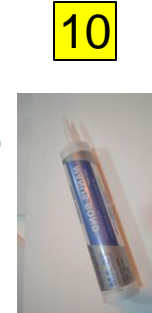


Ekko ASA Blind Spot Update:

Tools and Shop Supplies required-

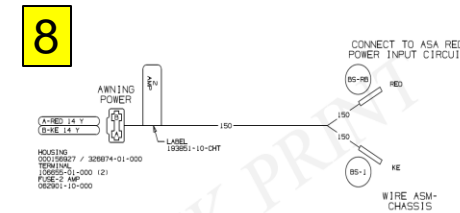
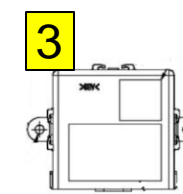
1. Ratchet with 10mm socket.
2. Screw gun with #2 Philips.
3. Drill with 1" Hole Saw.
4. Cutting implement.
5. Wire strippers.
6. Scraper/Putty knife.
7. Cartridge gun.
8. Plastic trim tools.
9. Half round file.
10. Manus Sealant (185987-03-02A or equivalent).
11. Electrical tape.
12. Surface cleaner.



Part required - SC7843-24-705 Ekko Blind Spot Upgrade

Kit contains:

1. ASA Harness - 357553-01-000.
2. LH and RH Sensors - 357575-01-000.
3. Blind Spot ECU Module - 357552-01-000.
4. Small P-clamp - 083610-01-000 (5) and screw 000G39-10-12T (5).
5. Large P-clamp - 083610-03-000 (5) and screw 000G39-10-12T (5).
6. Zip ties - 008343-04-000 (25).
7. Butt splice - 326774-01-000 (4).
8. 2A In-line Fuse Harness - 358121-01-000.



Step 1 – Pre-rework Prep

1. Disconnect the 110v power cord from the coach, **See Image 1.**
2. Turn off the house disconnect switch, **See Image 2.**
3. Turn off the 12v battery 250-amp main breaker/breakers, **See Image 3.**
4. Turn off the inverter disconnect, **See Image 4.**
5. Turn off the 12v house battery/batteries by holding down the power button on the top of the battery/batteries for 3 seconds. Make sure the blue LED lights are off, **See Image 5.**
6. Allow for engine bay area and exhaust to cool.

Image 1



Image 2



Image 3



Image 4



Image 5



Step 2 – Remove Original Harness

1. Locate the ASA blind spot monitor sensors located at the rear of the coach, **See Image 1.**
2. Under the coach, disconnect the blind spot sensors from the original ASA harness.
3. Starting from the rear and working towards the engine bay, pull the harness out of P-clamps or cut zip ties as necessary. Make note of the routing of the original harness as this will be roughly followed by the new harness.
4. Gain access to the ASA ECU module, located under the steering column in the dash area. Access can be achieved by removing the closeout panel - attached via clips, below the steering column. **See Image 2**, Yellow arrow for ECU module location.
5. Disconnect the harness 16-pin plug from the module.
6. Cut all 5 butt splices made between the ASA harness and the Winnebago harness. Leave part of the ASA harness for easy identification when reconnecting the new harness. **See Image 3.**

Image 1



Image 2

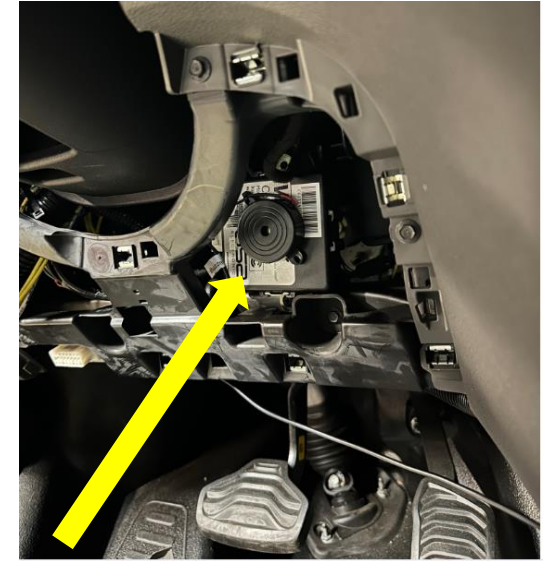
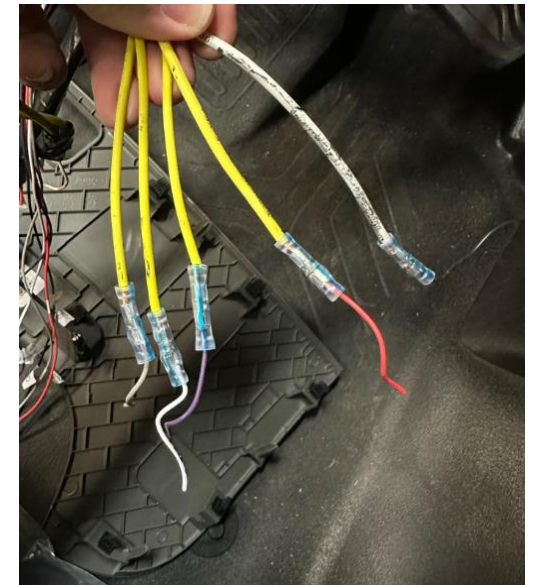


Image 3



Step 2 – Remove Original Harness (Cont.)

1. Gain access to the connectors between the ASA harness and the buzzer, GPS module, and Left/Right LED lights.
 - a) The buzzer should be mounted under the steering column along with the ECU module. Disconnect the 2-pin connector while ensuring the buzzer stays mounted down.
 - b) The GPS module and left LED connectors are both routed toward the driver side A-pillar, **See Image 1 and 2**, Yellow arrows for respective component locations. Remove the Driver side assist handle using a 10mm socket on the two mounting bolts, **See Image 2**, Red arrows. Using plastic trim tools or by hand, detach the Driver side A-pillar cover which is now secured only by tabs, **See Image 3**. Additionally, remove the Driver side dash cupholder by rotating to disengage the mounting features and pulling out, **See Image 4 and 5**. With these removed follow the wires and locate the connectors for each component. Disconnect and pull the ASA harness side back through leaving the components in place.

Image 2



Image 3



Image 1



Image 4



Image 5



Step 2 – Remove Original Harness (Cont.)

c) The right LED connector is routed toward the passenger side A-pillar. Remove the same parts as listed in b), along with removing the passenger side stepwell cupholder and center console covers, **See Image 1 and 2**. The glove box can also be dropped down to gain additional access, **See Image 3**. With these removed follow the wires and locate the 2-pin connector for the LED. Disconnect and pull the ASA harness side back through leaving the LED in place.

2. Pull the original ASA harness through the firewall and drop through the engine bay to fully remove it.

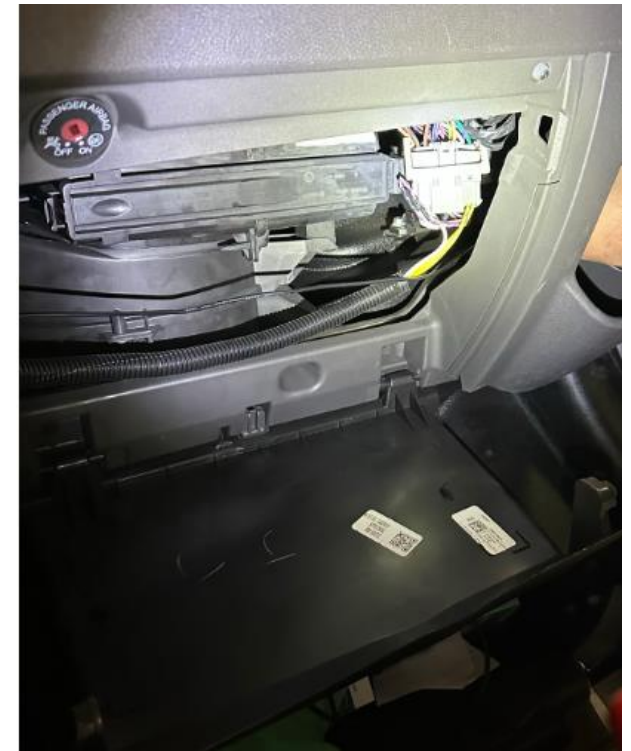
Image 1



Image 2



Image 3



Step 3 – Prep Firewall Passthrough

1. With the ASA harness removed, there still may be some Winnebago harnesses passing through the firewall outside of the Ford grommet. If this is the case, disconnect the harnesses and pull back until nothing is passing between the grommet and the firewall, ensure the grommet is fully seated in the cutout, **See Image 1**, Yellow arrow.
2. Mark and cut a roughly 2" slit into the Ford grommet, ensuring that no wiring is damaged in the process and the integrity of the grommet is retained. Be careful as there is both Ford and Winnebago harnesses on either side of the grommet, **See Image 1**, red arrows.
3. If any Winnebago harnesses were disconnected, pass them through this new opening in the Ford grommet and reconnect, **See Image 2**.

Image 1

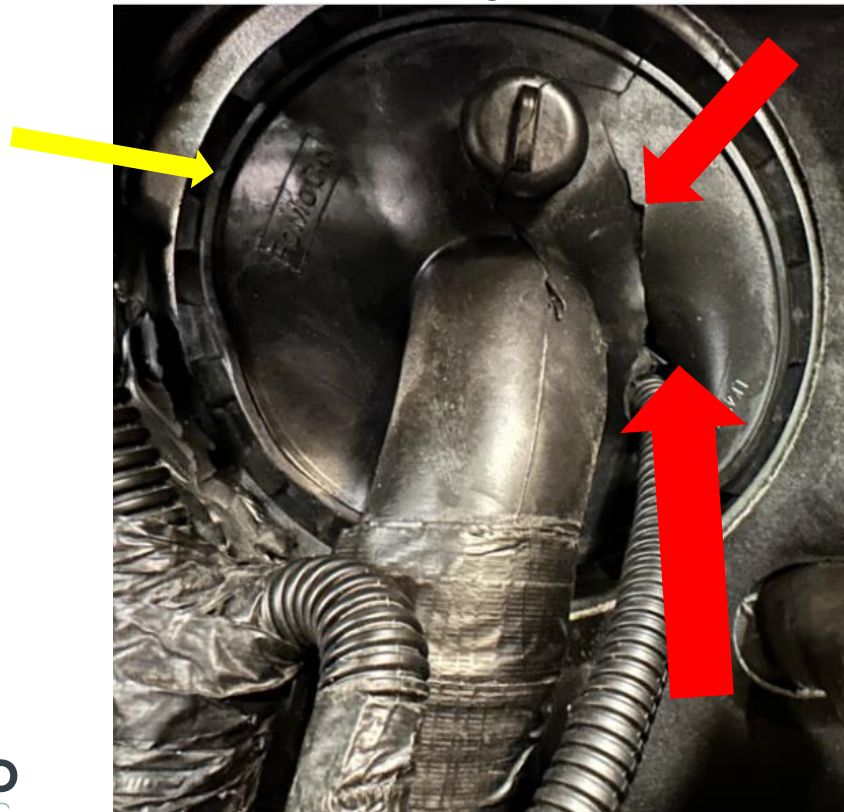


Image 2



Step 3 – Prep Sidewall

1. At the rear of the coach, use the screw gun with #2 Philips bit to remove the 4 screws mounting each blind spot sensor to the sidewalls. Use a putty knife and surface cleaner as needed to remove the sensors and clean away any residual sealant to ensure a clean and smooth mounting surface, **See Image 1 and 2.**
2. Using a drill equipped with a 1"-hole saw, cut hole for the new blind spot sensor wiring. Locate this hole on the rearward side of the original sidewall slot, **See Image 2.** Drill from underneath the coach on the inside of the sidewall towards the exterior to ensure you go through the correct area of the sidewall tube, **See Image 3 and 4.** As you cut, be careful not to apply excessive force or drill speed to avoid damage to the exterior fiberglass. Once cut, use a half round file to clean up the hole and ensure no sharp burrs or edges are present to potentially damage the sensor wire.

Image 1



Image 2



Image 3
Driver Side

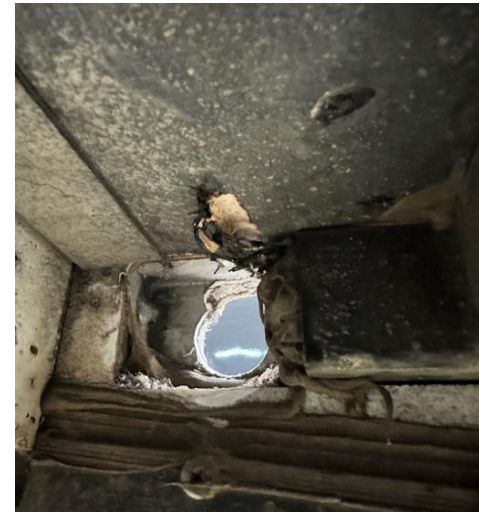
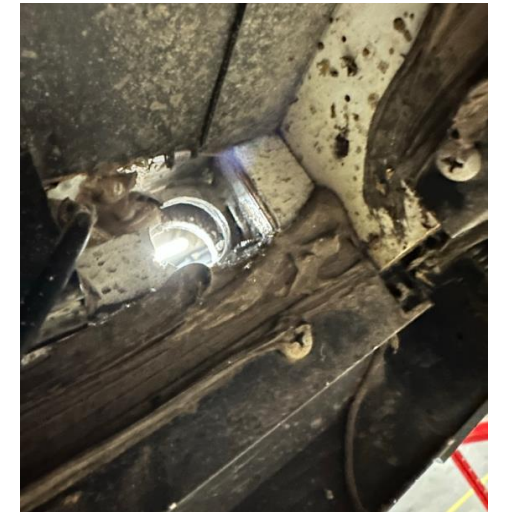


Image 4
Passenger Side



Step 4 – Install New Sensors and Harness

1. Install the new sensors to the sidewall, being careful to follow the orientation directions molded into the sensor housings.
 - a) Use fasteners supplied with the new sensors. Should screws not bite into sidewall material, add in something such as a zip tie end into the hole to allow the screw to gain retention.
 - b) Cap sealing the sensor to the sidewall is not necessary.
2. Use sealant to seal the 1" holes from beneath the coach, **See Image 1**. Tool to ensure no water intrusion into sidewall.
3. Connect the sensors to the correct plugs in the harness. Harness branches are labeled for left or right.
4. At the backwall, secure immediately before and after the connector with P-clamps, and at least every 18" as the branches follow the backwall. Clamps should be screwed up to the metal tubes or trim, do not screw into the floor as it has minimal screw retention. If other clamps or screw-mounted zip ties are fastened to the floor, replace with a P-clamp fastened to a metal tube. Ensure the harness is fully secured up and away from the exhaust, **See Image 2 and 3**, Yellow arrows.

Image 1



Image 2 – Passengers Side



Image 3 – Drivers Side



Step 4 – Install New Sensors and Harness (Cont.)

1. From the backwall, follow the original ASA harness path with the new ASA harness, secure at least every 18" with zip ties to the other below floor wire looms and/or chassis frame mounting holes, **See Image 1 through 6** which are in order starting from the hitch and ending just forward of the battery compartment and show examples of zip tie locations. Yellow arrows highlight zip ties that were added to support harness.
 - a) Ensure the harness does not have freedom to sag down or chafe during coach operation.
 - b) Support harness at least every 18".
 - c) Coil excess ASA harness length and secure between the battery compartment paneling and the tube structure supporting it, **See Image 5**.

Image 1



Image 2

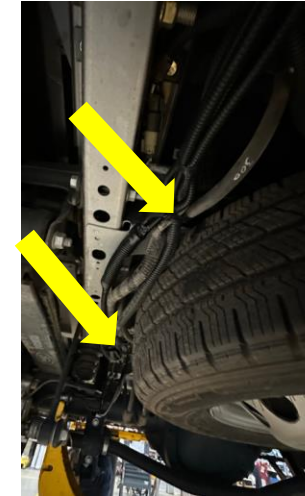


Image 3



Image 4



Image 5

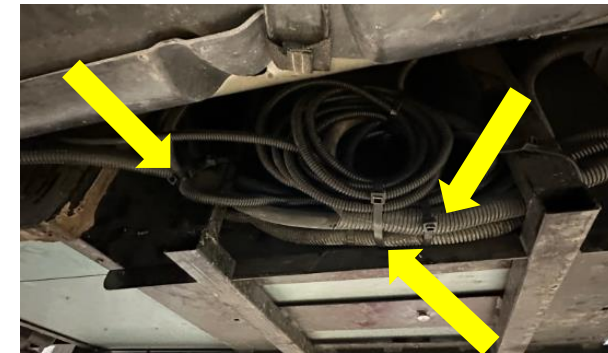
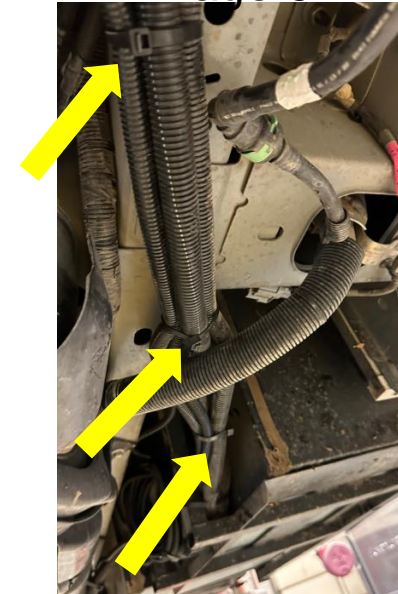


Image 6



Step 4 – Install New Sensors and Harness (Cont.)

1. As the harness reaches the engine bay area, ensure it cannot contact any hot or moving components. Follow Winnebago harness bundles and secure every 18" or closer to ensure a safe wire path, **See Image 1 through 4** Yellow arrows, which are in order from forward of the battery compartment to just before the Ford firewall grommet.
2. If the Ekko Charging Recall #174 was completed there should be a 2.5" P-clamp over the driver side of the front axle; ensure the harness passes through this P-clamp, **See Image 2**, Red arrow. If the clamp is missing, check the serial number for any other open Recall or Service Campaigns.
3. Pass the harness through the firewall using the previously created cut into the Ford grommet.

Image 1



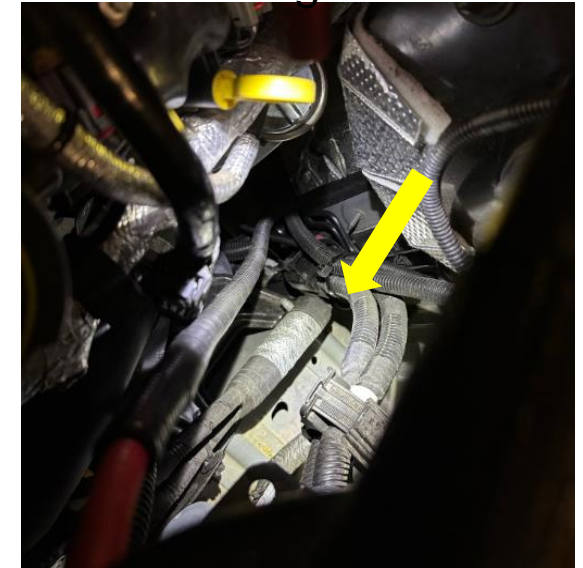
Image 2



Image 3



Image 4



Step 5 – Connect the New Harness

1. Connect the passenger side LED to the harness branch labeled 'Right LED'. Follow the original harness path from under the steering column, under the center console, behind the glove box, and up to the A-pillar.
2. Secure excess wiring with zip ties to ensure no wires are visible to the owner and the wire will not get pinched, chafed, or otherwise damaged during reinstallation or operation of the coach, **See Image 1** for example of excess cable management.
3. Reinstall all Ford plastic trim components, cup holders, and assist handles.
4. In the engine bay, use sealant to seal around the cut in the Ford grommet and any harness passing through it. Tool to protect from water intrusion into coach, **See Image 2.**

Image 1



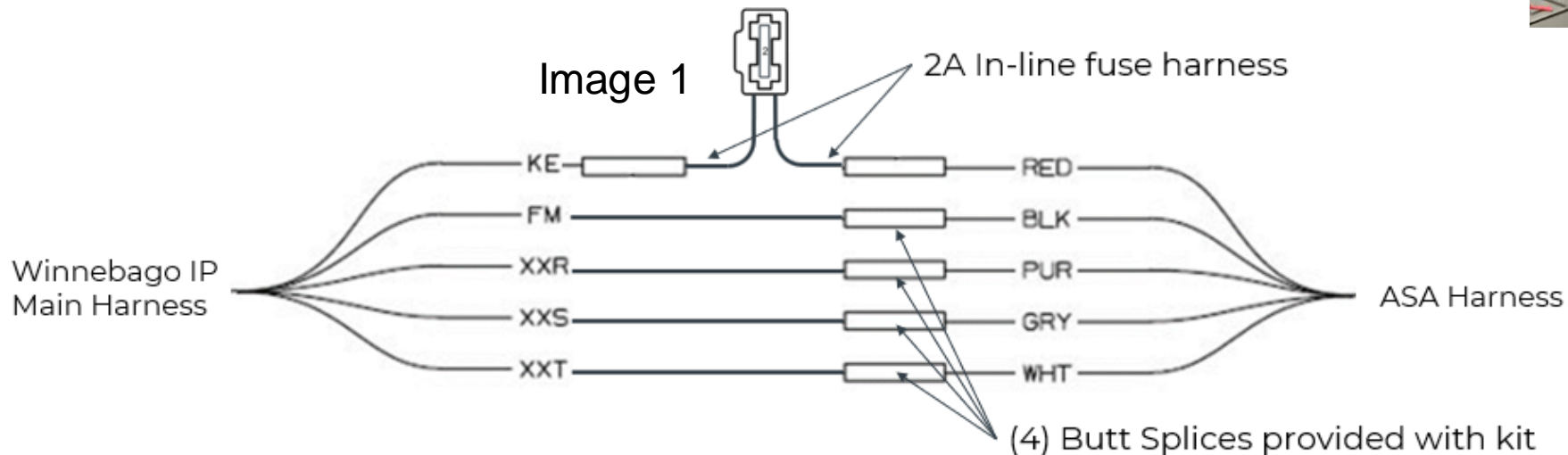
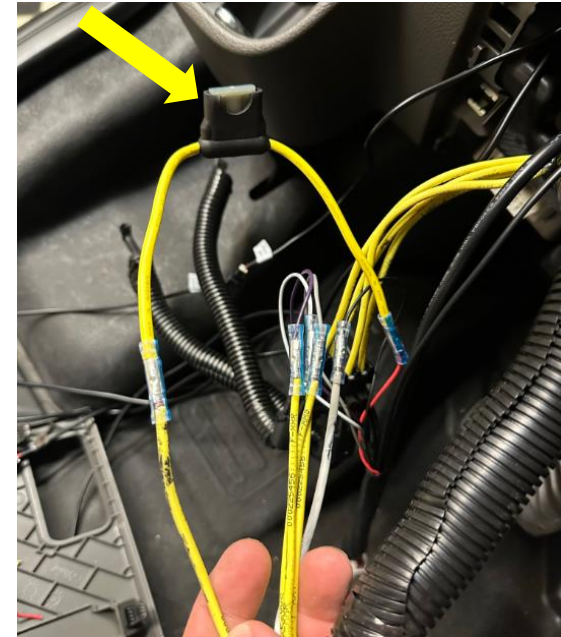
Image 2



Step 5 – Connect the New Harness (Cont.)

1. Connect the ASA harness 12 pin connector to the ASA ECU module.
2. Make the 5 butt splice connections between the ASA harness and Winnebago harness under the steering column, **See Image 1**.
 - a) Check for a 2A fuse attached to the red/ power KE circuit underneath the steering column. If it is not present, add the 2A in line fuse between the Winnebago harness and the ASA harness, **See Image 2** Yellow arrow.
3. Connect the ASA harness branch labeled 'Buzzer' to the Buzzer under the steering column.
4. Connect the driver side LED and GPS module to their respectively labeled branches. Follow the original harness path from under the steering column up to the A-pillar.

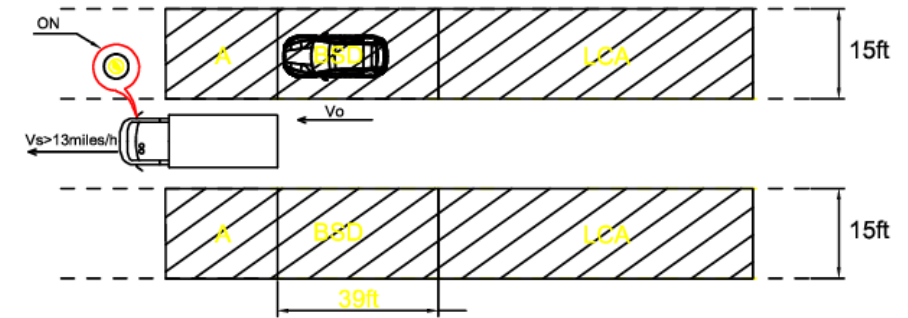
Image 2



Step 6 - Testing

1. Once all service items are complete, take the coach out to a safe stretch of road.
2. Reach at least 13 mph and confirm the following for both sides of the coach:
 1. The appropriate LED lights up as vehicles enter the blind spot, and that the LED turns off when the blind spot is cleared.
 2. The appropriate led flashes and buzzer sounds if a vehicle is in the blind spot and the coaches turn signal is activated.
3. The rework is now complete.

a. The warning light will be lit if there's approaching target vehicle ($V_o > V_s$) in BSD detection area.



d. If LED lit, and then turning signal was triggered, LED will blink; the buzzer will give out "bibi" warning beep.

