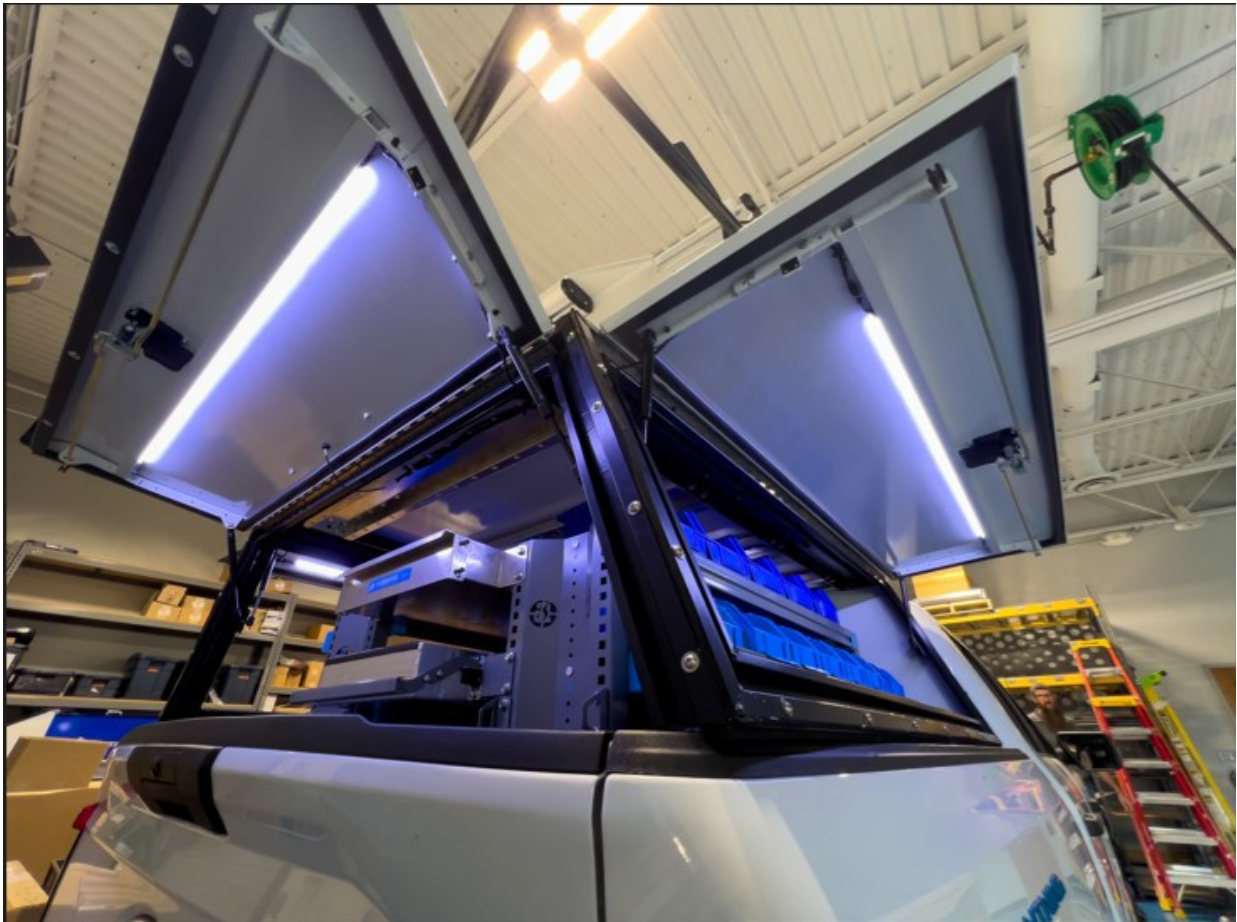


Introduction / Comments:

Install Instructions For Interior Lighting In Topper 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 Interior Lighting In Topper For Ford Lightning

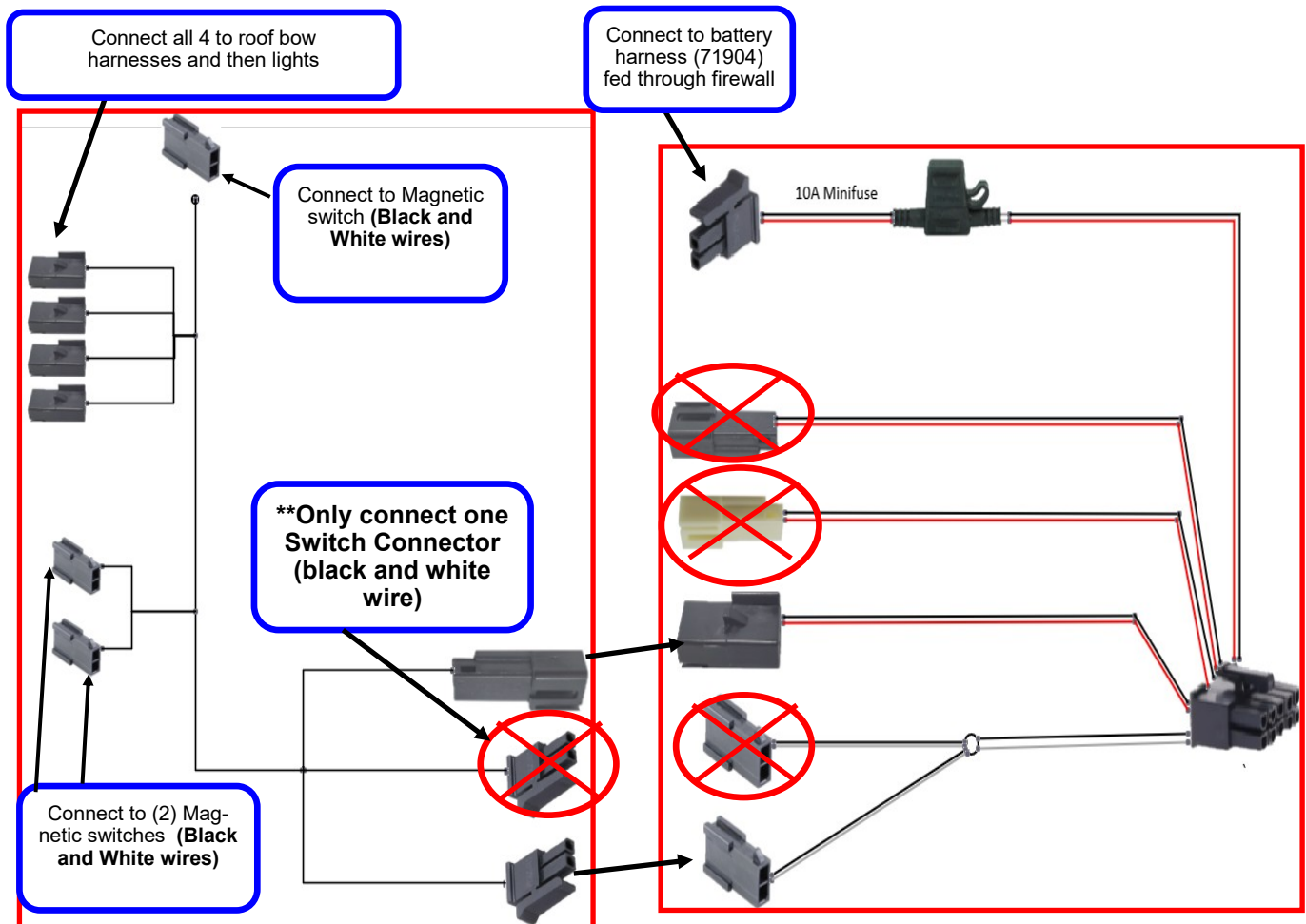
****Please read statement below before moving forward****

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.

Overall Harness Diagram

71905 Harness

71902 TLM Harness



Tools Required:



Screwdriver

Power drill, 3/8" step drill bit



Components:

Please note all these components may not be used in every install.
Only install what you have. Refer to the order drawing.
Integrated Truck Solution Kit 72548 components are denoted with a red star.

Light Kit's Offered

Part Numbers/Kit Contents:

74486 Integrated Truck Solution: ★

Includes: (2) 24" strip lights on both sides of the side doors and 2 dome lights in the top, on the roof bows. Refer to all components denoted with a ★ and quantity in blue parenthesis on page 3.

74564 (1) 48" Rear strip light on the back door

Includes: (1) 48" strip light, (1) roof bow harness #1, (1) TLM Module, (1) TLM to Battery Harness, (1) TLM to Lights Harness, (1) Magnetic Switches Bag

74496 (1) 48" Strip light on the driver side only

Includes: (1) 48" strip light, (1) roof bow harness #1, (1) TLM Module, (1) TLM to Battery Harness, (1) TLM to Lights Harness, (1) Magnetic Switches Bag

74491 (1) 48" Strip light on the passenger side only

Includes: (1) 48" strip light, (1) roof bow harness #2, (1) TLM Module, (1) TLM to Battery Harness, (1) TLM to Lights Harness, (1) Magnetic Switches Bag

74560 (3) 48" Strip lights—rear, driver, and passenger side

Includes: (3) 48" strip light, (1) roof bow harness #2, (2) roof bow harness #1, (1) TLM Module, (1) TLM to Battery Harness, (1) TLM to Lights Harness, (1) Magnetic Switches Bag

Driver's Side Strip Lights



Rear Side



Passenger's Side Strip Lights



Walk In Light Kit's Offered

Part Numbers/Kit Contents:

77624 Integrated Solution Kit

Includes: (4) 24" strip lights on both sides of the side doors and 2 dome lights in the top, on the roof bows.

77625 (1) 48" LED Light Strip for Passenger Side Only

Includes: (1) 48" strip light, (1) roof bow harness #2, (1) TLM Module, (1) TLM to Battery Harness, (1) TLM to Lights Harness, (1) Magnetic Switches Bag

77626 (1) 48" LED Light Strip for Passenger Side Only

Includes: (1) 48" strip light, (1) roof bow harness #2, (1) TLM Module, (1) TLM to Battery Harness, (1) TLM to Lights Harness, (1) Magnetic Switches Bag

77627 (2) 48" LED Light Strip for both Passenger & Driver Sides

Includes: (2) 48" strip light, (1) roof bow harness #2, (2) roof bow harness #1, (1) TLM Module, (1) TLM to Battery Harness, (1) TLM to Lights Harness, (1) Magnetic Switches Bag

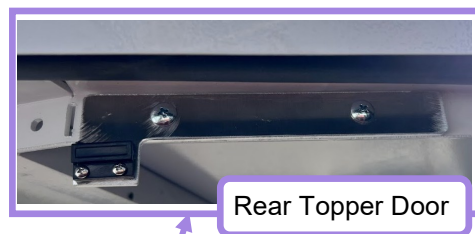
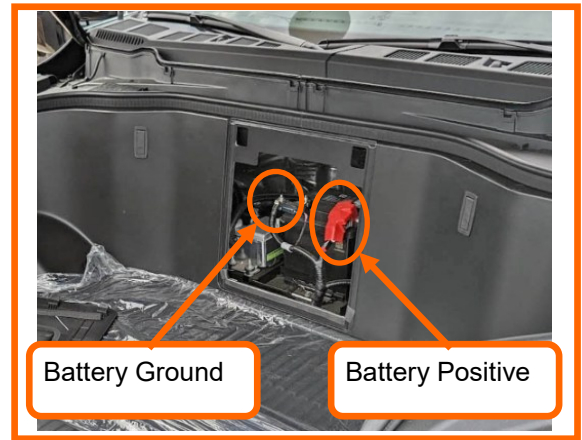
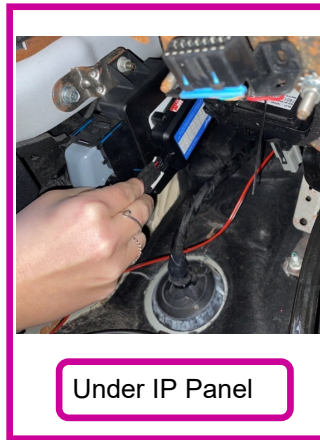
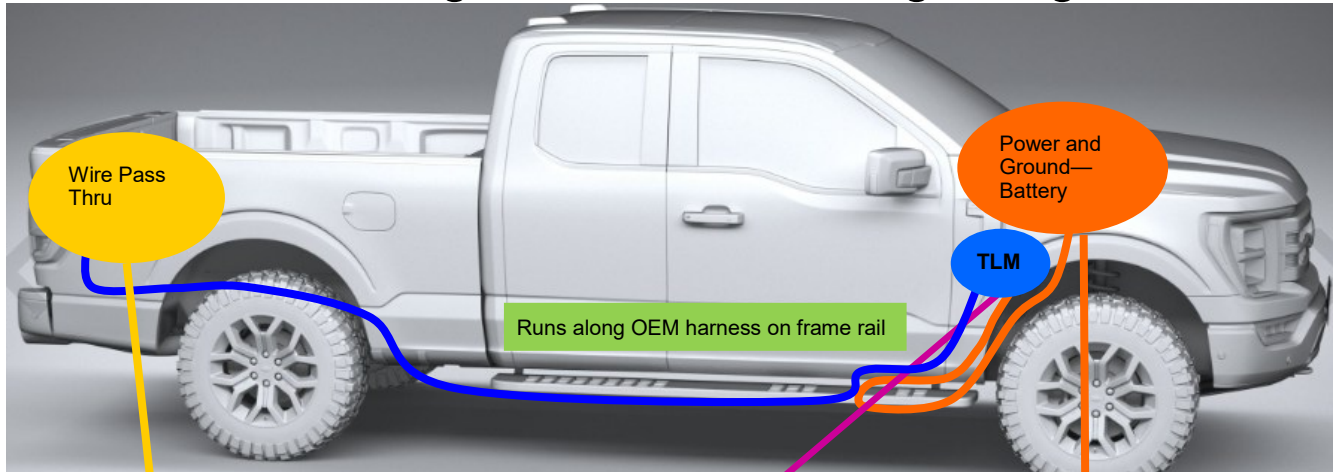
Driver Side



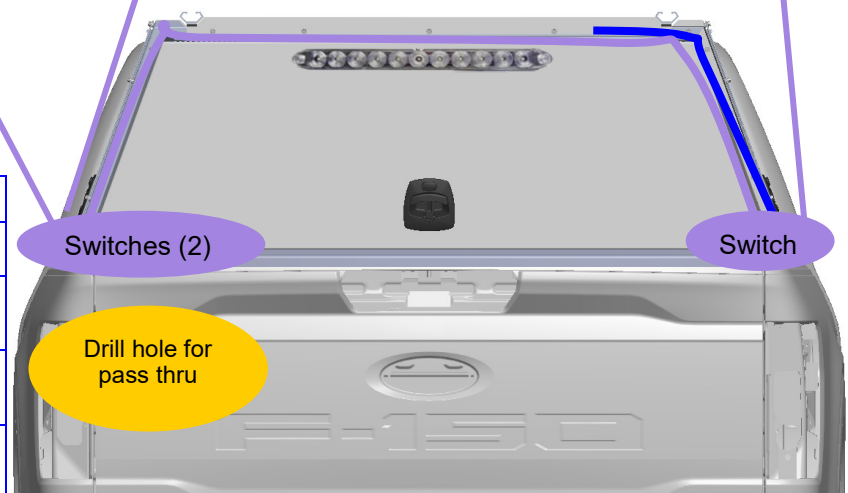
Passenger Side



Routing Overview: Ford Lightning



Color	Key - Items
Orange	Power and Ground Location
Blue	Harness Routing From TLM To Topper
Purple	Switches And Switch Harness
Yellow	Bed Wire Pass Thru



Light Placements:

Please refer to the order drawing—not all lights will be used every install. These are modular and created to work depending on customer needs.

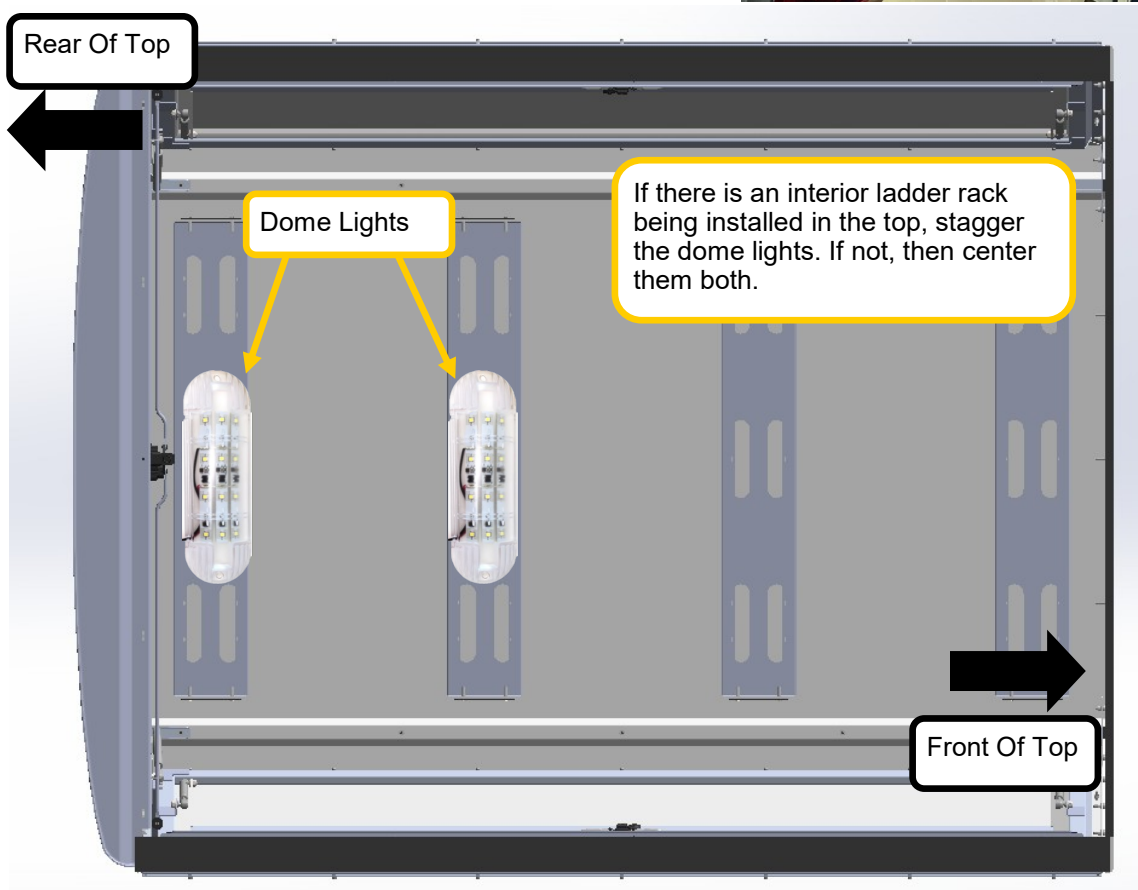
Driver's Side



Passenger's Side



Rear Of Top



FORD LIGHTNING

Step 1:

Battery -

Open the hood and locate the battery behind a panel in back of the frunk.

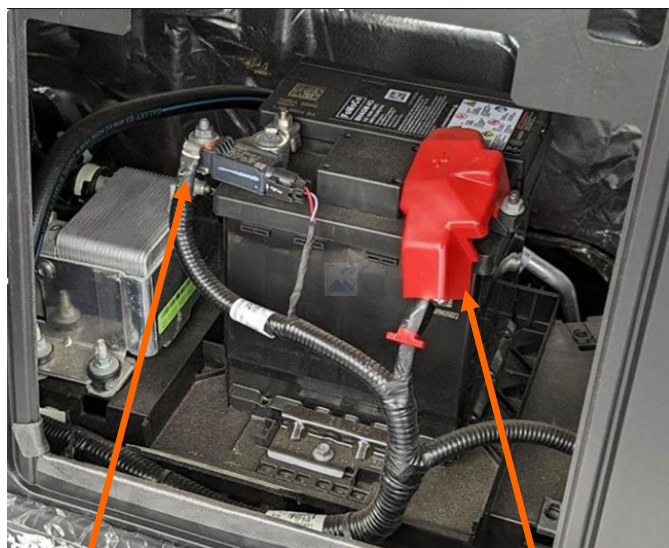
Locate the power harness 71904.

Remove the inline fuse in the fuse holder. Do not place fuse back into holder until after the install is complete.

Connect the **RED** wire ring terminal to the positive battery post shown in the picture to the left. Torque the nut to 55 lb.in (6.2 Nm). Do not over tighten,

Connect the **BLACK** wire ring terminal to the negative battery post shown in the picture to the left. Torque the nut to 97 lb.in (11 Nm). Do not over tighten.

Do not un-bolt the battery terminal clamps from the battery.



Negative battery post - attach ring terminal

Positive battery post - attach ring terminal

Re-torque the ground nut to 97lb.in (11Nm). DO NOT OVER

Re-torque the positive nut to 55 lb.in (6.2Nm). DO NOT OVER TIGHTEN



Remove left side panel next to frunk (circled to the left)

You will be routing harness down through this area to get to the wheel well under the vehicle



Step 2:

Feed harness completely to underside of vehicle to then be routed to the grommet under the passenger's side of the vehicle.



Step 3: Locate the passenger's side grommet. (Image to the left). Cut an "X" in the grommet to create opening for wiring. Feed harness completely through grommet up into the cab.



Route excess wire to be coiled underneath trim towards the middle of the cab as shown in the image to the left. Make sure you leave enough harness to get to the Timer Location Module under the passenger's side step well.

For Rev A follow steps below:

Step 4: Locate the Timer Low-Voltage Module (TLM) and harness — Part number: 71902

First, plug the harness into the module.

Note:

You will NOT use the cream colored connector or the matching black connector. You will be using the smaller black module output connector, one(1) switch harness connectors (black and white wires), and the black power supply connector.

*** Ensure that the fuse from the inline fuse holder has been removed until the end of the install.

Bring TLM to driver side, where power harness is fed through.



71904 fed through passenger seat grommet, connected to TLM

Please reference page 2 for the following connection information.

Locate the TLM to battery harness (71904) that has been routed through the firewall grommet and TLM power to light harness (71905).

On the 71904 harness, connect the black connector to the blunt red wire on the TLM. (Circled in red in first image, on top).

Plug the red and black connector on the 71905 to the mating connector on the 71902 (TLM), shown in the blue circle. Next, connect one of the switch connections (black and white wires) to one of the mating connections on TLM. Circled in yellow. The rest of the connectors will not be used.

***** You do NOT need to connect both switch connections.**

To set the dip switch to 90 minutes (default) follow the chart below:

If customer would like a time different that 90 minutes, use the dip switches to set the time. Chart is as follows:

1	2	3	4	5	6
Down	Down	Down	Up	Up	Down

71905 and 71902 Connections

DIP 1	DIP 2	DIP 3	DIP 4	DIP 5	Minutes	DIP 6
Voltage Sense ON (Down) OFF (Up)	Timer ON (Down) OFF (Up)	Up	Up	Down	30	ON (Down) Steady Ground Input
		Up	Down	Up	45	
		Up	Down	Down	60	
		Down	Up	Up	90	OFF (Up) Momentary Ground Input
		Down	Up	Down	120	
		Down	Down	Up	150	

TLM Rev B:



Part #: TLM Rev B

DIP 1	DIP 2	V-Sense	DIP 3	DIP 4	DIP 5	Minutes	DIP 6
Up	Up	OFF	Timer ON (Down) OFF (Up)	Up	Up	30	ON (Down) Steady Ground Input OFF (Up) Momentary Ground Input
Up	Down	11.2V		Up	Down	60	
Down	Up	11.5V		Down	Up	90	
Down	Down	11.8V		Down	Down	120	

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

If topper lighting consists of only **1 Light Strip**, place dip switches in the following order:
(This is set for 90 minutes, if customer would like 30,60, or 120 minutes please refer to the chart above to set dip switches accordingly)

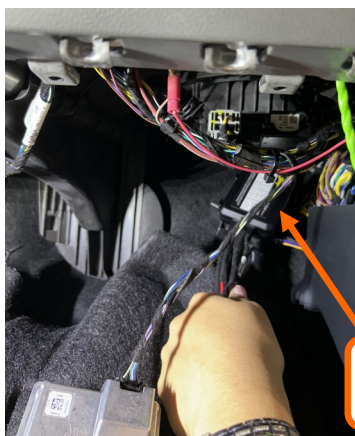
1	2	V-Sense	3	4	5	6
Down	Down	11.8	Down	Down	Up	Down

If topper lighting consists of only **more than 1 Light Strip (all other light kits)**, place dip switches in the following order:
(This is set for 90 minutes, if customer would like 30,60, or 120 minutes please refer to the chart above to set dip switches accordingly)

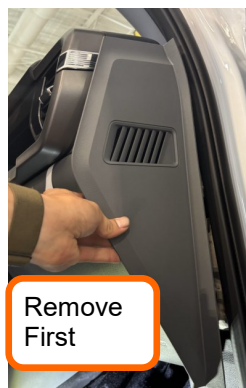
1	2	V-Sense	3	4	5	6
Up	Down	11.2	Down	Down	Up	Down

Step 5: Locate the **passenger's side door sill area**.

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



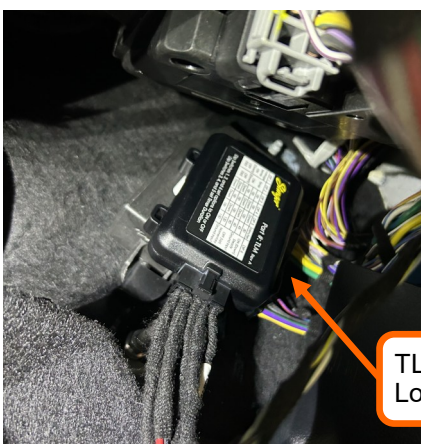
TLM
Location



Remove
First



Remove
Second



TLM
Location

Use the adhesive tape supplied in the kit to stick the TLM to the bottom of the step well as far back and up as you can. Refer to the picture to the left for the TLM placement.

Secure the TLM and wires with zip ties.

Be sure the TLM is secured.

*** Picture is for location reference only.



Step 6: Once TLM is secured into its position continue routing harness 71905 through trim along the passenger side doors as shown.

Ensure harnesses are completely tucked and secured under trim supports so that wires are not pinched once trim pieces are reinstalled



Step 7: Once Harness 71905 has been routed to the backseat remove the trim piece shown to the left to access the gray plastic cover under the seat that we will be routing our Harness through. Plastic cover circled in red.

Use a step drill bit to drill a 11/16" sized hole to allow the harness to be routed through it to the underside of the vehicle. Once harness has been completely routed through plastic cover silicone the hole for water sealing.



Step 8: Begin routing harness to the back of the vehicle on the passenger's side while staying away from the rear passenger's side wheel. Find mounting points on the vehicle's frame or thicker OEM harnesses to secure harness with zip ties.

Once harness has been routed and secured to the back of the vehicle, move to the bed of the truck.



Step 9: Locate the rear passenger's side bed area. There is an oval shaped grommet for a pass thru. Using a 3/8" step drill bit, drill a hole into the plastic grommet and route the harnesses through the hole. Insert the bigger grommet supplied in the Brake Light kit into the bed frame pass through, this will be used for the interior light harness and Brake Light harness together. Tuck any excess wiring into the empty cavity underneath the bed frame. Use the supplied Tek screw and P-clip to secure the wire harness to the frame.

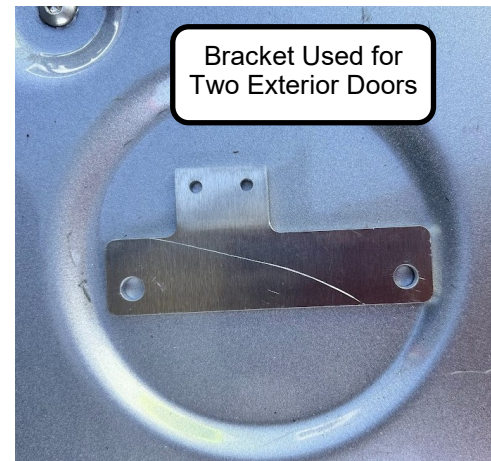
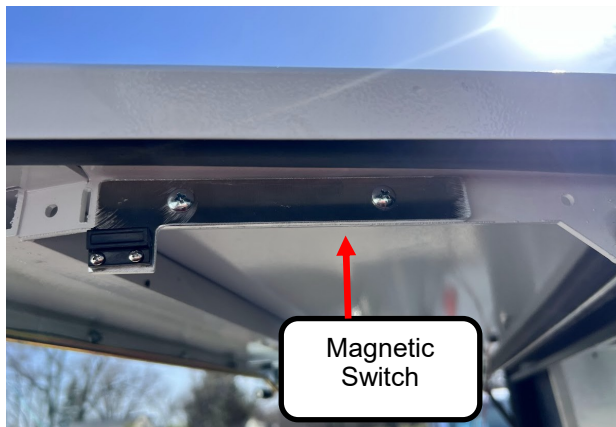
Excess wiring tucked under the bed frame



Step 10:

Locate BAG71907, magnetic switches PN 71907 and magnetic switch brackets PN: 73414-W, 73415-W, 73416-W.

Two small mounting brackets with two switch mounting points, will be used for exterior doors.



Step 11:

Obtain two magnetic switches. Using a magnet without wires, remove plastic covering from the back side. Clean the surface of mount using an alcohol pad. Once the surface is clean, position the magnetic switch on the bracket, aligning it with the pre-drilled holes.

Secure the magnetic switch to bracket using the two 4-40x.50 Round Head Phillips screw and two 4-40 hex nuts. Ensure proper orientation by referring to the provided image.

Repeat this process to other brackets. Be sure to install a magnet without wires to all 3 brackets.





Step 12:

Identify the door shocks on the topper doors. Both the driver and passenger sides should have pre-existing holes on the shock mounts for placing the magnetic switch.

Start by cleaning the shock mount using an alcohol pad and remove any plastic film covering the back of switch.



Step 13:

Locate driver's side door shock mounts. There will be two magnetic switches mounted to each side of the driver's side door shock mount.

Position the magnetic switch along with its wires and connector. Secure two switches to the door shock, one magnetic switch with wires facing upward, and the other with wires facing downward.

Using a screw driver secure the magnetic switches are in proper position.

Use the provided image as reference.



Step 14:

Locate side door magnetic switch mounts, PN 73416. Begin to position magnetic switch on exterior door, aligning with opposite magnetic switch connected to door shock mount. Make sure magnetic switches are face to face with one another, approximately 1/4" apart or closer.





Note: Install will be on driver's side. Image is for reference only.

Step 15:

Locate magnetic switch mount for the rear door. PN 73415 Repeat **Step 12**. Aline mount with magnetic switch on door shock mount. Secure mount with 10-24x.75 button head cap screws and 10-24 hex nuts.



Step 16:

Moving to the passenger side, secure magnetic switch on PN 73416. Mount magnetic switch to door shock mount, facing the side door, not the rear door. Mount PN 73416 to the driver side door, aligning the two magnetic switches, same as before. Use the images as reference.



Step 17:

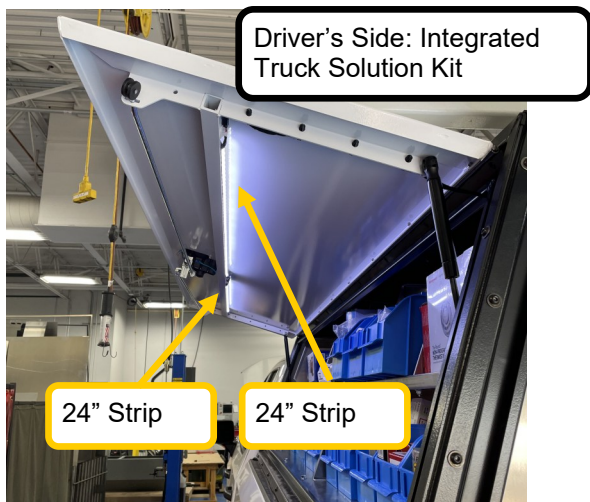
Pull the wiring upward to secure along the inside with zip ties. Continue routing the harnesses in the corner of the topper, to the top front of the first roof bow. (Shown in red)

The harness end with connectors should end up between the first roof bow and the door frame on the driver side. See picture below for reference. Use the holes in the roof bows to secure wiring with zip ties.

Rear Door

1st Roof Bow





Driver's, Passenger, or Rear Door:
Other Interior Light Kits



Step 18: Install the lights.

Locate the lights for the install. This will vary with customers so grab only what is called out on the sales order per vehicle.

***** Please note:** If there is an added door handle strap, the lights will need to be installed as high up on the channel as possible, to avoid the nut and bolt clamping on the light strip.

Open the topper doors that are requiring lights. Locate the square tube running horizontal across the door. The side facing the interior of the top will be the side you will secure the lights to.

Using the alcohol pads provided in the boxes, clean the entire inside wall of the square tube where the lights will stick to before installing. Be sure to let the tube dry.

Be sure to have the larger connector end of the lights towards the rear for connecting into the roof bow harnesses.

If installing the integrated Truck Solution (74486):

Connect (2) 24" strips together, and remove sticky tape on the back.

On the drivers side, install (2) 24" strip lights as center as possible between the front and rear sides of the door.

For the passenger side, install (2) 24" strips, following the same instructions as above.

Follow the same mounting location/procedure for any other strip lights being mounted (48"). Lights will mount on the interior side of the channel that runs along the door.

Only install the lights on the sides that are needed. Not every door will always have lights. These will vary on customer asks. Refer to page 4 for kit part numbers and components.

Be sure to have the larger connector end of the lights towards the rear for connecting into the roof bow harnesses.

Place a small sticky back square zip tie mount at each end of the strips to secure the connector to the topper.

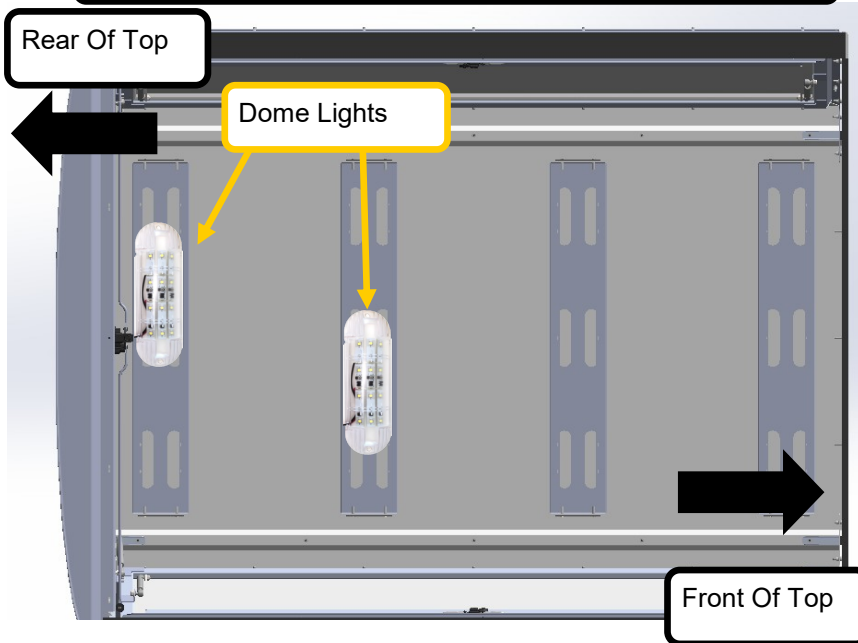
Step 19:
For the Integrated Truck Solution (74486)
Locate the (2) dome lights.

Be sure to clean the area that the lights will stick to carefully before installing. Use the alcohol pad provided in the boxes and let it dry before installing.

If there will be an interior ladder rack installed, stagger the dome lights on the roof bows like shown. If not then please center the lights.

Note: Don't use the self taper screws. Drill 2 holes and use nuts and bolts to secure Dome lights.

Integrated Truck Solution Kit With Interior Ladder Rack

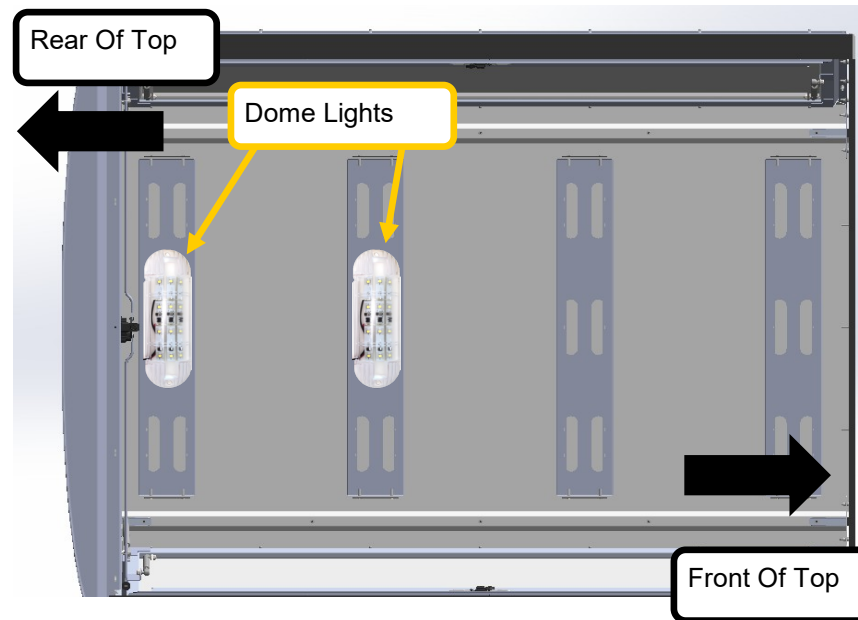


Place dome light on roof bow as shown in images below:



Please secure dome lights with (FAS-0022 10-24X0.75) screw, (FAS-0029 10-24) nut, and (FAS-0027) washer on roof bow.

Integrated Truck Solution Kit With No Interior Ladder





Dome light on roof bow



Dome light on roof bow



Strip light on doors—
use existing holes for zip ties

Watch for Sharp Edge



Leave extra wiring
for opening the door



Tuck excess wiring between door and roof bow. Secure with zip ties

Step 20: Roof Bow Harness Routing

Use roof bow harness #1 (63481) for routing the 2 dome lights and the strip lights on the driver's side door.

Use roof bow harness #2 (63482) for routing to the strip lights on the passenger side.

Utilize the existing holes in the doors and roof bows for securing the zip ties to. Clean topper surface in corner areas with alcohol pads. Begin to secure the harness using provided self adhesive tie mounts where necessary.

***IMPORTANT:

Ensure while securing wiring to avoid all sharp edges. (Shown in image 3, circled in red). When wiring from the light strips to the roof bow, avoid sharp edges at the ends.

When both side doors are open, allow very little slack on the wire, ensuring it is taut. However, while pulling wiring taut on the strip lights ensure the doors open and close without damaging the wires.

Route the harnesses to the TLM harness (71905) and plug them in.

Secure all the wires with zip ties and tuck neatly as possible between the first roof bow and the rear door edge.

Be sure all wiring is secured with zip ties.



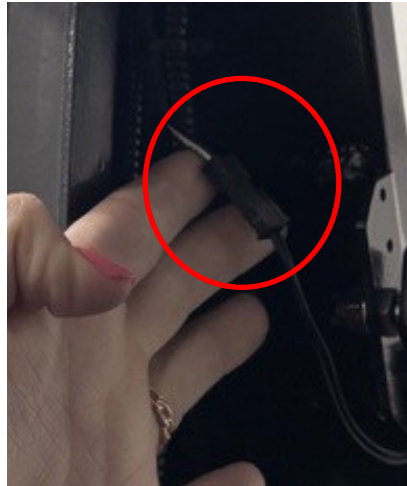
Step 21:

A) After routing 71905 underneath the vehicle, towards the rear, secure the bundle in the middle of the roof bows closest to the doors.

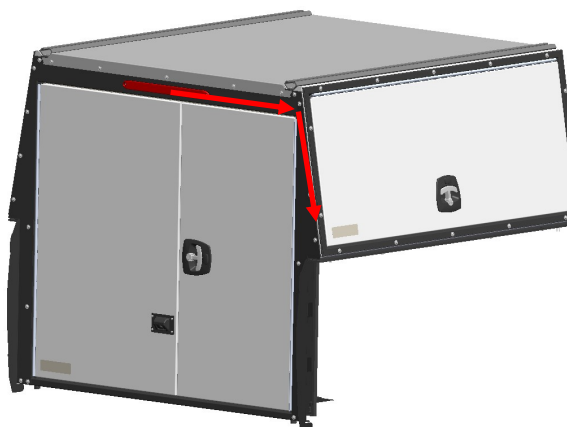
Route the longest lead of magnetic switch harness to the **driver side** switch mount. Image to the left.

When routing keep the harness tucked **up into the area with the harness**. Use stud mounts to secure harness, if there is no stud mounts to connect to, use sticky back mounting.

Connect end of magnetic switch to mating connector end on harness. (Shown in **Red**)



B) With the two short leads plug one end into the rear magnetic sensor, the other add 80371 extension harness to it to reach the passenger side magnetic sensor. (Shown in **Red**)



80371





Step 22: *** Testing of magnetic switches ***

Continue to route power to light harness PN 71905 to magnetic switches mounted on door shock mounts.

After plugging in the magnetic switches, be sure to secure the excess wiring using provided cable ties.

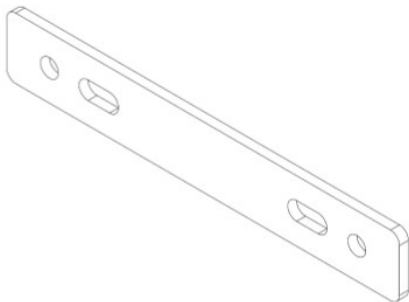
Once magnetic switches and all lights are plugged in, lights should be on.

To test and see if the magnetic switches are close enough to one another, open the tailgate of the truck and shut all of the topper doors.

Once all of the topper doors are shut, all of the lights should be off. If one topper door is open, the lights will remain on. In order for the lights to turn off, all of the topper doors must be shut.

Magnetic switches should be no more than 1/4" of an inch away from one another.

*** If the lights do NOT turn off when all of the doors are shut, preform next step below.



Step 23: Locate magnetic switch bracket spacer PN 73414-W.

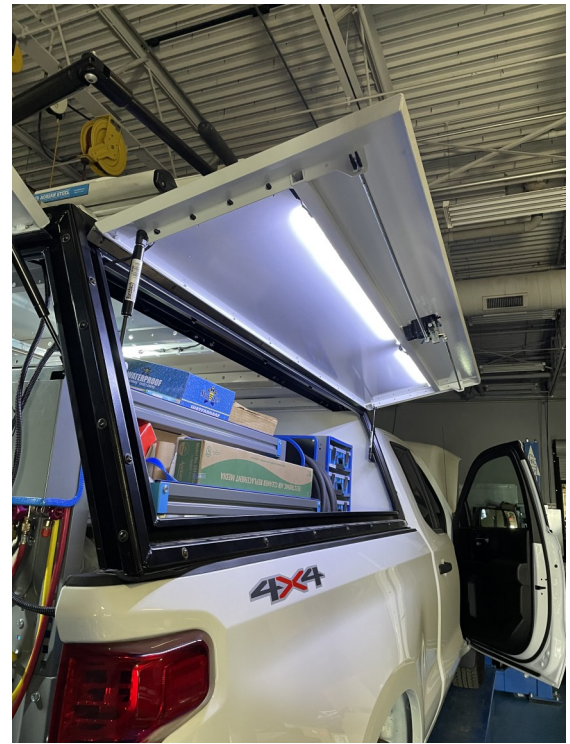
Place one **or two bracket(s)** behind the pre-existing bracket on the topper door. This can be placed behind one bracket and then tested again.

Utilizing hardware provided, secure bracket behind magnetic switch bracket. This is ensure the magnetic switches are close enough for connectivity.

A spacer may be placed behind all magnetic switch brackets on the rear door and two side doors if deemed necessary.

Magnetic switches mounted on topper door must be **NO MORE** than 0.3" apart from each when the door is shut.





Insert the fuses into the inline-fuse holders on the TLM harness (71905) and the power harness (71904).

The install is now complete.

Check that the lights come on when any of the 3 doors open.