Step by Step Guide to Enabling Blind Spot Information System (BLIS) and Cross Traffic Alert (CTA) on Your Mustang

Parts Required (part numbers are same for both sides except for OEM mirrors)

Blind Spot Radar, referred as Side Object Detection Left/Right (SODL/SODR) modules in this guide: EM2Z-14C689-A

Side Object Sensor Connector (pigtail): WPT1434

Blind Spot Radar Mount Bracket: FT4Z-14D189-A

Blind Spot Radar Bolt: W505563-S437

BLIS alert light options:

Set of OEM side mirrors with BLIS lights:

Mirror LH: FR3Z-17K707-G

Mirror RH: FR3Z-17K707-D

OR

Aftermarket mirrors such as Classic Designs Concepts 1511-7053-01C

OR

LED diode lights for interior mount (covered in this guide)

Below is the picture of the SOD module, bracket, and mounting screws. Used modules cost around $100 on eBay, whereas new ones start around $500. New brackets are around $17 new.

Hardware and wiring installation

1. Remove rear bumper cover.

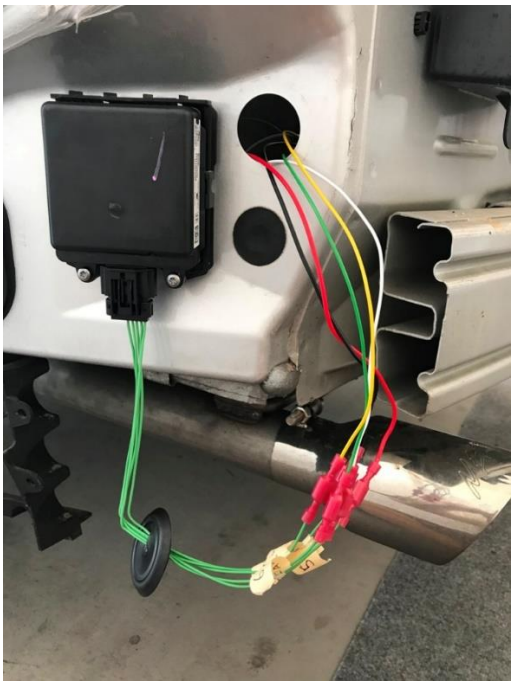
rear_bumper_cover_removal.pdf

2. SODL and SODR mounting locations:

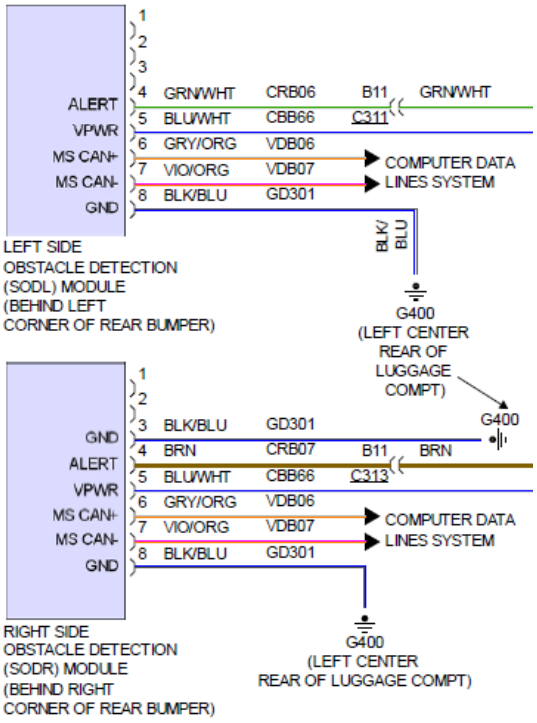
3. Install mounting brackets. Existing mounting hole covers didn't have provisions to attach the brackets, so I flipped the covers around and used nuts and bolts to secure the brackets with added double-sided tape on corners without holes.

4. Mount SODL/R and connect pigtails. I couldn't find any used connectors for Mustangs, so I ordered a pair of new ones from rockauto.com for less than $17 each. I removed unused pins and labeled the wires using the wiring diagram below. Note that connectors also come with pin numbers for reference.

Since splice points end up within the trunk, I used push-in connectors, in case I need to swap wires around. I'll solder them later once everything tests OK.



Note that SODR uses two grounding pins to differentiate itself from SODL.

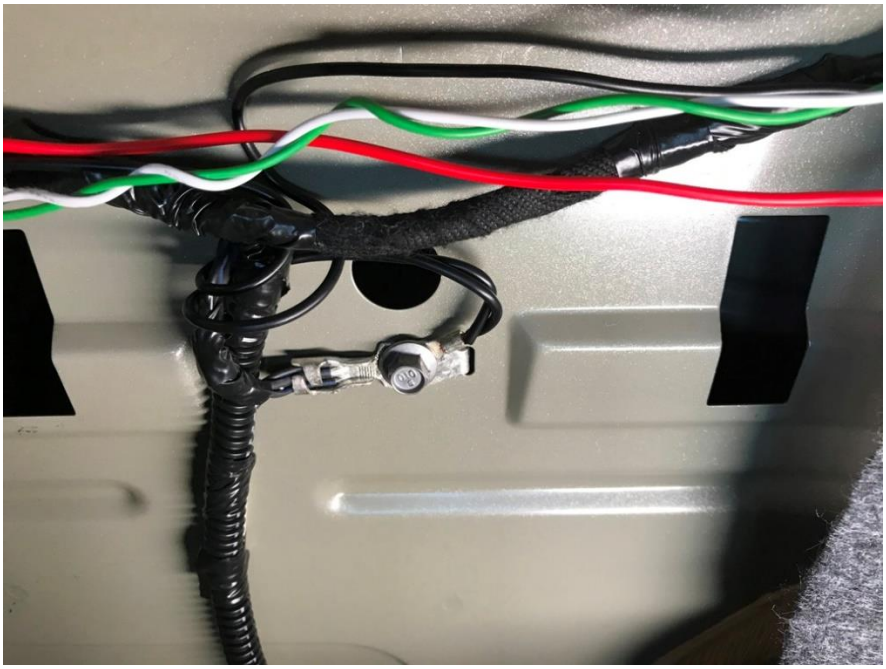


5. SODL and SODR mounted.

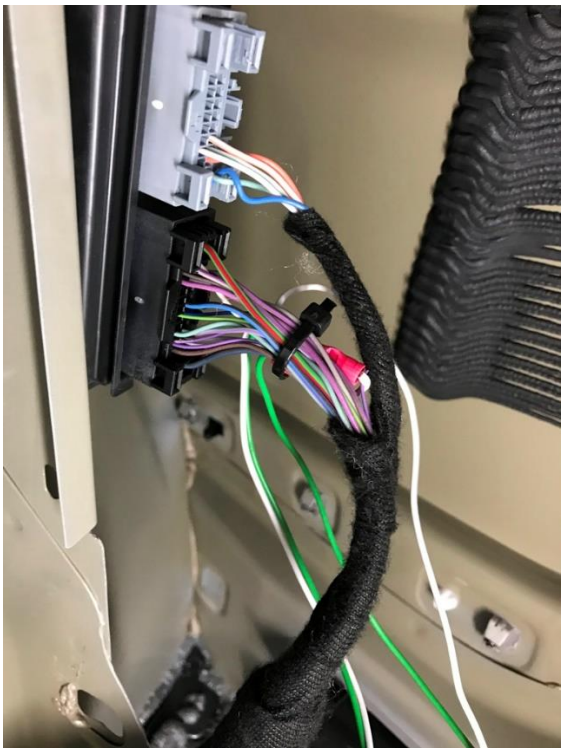
6. Below is inside the trunk on the right side. I plan to trim excess wires, solder connections, and put the wires in a loom later. Fry's sells wires in black, white, red, green, and yellow, so I came up with my own wiring scheme:

    i. Yellow: ALERT
    ii. Red: VPWR
    iii. Green: MS CAN+
    iv. White: MS CAN-
    v. Black: GND

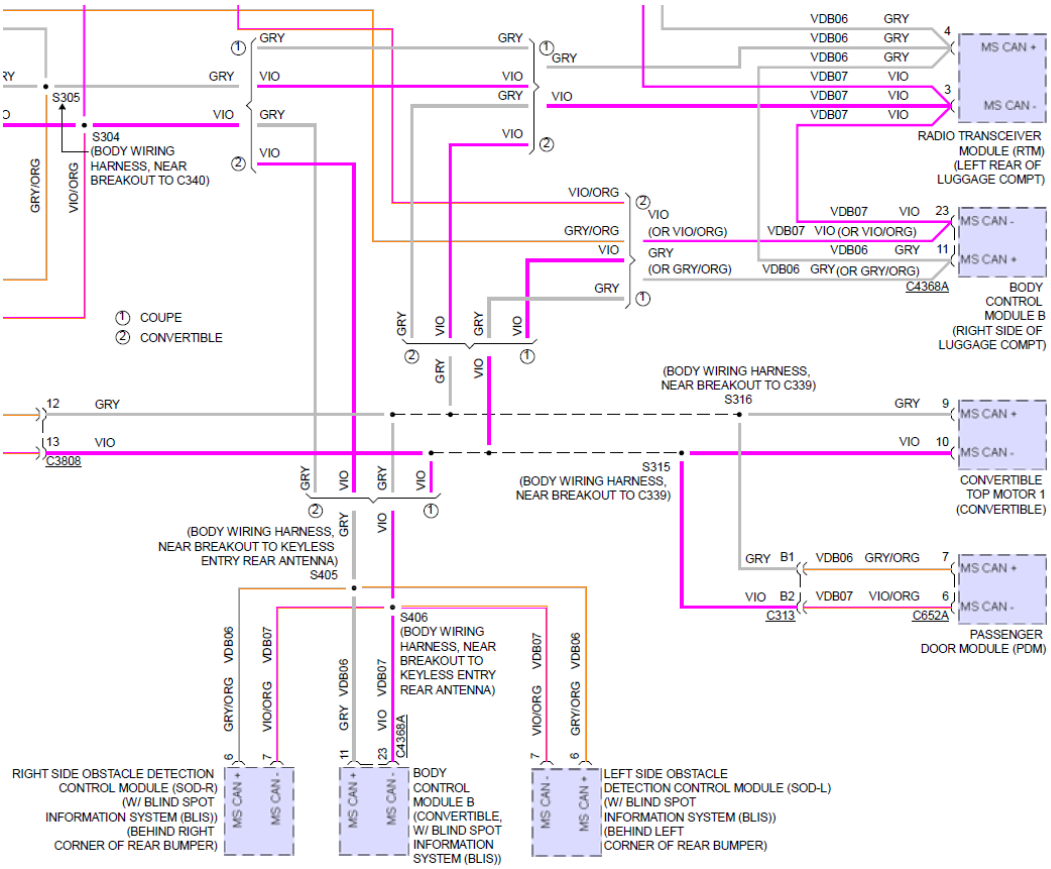
7. I ran the GND wires to the grounding point on left center left center rear of trunk as shown in the diagram above, already used by several other devices.



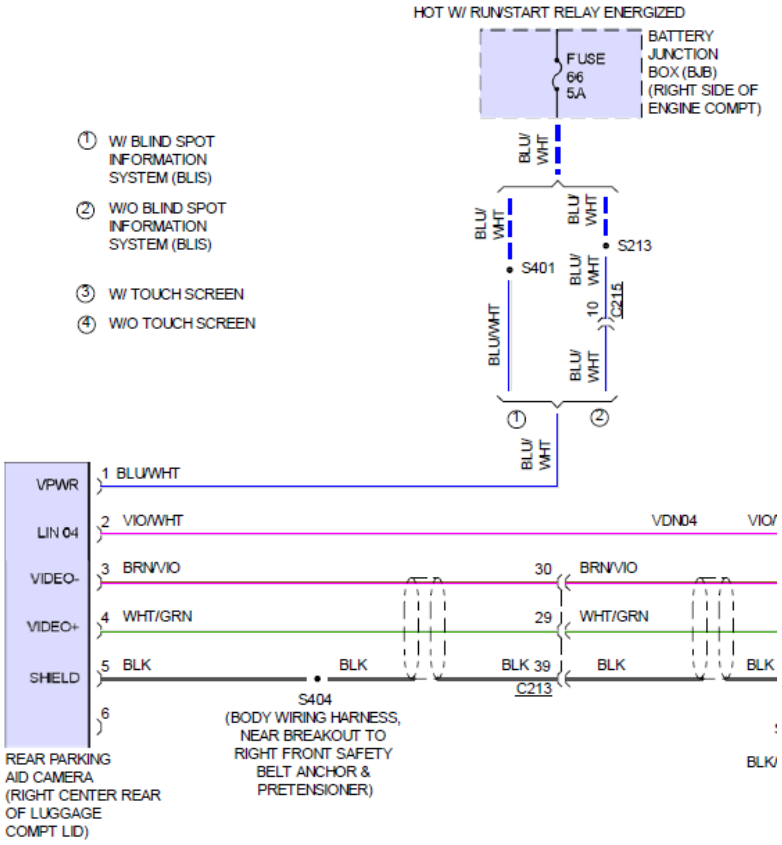
8. I have a coupe, so the Body Control Module B (BCMB) is on the right side of the trunk. The black harness contains pin #11 (GRY) for MS CAN+ and #23 (VIO) for MS CAN-. Unlike other pins, two thinner wires share one pin each as shown in the wiring diagram. It doesn't matter which wire you tap into as long as the polarity matches.



Wiring diagram also shows a Radio Transceiver Module (RTM) that's supposed to be on the left rear of the trunk, but I didn't see one on my car. If you do have one, you may be able to tap into its wires to for SODL and avoid running wires access the trunk.



9. I combined VPWR wires from both SODs and ran it to the rear camera VPWR wire (BLU/WHT). I tapped into the wire near the rear right speaker.



10. Ran the ALERT wires to the dash along the left and right sides of the car.

Updating configuration with FORScan

1. With hardware in place and wired up, the next step is to update IPC, SODL, and SODR configuration using FORScan. Make a backup of your as-built data in case you need to revert.

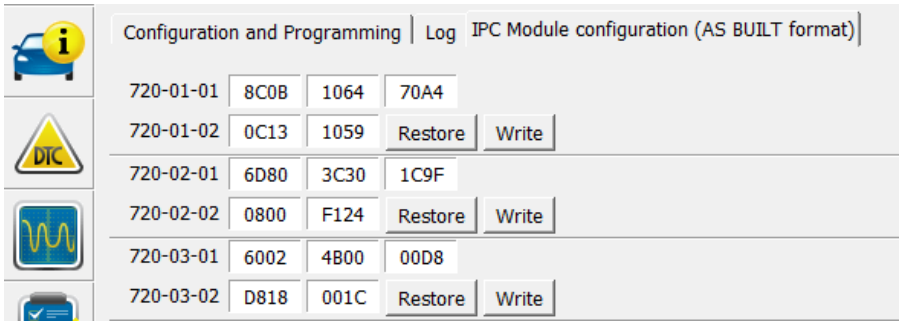
a. If you used FORScan before on the same car, select “No” if it asks you to load the existing profile. Using an existing profile prevents scanning of newly installed modules.

b. Grab a hexadecimal version of your VIN. I used lines 726-09-01 through 726-11-01 from the BCM.

726-09-01	3146	4136	5075
726-09-02	3870	Restore	Write
726-10-01	5448	3446	3589
726-10-02	3473	Restore	Write
726-11-01	3334	3830	3341

2. Enable CTA and BLIS in the IPC:

a. 720-01-01 xxxx xxxx *xxx 6 --> 7
b. 720-03-01 *xxx xxxx 2 --> 6
c. Below is how it looks on mine, yours may differ based on your settings and options.



3. SODL and SODR modules threw two DTCs each enabled, one for VIN mismatch and other for missing connection to the Door Control Module B (DCMB). They had the VIN for the previous car since I bought the modules used. They were from Ford Edge and connectors that came with them were missing the ALERT pins, so I suspect that Edge uses DCMB to trigger the BLIS lights.

a. I copied SODL and SODR as built data from another EB with the RSS option:
SODL

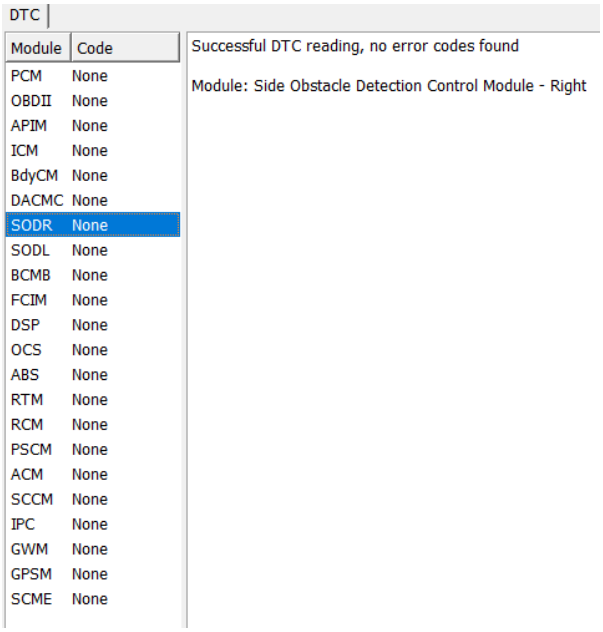
7C4-01-01	0000	00CD	Restore	Write	
7C4-02-01	5D0A	0000	0035		
7C4-02-02	0000	01D0	Restore	Write	
7C4-03-01	0B09	E3	Restore	Write	
7C4-04-01	5F0A	39	Restore	Write	
7C4-05-01	1E0A	0400	00FD		
7C4-05-02	2541	38	Restore	Write	
7C4-06-01	2439	646E	0001	Restore	Write
7C4-07-01	4060	080A	199E		
7C4-07-02	0FE3	Restore	Write		

SODR

7C6-01-01	0000	00CF	Restore	Write	
7C6-02-01	5D0A	0000	0037		
7C6-02-02	0000	01D2	Restore	Write	
7C6-03-01	0B09	E5	Restore	Write	
7C6-04-01	5F0A	3B	Restore	Write	
7C6-05-01	1E0A	0400	00FF		
7C6-05-02	2541	3A	Restore	Write	
7C6-06-01	2439	646E	0003	Restore	Write
7C6-07-01	4060	080A	19A0		
7C6-07-02	0FE5	Restore	Write		

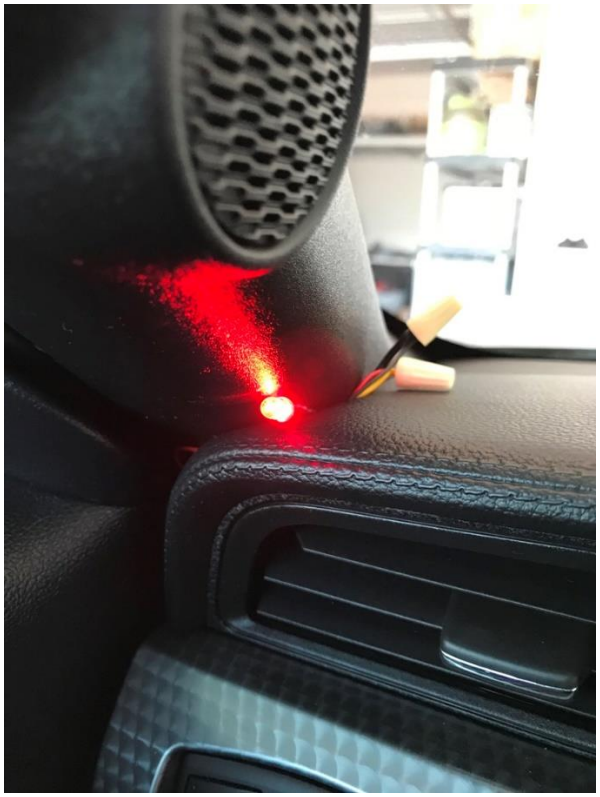
b. For the VIN, I copied the values from BCM to lines 7C4-08-01 and 7C6-08-01 till the end.

4. Clear any recorded DTCs after updating all the configuration values and writing them. Ensure that no new DTCs are logged after modules rerun self-tests after a few seconds.

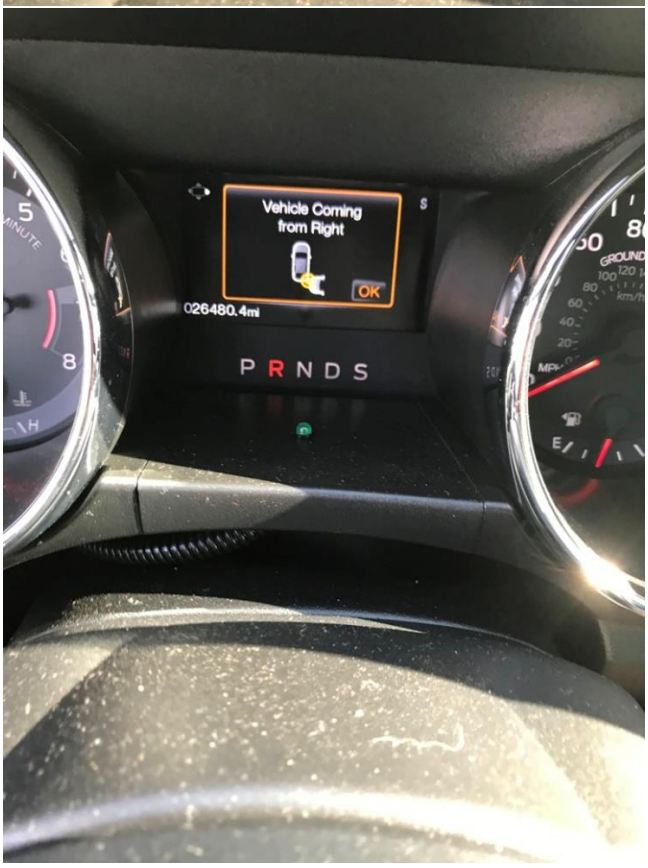


5. You should now see the Blindspot and Cross Traffic Alert options enabled on the center screen.

6. I haven't decided on the location for the LED diode lights, so I just wedged the wires for it between the dash and pillars for now. This way, I won't have holes in pillars if I change my mind later. Both left and right lights turn on for a few seconds during the self-test after turning the car on. While driving, both lights should be off unless there is a car in the blind spot while in motion.



7. For the CTA test, I placed the car in the driveway with the parking brake set while in reverse. A friend drove down the street from the left to the right side. Left-side warning came on first with sound and switched to the right-side warning as he passed the car and continued down to the right side until he was out of the range.



There you have it, BLIS and CTA enabled for about less than $300 in parts!