RANGER TRUCKS SUPERCREW AND SUPERCAB
AT-FORD-R KIT
INCLUDES MOUNTING HARDWARE
DOES NOT INCLUDE LIGHTBAR



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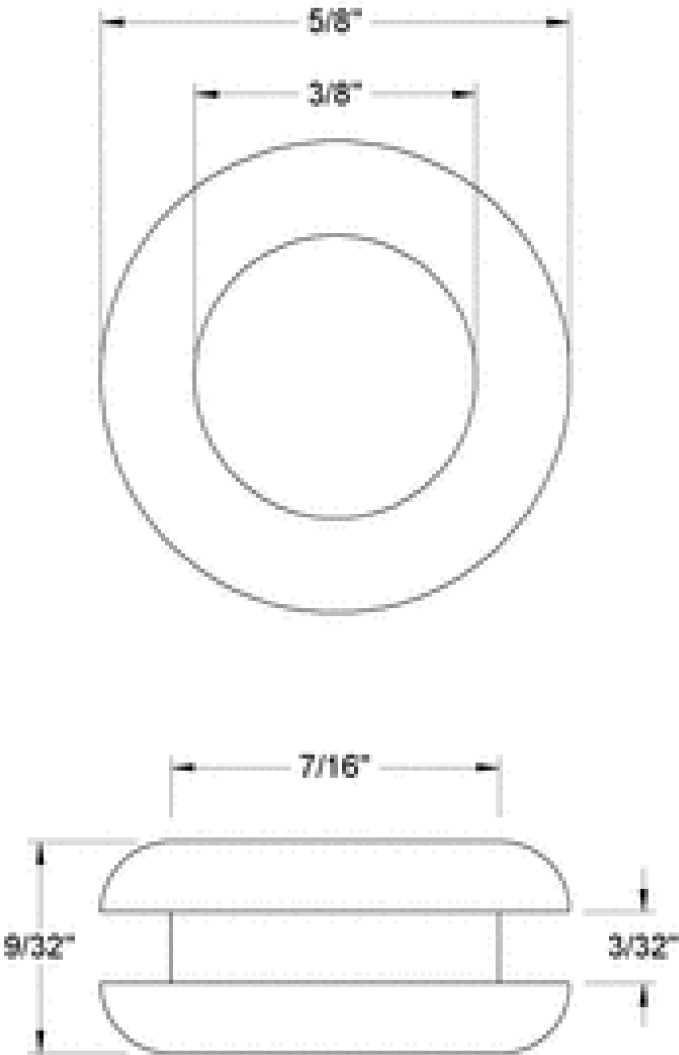
TOLERANCES & INSPECTION	RELEASE & REVISIONS
UNLESS OTHERWISE SPECIFIED	INITIAL ECN: 25934
ALL BEND ANGLES ARE 90 DEGREES	CURRENT ECN: 25934
ALL DIMENSIONS ARE IN INCHES.	ECN DESCRIPTION:
REFERENCE DIMENSIONS (X.XXX) DO NOT REQUIRE INSPECTION	RELEASE TO PRODUCTION
FEATURES 0.0 = ± .125 0.00 = ± .062 0.000 = ± .031	REVISED BY: N/A
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
ACARI
REFERENCED SUPPLIER AND/OR MANUFACTURER PART NUMBER
AT-FORD-R
COLOR (ONLY LIST IF COLOR SPECIFIC)
N/A
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: MOUNT,CHMSL RANGER				
WEIGHT (Lbs.): 5.00		SEGMENT CODE: EBE		PART NUMBER: 69776

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.)
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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		