

# NAV-TV

INTERFACING THE FUTURE

3950 NW 120<sup>th</sup> Ave, Coral Springs, FL 33065 TEL: 561-955-9770 FAX: 561-955-9760

## NTX54-Ford

Garmin interface for Ford MyTouch Systems



**GARMIN**<sup>™</sup>



## Kit Contents



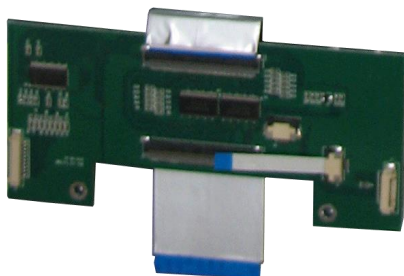
Garmin GVN54



GPS Antenna



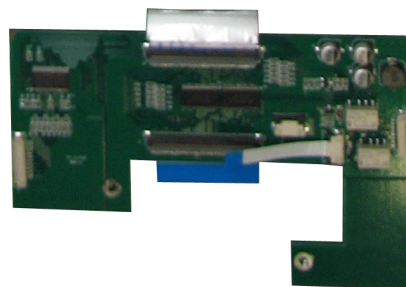
Ford Interface



V1 interface circuit board\*



External speaker



V2 interface circuit board\*



My Ford Touch  
T-harness



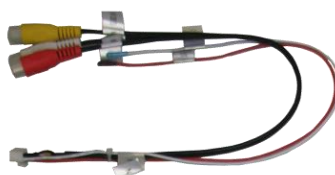
LCD harness



Touch Panel harness



Garmin to Interface  
Harness



A/V Aux IN harness



Mode switch/Aux  
Video OUT harness

\*One modification circuit board is included per kit. Refer to the chart on the next page for qualifications.

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**Overview**

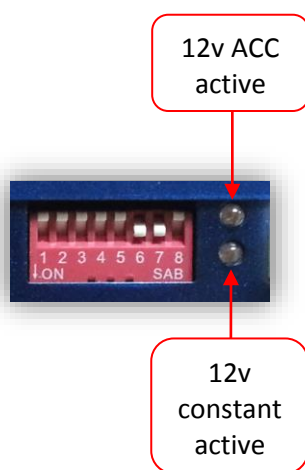
The NTX54-Ford system interfaces Garmin’s popular navigation system into select Ford vehicles equipped with the OEM *My Ford Touch* media system. Disassembly of the factory Ford LCD is required and it is recommended that only a professional attempts this install. All factory Ford touch functions are used for the navigation control and this interface allows for an additional AUX video input as well as a backup camera port.

**NTX54-Ford Compatibility, Dip Switch Settings**

- Use the tables below to properly set the dip switches located on the side of the Ford interface.
- When adjusting dip switches, the interface power plug must be disconnected and reconnected.

Year	NTX-54 Ford V1	NTX54-Ford V2	Dip Switch Set	
			UP	DOWN
2011+	Edge		2,3,4,5,7	6,8
2011+	Explorer		2,3,4,5,7	6,8
2013+	Flex		2,3,4,5,7	6,8
2013+	F-Series		2,3,4,5,7	6,8
2013+	Taurus		2,3,4,5,7	6,8
2013+		C-Max	2,3,4,5,8	6,7
2013+		Escape	2,3,4,5,8	6,7
2013+		Focus	2,3,4,5,8	6,7
2013+		Fiesta	2,3,4,5,8	6,7
2013+		Fusion	2,3,4,5,7,8	6
2013+	MKS (Lincoln)		2,3,4,5,7	6,8
2013+	MKT (Lincoln)		2,3,4,5,7	6,8
2013+	MKX (Lincoln)		2,3,4,5,7	6,8
2013+		MKZ (Lincoln)	2,3,4,5,7,8	6

- If adding an aftermarket camera, dip switch 1 must be in the ‘UP’ position.



Dip Switch #	Dip Switch Information	
	ON/DOWN	OFF/UP
1	Factory/No Camera	Aftermarket Camera
2	N/A	Keep up
3	N/A	Keep up
4	N/A	Keep up
5	N/A	Keep up
6	Keep down	N/A
7	SWC functionality	SWC functionality
8	SWC functionality	SWC functionality

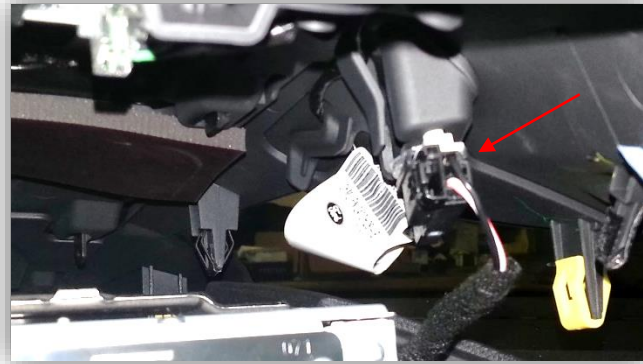
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## Dash Disassembly (Escape)

1. Begin by removing the dash that surrounds the CD slot. Pry up carefully with a plastic tool like shown:



2. Disconnect the CD slot LED harness connected to this dash piece and set aside:



3. Remove (2x) 7mm screws securing the vents/LCD surround:



4. Gently pry the LCD surround with a plastic tool to access the LCD screen. Disconnect the radio control harness and set aside:



5. You should now have access to the LCD screen. Remove (4x) 7mm screws, disconnect all harnesses and bring the screen assembly to a clean, soft bench to prepare for disassembly:

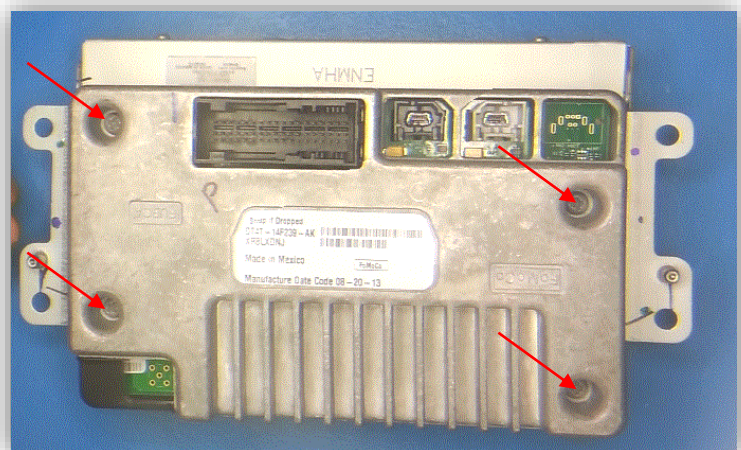


#### V1 LCD Modification Process\*

**\*WARNING: The following process is fairly involved. It requires disconnecting and adding ribbon cables inside the LCD housing. If any ribbon cable is not seated firmly or squarely (perfectly straight), it may result in improper functionality or a damaged screen.**

**\*Note: Kits FV1 and FV2 are identical except for the screen disassembly and modification process. The following instructions are for the FV1. Following this V1 process is the V2 LCD modification process.**

1. To begin, place the LCD assembly face down on a soft surface (ESD mat would be best) so as not to scratch the screen. Remove (4x) Phillips head screws:

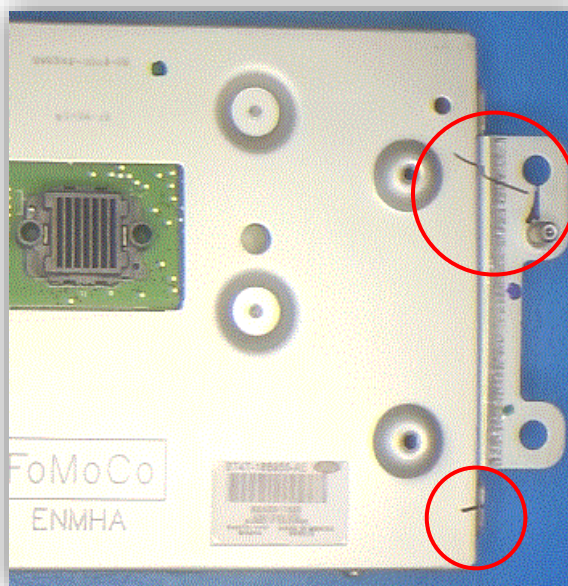


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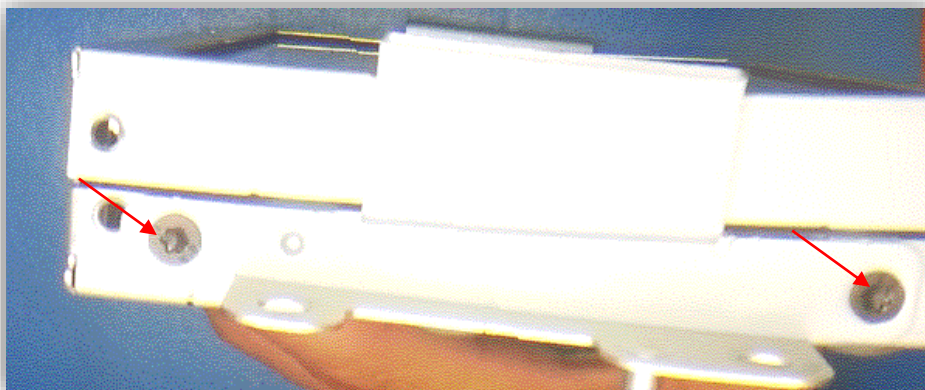
2. Separate the two halves of the assembly by pulling straight up after the screws have been removed. Set the back half of this LCD assembly aside. *Note that the center connector is keyed and the halves can only be replaced in one direction:*



3. On the LCD panel housing, mark across the brackets and the housing to make replacing later a breeze:

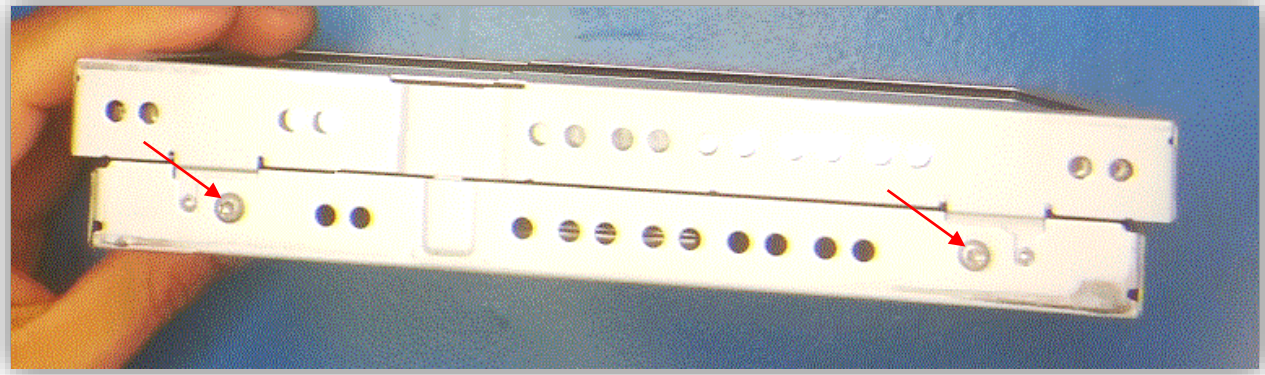


4. On each side (left and right) of the LCD housing, remove (2x) Torx T20 screws:

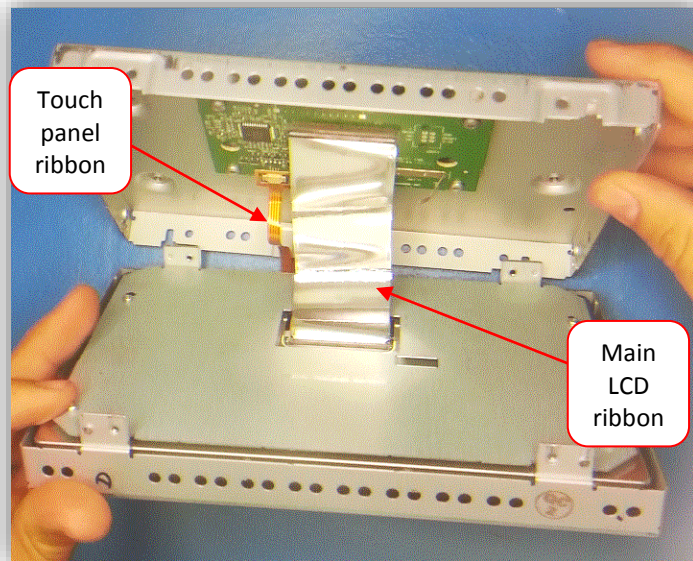


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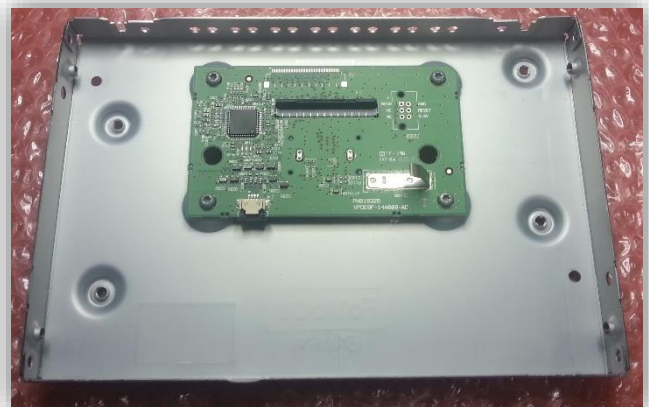
5. Next, remove (2x) Torx T10 screws on the top and bottom of the LCD housing:



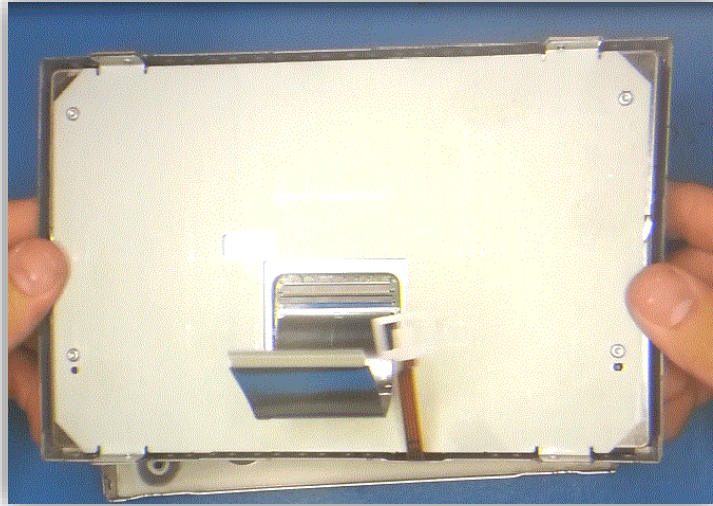
6. Now separate the metal housing from the LCD panel. Lifting the opposite side of the touch panel ribbon will give you easy access to remove the ribbon connectors:



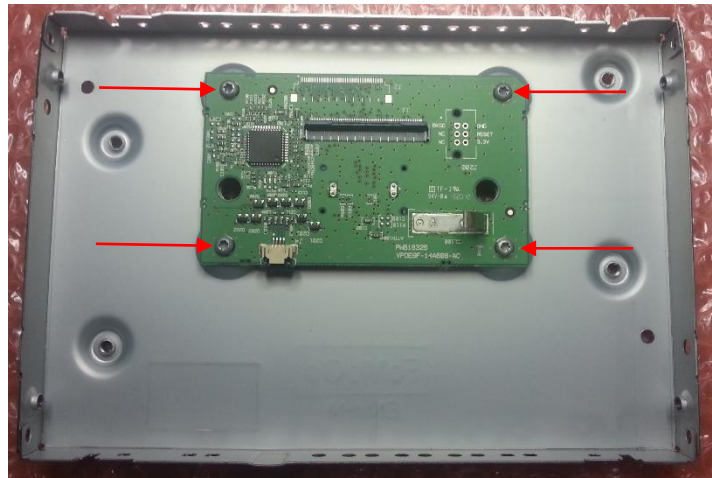
7. Disconnect the main LCD ribbon cable and the touch panel ribbon cable **from the circuit board side** by unlocking the connectors with a small flathead screwdriver. Set the LCD panel aside for now, the modification process happens with the circuit board shown here:



8. The LCD panel is not needed for the modification. The ribbons should still be attached to this monitor at this point.



9. Remove (4x) Torx T10 screws that secure the circuit board to the metal:



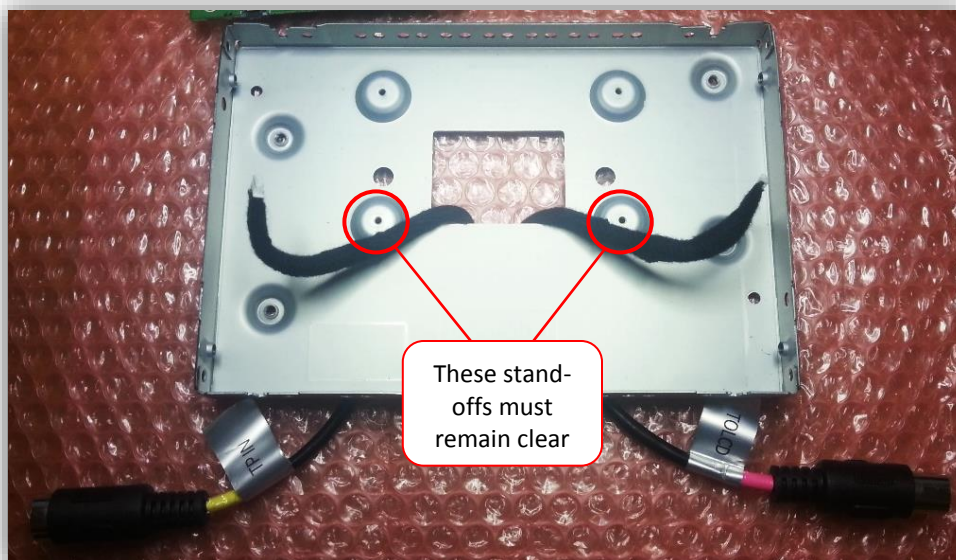
10. Gather the two, short harnesses labeled 'TP-IN' and 'LCD-OUT' from the NTX-54 Ford kit. Take note that the white connectors on one end of each of these are different sizes.



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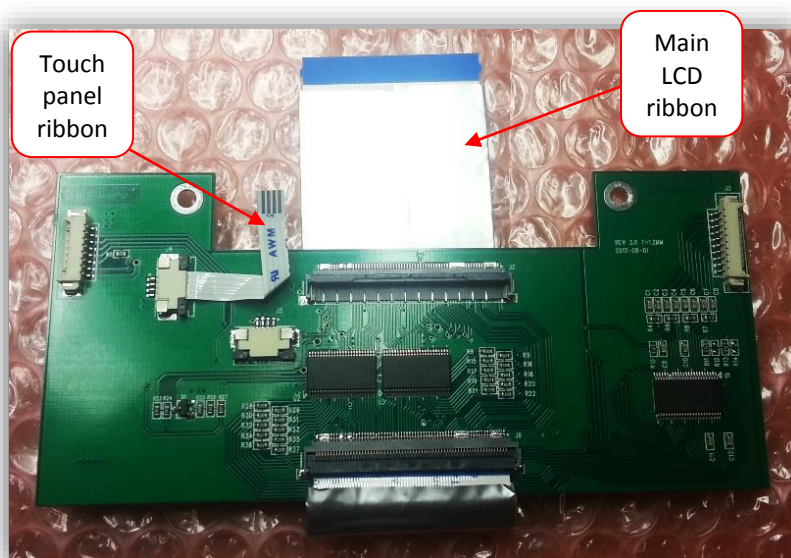


11. Run the harnesses from step 9 through the center square access hole like shown\*:



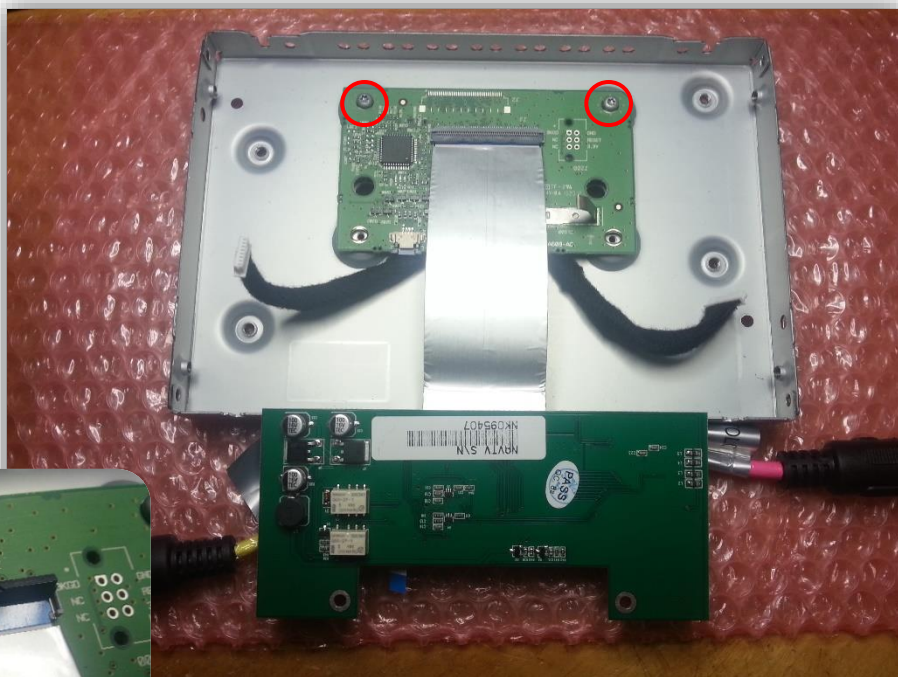
**\*Note: Avoid crushing the harnesses with the circuit board when replacing!**

12. From the NTX54-Ford kit, gather the sub-board with ribbons attached. Fold the main, bigger ribbon underneath the board like shown here. Be certain the Touch Panel Ribbon is oriented like shown here. You should see blue on both ends of this ribbon with this orientation.

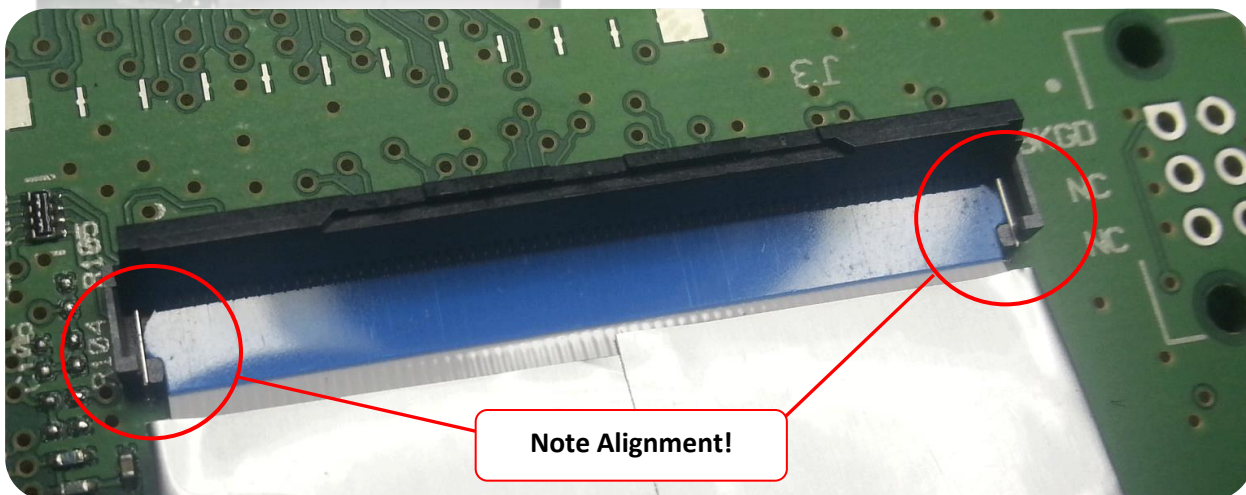


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13. Replace the factory circuit board to the metal chassis with the **top two screws only**. Connect the free end of the ribbon from step 11 to the main connector on the factory circuit board like shown:

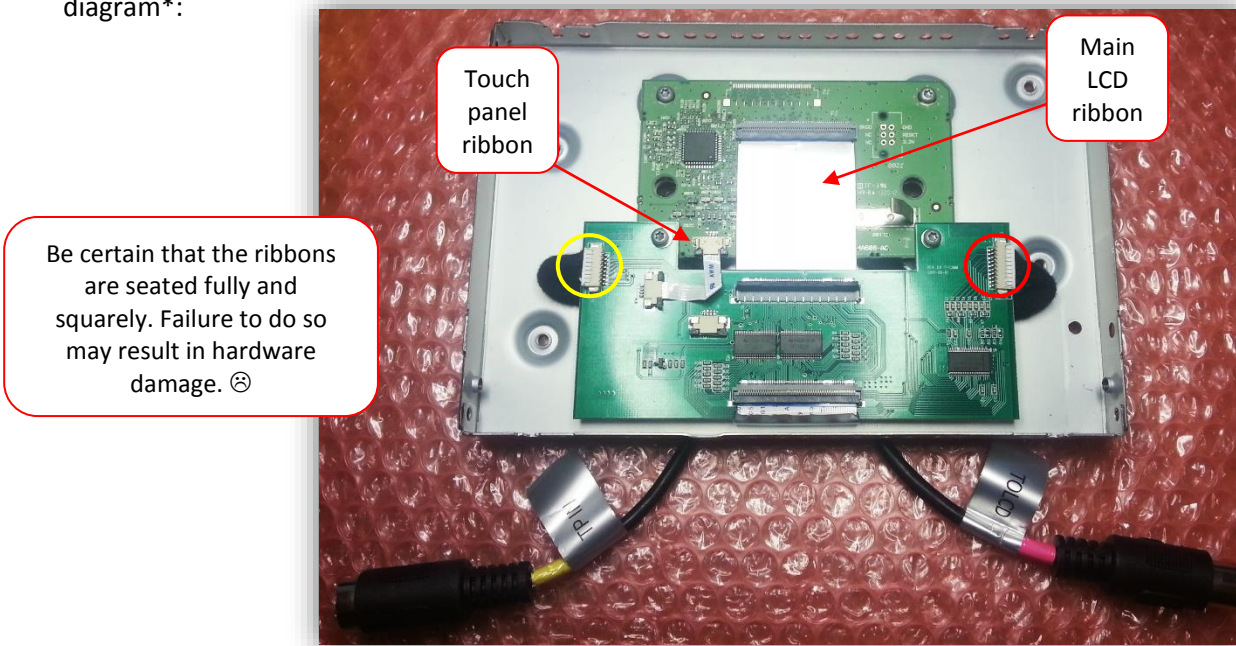


Main Ribbon

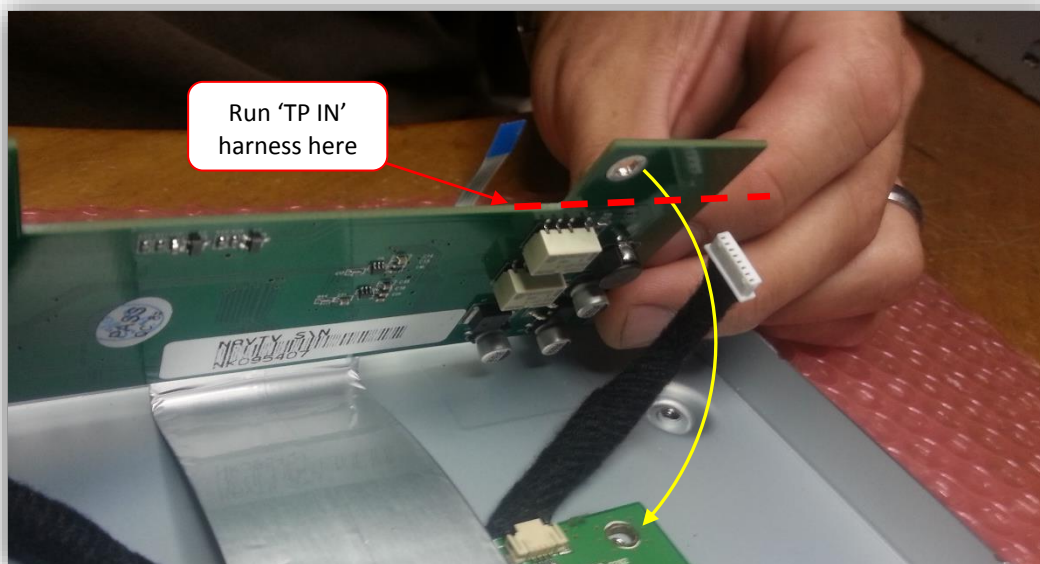


Note Alignment!

14. Fold the NTV sub board forward so that the two holes line up **on top of** the factory screw holes in the metal chassis. Replace the Torx T10 screws, and connect the white connectors to the sub board. Connect the 4-pin touch panel ribbon to the factory connector. When complete it will look like this diagram\*:

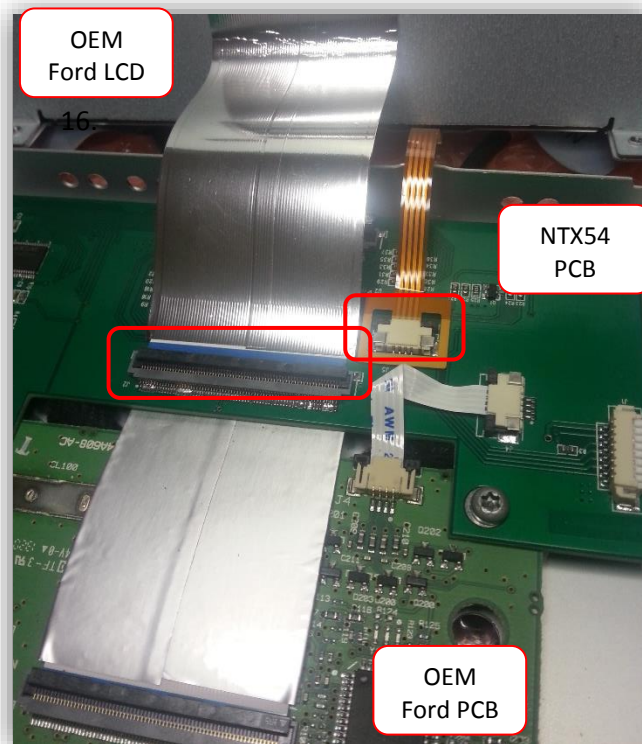
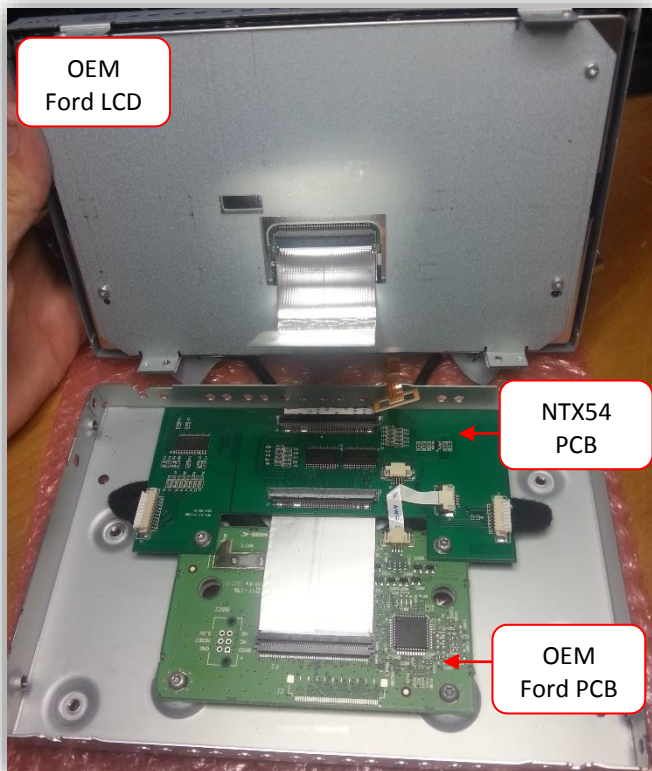


**\*Note:** The 'TP IN' harness must be run between the relay and the screw hole as shown below. There should be almost no resistance when replacing the remaining two Torx T10 screws.



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15. Gather the LCD panel and reconnect the factory ribbons to the NTX54 sub board connectors like shown below. Be certain the ribbons are connected fully and squarely!



15. Reassemble the Ford LCD housing. Before installing the rest of the NTX-54 Ford kit, temporarily connect the 'LCD' and 'TP' harnesses together and reconnect the LCD assembly into the vehicle to ensure the modification process was completed properly. Check functionality of the touch screen and all factory functions before proceeding!



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16. When reconnecting the modified screen into the vehicle, it may take up to 2 minutes for the system to boot and settle.



#### V2 LCD Modification Process\*

**\*WARNING: The following process is fairly involved. It requires disconnecting and adding ribbon cables inside the LCD housing. If any ribbon cable is not seated firmly or squarely (perfectly straight), it may result in improper functionality or a damaged screen.**

**\*Note: Kits FV1 and FV2 are identical except for the screen disassembly and modification process. The following instructions are for the FV2.**

1. To begin, place the LCD assembly face down on a soft surface (ESD mat would be best) so as not to scratch the screen. Remove (4x) Phillips head screws:

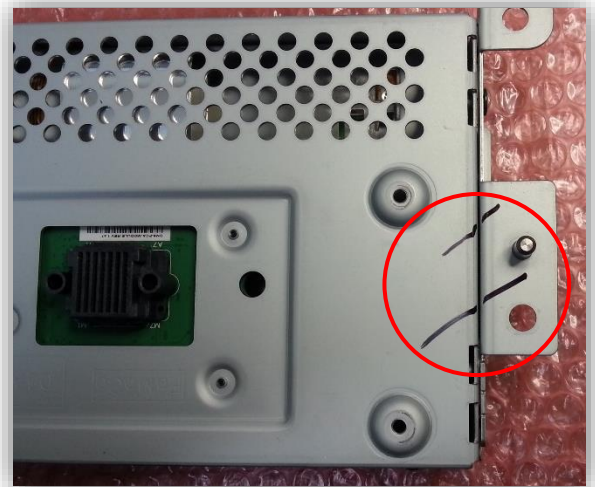


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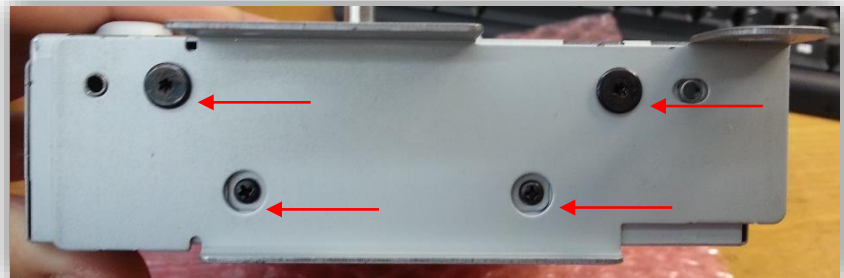
2. Separate the two halves of the assembly by pulling straight up after the screws have been removed. Set the back half of this LCD assembly aside. *Note that the center connector is keyed and the halves can only be replaced in one direction:*



3. On the LCD panel housing, mark across the brackets and the housing to make replacing later a breeze:



4. On each side (left and right) of the LCD housing, remove (2x) Torx T8 screws, and (2x) Phillips head screws:



5. Next, remove (2x) Phillips head screws on the top and bottom of the LCD housing:



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6. Carefully separate the metal bracket from the LCD housing, this will expose the touch panel ribbon cable and allow the LCD screen to be separated from the back half of the housing:



7. Now separate the metal housing from the LCD panel. Lifting the opposite side of the touch panel ribbon will give you easy access to remove the ribbon connectors:



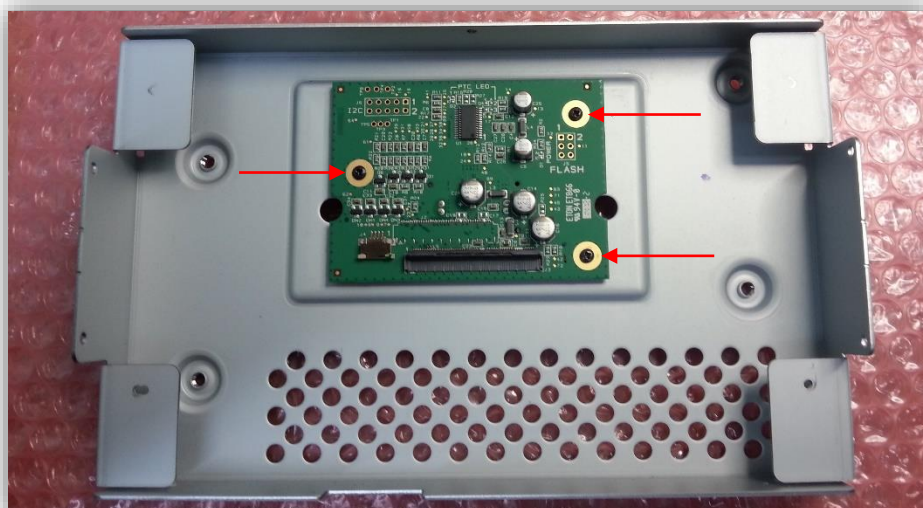
8. Disconnect the ribbons carefully with a small flat head screwdriver *from the circuit board side*. Set the LCD panel aside for now, it is not needed for this modification:



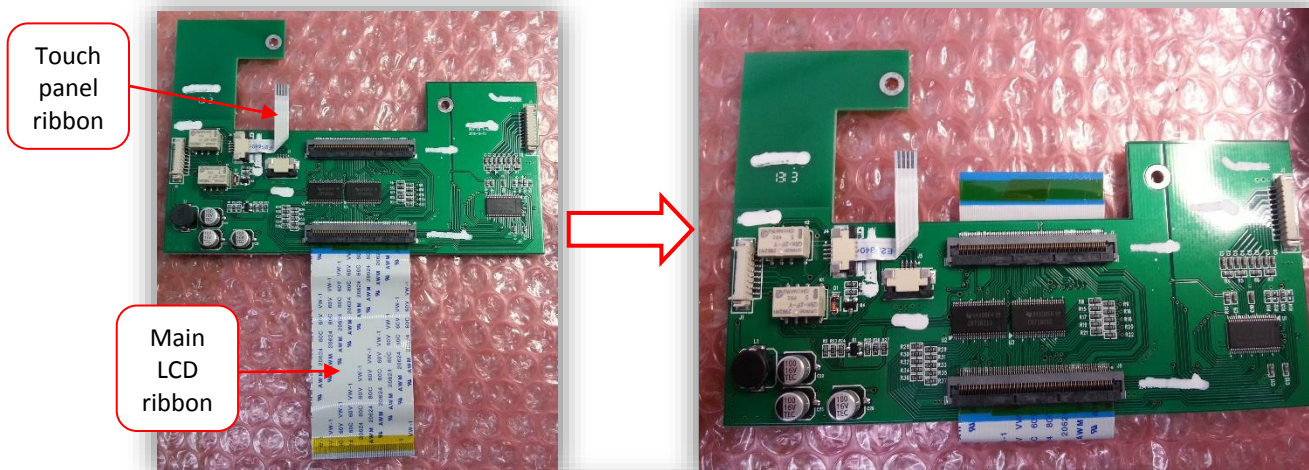
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9. Lay the back metal housing down with the circuit board facing up in the orientation shown, and remove (3x) Phillips head screws:



10. From the NTX54-Ford kit, gather the sub-board with ribbons attached. Fold the main, bigger ribbon underneath the board like shown below. You should see blue on both ends of this ribbon with this orientation.



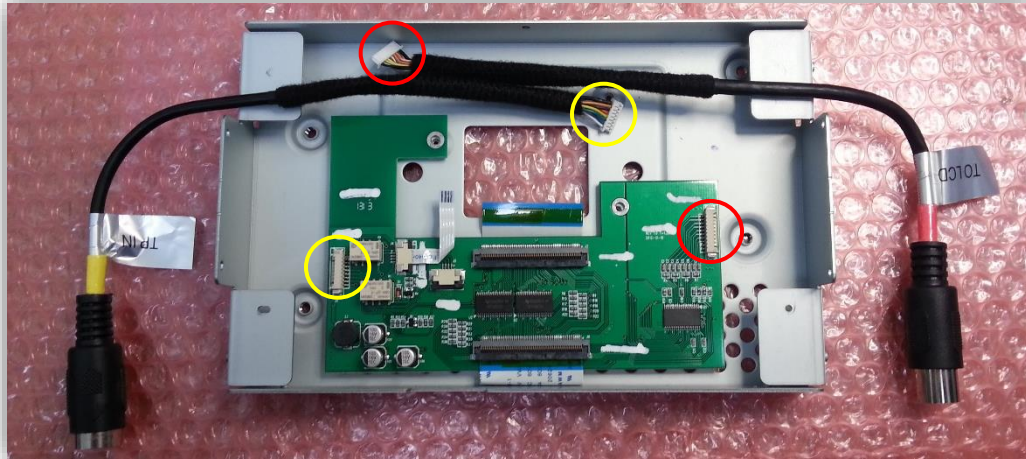
11. Gather the two, short harnesses labeled 'TP-IN' and 'LCD-OUT' from the NTX-54 Ford kit. Take note that the white connectors on one end of each of these are different sizes.



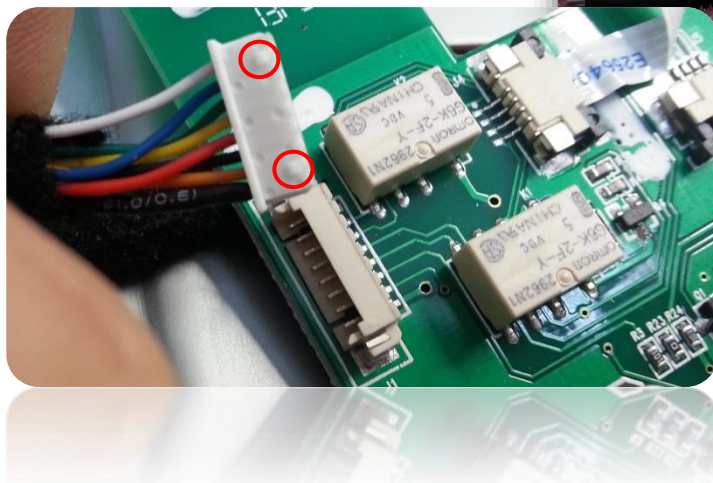
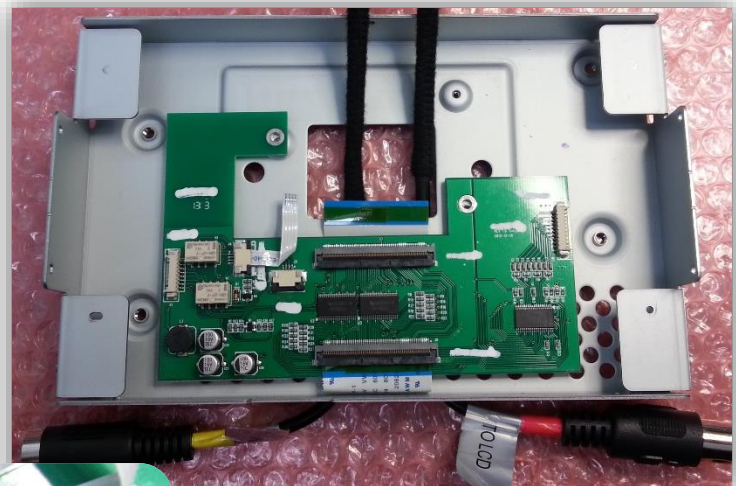
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12. Place the sub-board in the rear LCD housing like shown. This is how the sub-board will be installed into the LCD housing, with the OEM Ford circuit board **beneath** the NTX54-Ford circuit board. The harnesses from step 11 will be ran through the center square and connected to their prospective connectors:

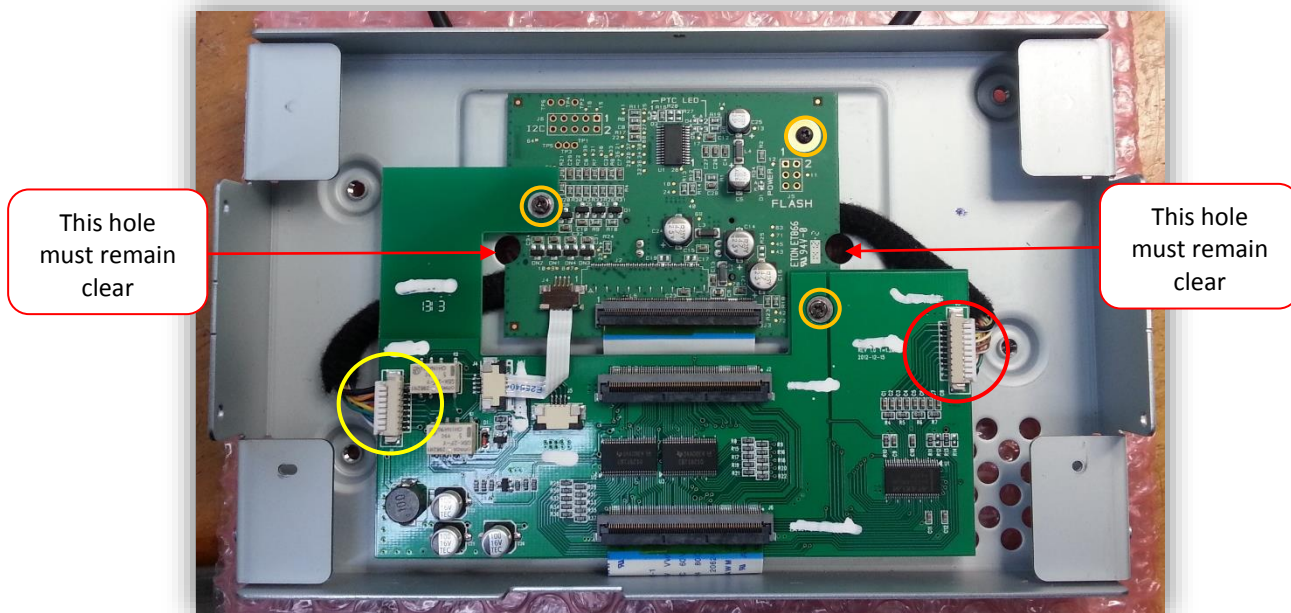


13. Run the harnesses from step 11 through the center square hole like shown. When connecting the white plugs to the circuit board, they can only be inserted one way for proper operation. Note the blocks on only one side of each connector – this side faces **down**.

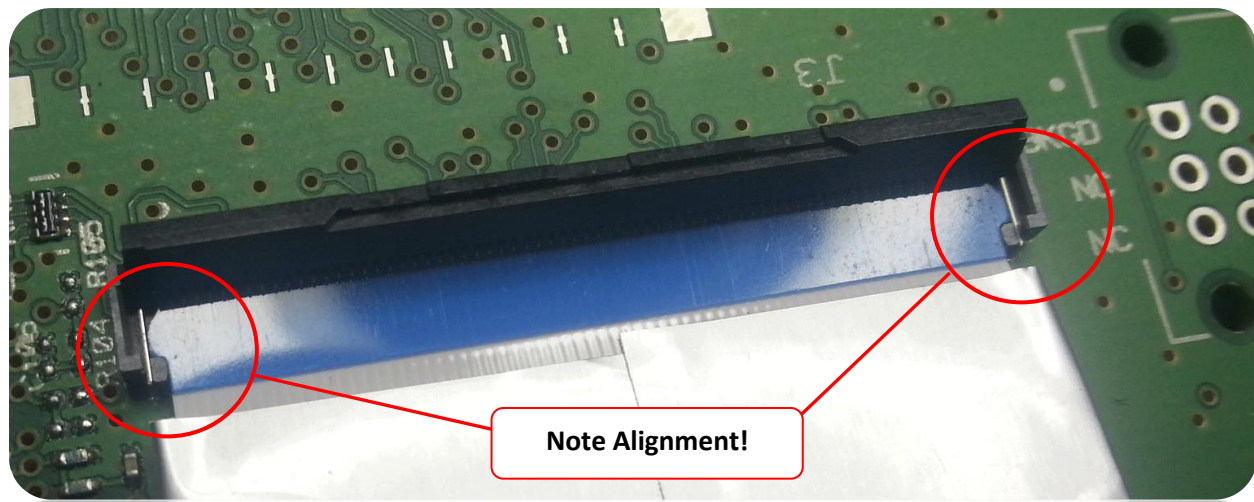


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14. Replace the factory Ford circuit board. The NTX54-Ford circuit board needs to be palced on top. Connect the wider ribbon that was tucked underneath the board from step 10 and the touch panel ribbon to the factory Ford circuit board like shown below. **Use the extended screws provided** with the V2 NTX54-Ford kit to secure both PCB's down to the metal chassis.

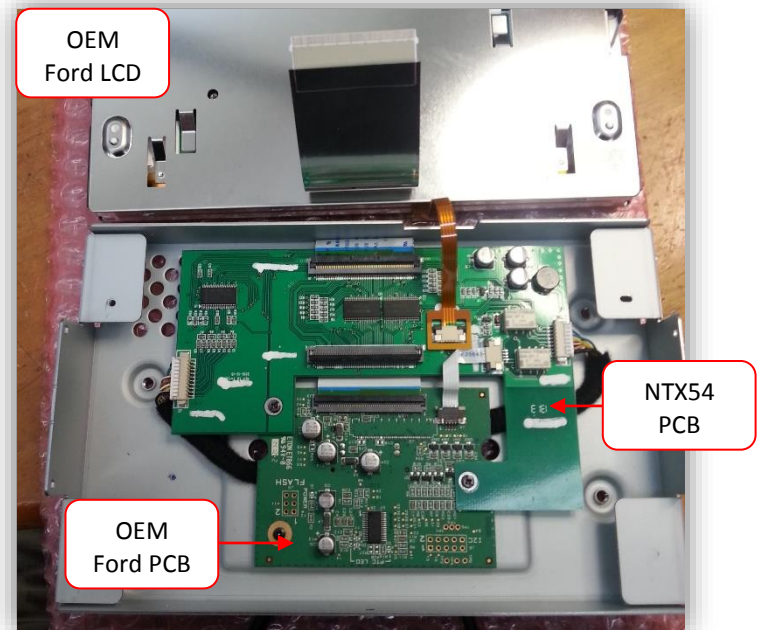


Be certain that the ribbons are seated fully and squarely.  
Failure to do so may result in hardware damage. ☹



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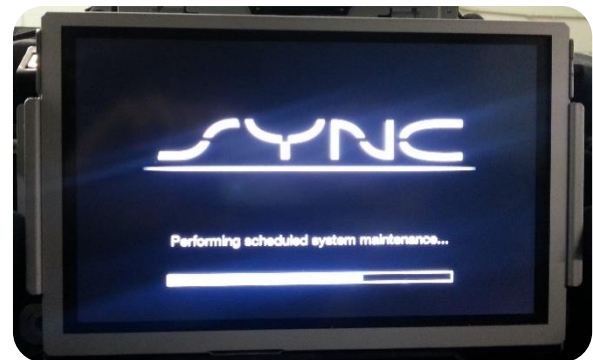
15. Flip the modified LCD housing upside down, and place the LCD panel just above the housing. This will make reconnecting the factory ribbons to the new NTX54-Ford PCB easier:



16. When all the ribbons and connectors are connected properly, reassemble the Ford LCD housing. Before installing the rest of the NTX-54 Ford kit, temporarily connect the 'LCD' and 'TP' harnesses together and reconnect the LCD assembly into the vehicle to ensure the modification process was completed properly:



17. When reconnecting the modified screen into the vehicle, it may take up to 2 minutes for the system to boot and settle.

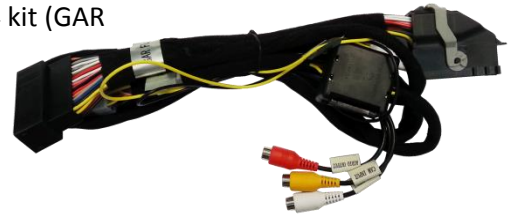


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## NTX54-Ford Kit Installation

1. After confirmation that the Ford LCD has been modified properly, the remainder of the kit must be installed. Disconnect the LCD assembly and any connected harnesses. Disconnect the 'LCD' and 'TP' harnesses from each other as shown in step 16 from the previous section.

2. Gather the main plug n' play harness from the NTX54 kit (GAR FD01). Connect the female end into the main car harness. The male end of this plug n' play harness with connect straight to the LCD assembly when you're ready.



3. Connect the Garmin harness (GARFD02) to the Garmin GVN54, and the other end to the port on the NTX54-Ford interface labeled 'NAVI\_IN'. Additionally, the 'PWR OUT' connector on this same harness must be connected to the 'PWR IN' connector for power to pass to the Garmin unit.



4. Mount the included GPS antenna somewhere with 2-sided stick tape where it has a clear view of the sky. Mounting beneath the dash for this antenna is acceptable in most cases, however try to avoid putting the antenna underneath metal.
5. Now, connect the longer Touch Panel and LCD harnesses to the cylindrical DIN connectors (from the modification) at the screen. These connectors are color coded, labeled and keyed for your convenience. Run the other end of these two cables to the interface, connect to the ports labeled 'T.P. IN' and 'LCD OUT'.

6. Connect the harness labeled 'REAR LCD' to the interface only if you plan to use either the external source switch button, or the Video outputs.

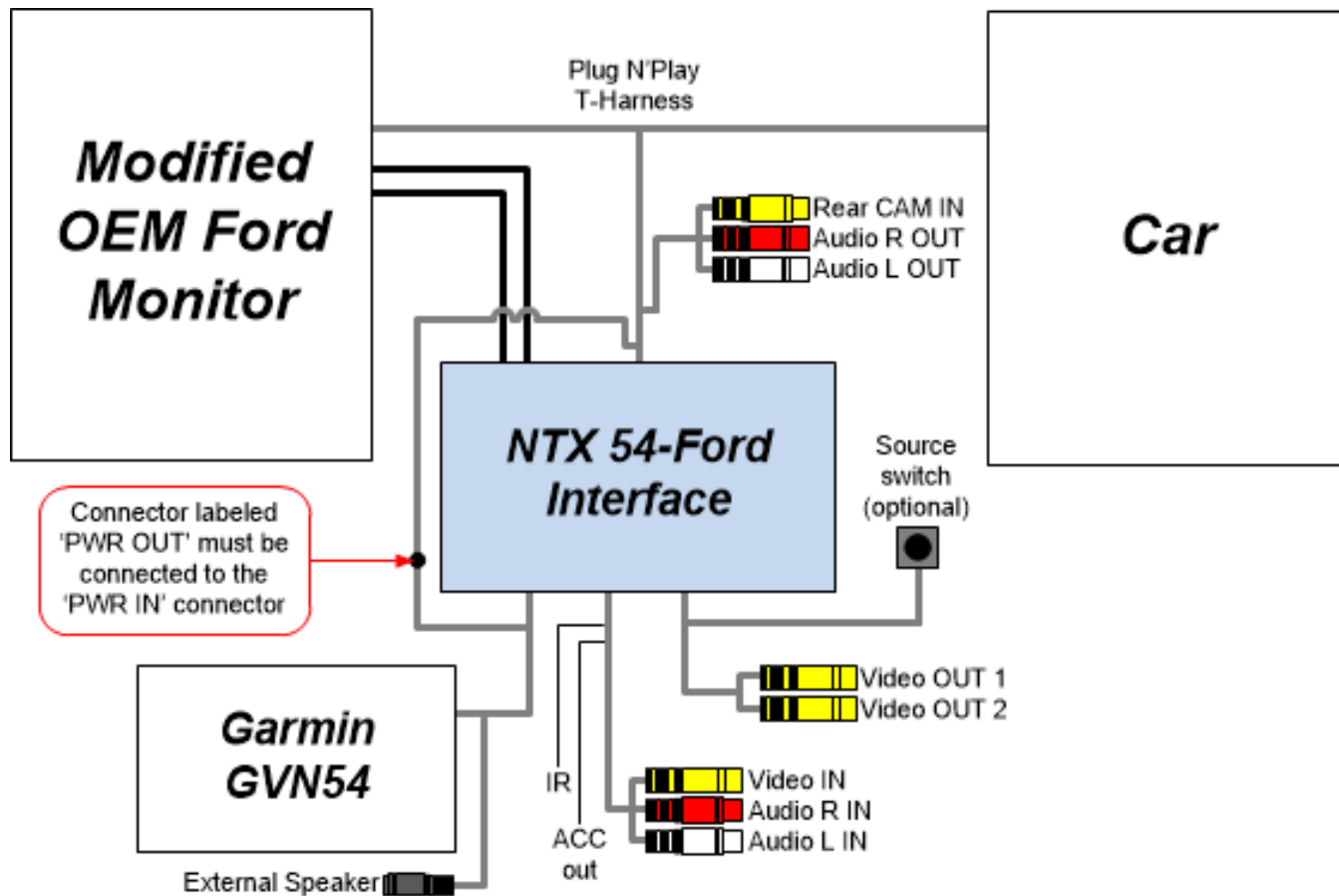
7. Connect the harness labeled 'DVD IN' to the interface **only if you plan to add and A/V input source**. If you connect this harness, this AUX source will show on the screen when you toggle the NAV screen. The order of operation is: Ford>Garmin>AUX>Ford. If you connect this harness, the Aux screen will **display regardless of whether you've connected anything to the RCA's or not**.



8. Mount the included stand alone speaker somewhere in the dash/under panel so that the audio guidance can be heard easily.
9. Plug the 3.5mm cable from the speaker into the jack attached to the Garmin to NTX54-Ford harness (GAR FD02).

**\*Note:** After installation is complete, factory reverse camera may not function **until you let the canbus fall asleep. Close all doors, lock with remote and wait 5 minutes before retrying.**

## System Diagram



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## NTX54-Ford Operation

1. At any time, while the radio is active, press and hold the Voice Command button on the steering wheel until the Garmin navigation displays on screen. It should take about 3 seconds.
2. To return to the factory Ford radio screen, press and release the Home button.

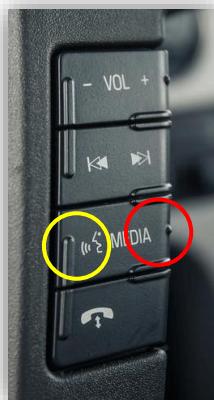
1

Press (hold ~3 sec) to enter Garmin mode

--- Use factory touch screen to control Garmin Navigation user interface ---

2

Press and release 'Home' or 'Media' to return to the OEM screen. If no 'Home' button exists, press and hold the voice command button for **3 seconds** to return to the factory screen (hearing an audible voice prompt **indicates you did not hold the button long enough**).



Ford F Series



Ford Escape



Ford Edge

3. Alternatively, the momentary switch provided with the NTX54-Ford kit will allow you to select the source in the order as follows: Ford > Garmin > AUX > Ford, with a single press each time. If you connect the 'DVD\_IN' harness, this AUX source will show on the screen when you toggle the NAV screen. While connected, this Aux screen will display **regardless of whether you've connected anything to the RCA's or not**. If you are not adding any Aux video, leave this harness disconnected.