

INSTALLATION INSTRUCTIONS

BY KT10 4x4

POWER FOLDING MIRRORS

5TH GEN
TOYOTA AURANNER

The purpose of this kit is to add extended functionality to the 5th Gen Toyota Auranner Mirrors. This is accomplished by adding an actuator inside the mirror and using the provided harness to plug into the factory wiring through the driver's door and mirror adjust switch.

PRODUCT DETAIL:

Mirrors will automatically fold when you lock your vehicle with your key fob. Likewise, they will automatically unfold when you start your vehicle. When heading into a narrow parking space or garage, pressing the "FOLD" button on the side mirror control switch, (set left of the steering column), mirrors will fold in towards the side windows. To put them back into original position, pressing the "UNFOLD" button again will unfold the mirrors.

REQUIREMENTS:

This will require removing the spring in your hinge location of your OEM mirrors, as well as, a couple other parts to mount the actuator that is needed for this power folding feature. It is **NOT** 100% Plug-N-Play.

Kit Contents:

- 2x - Power Fold Actuator (A)
 - 2x - Connection Plate (B)
 - 1x - OEM Switch Wire Harness (C)
 - 1x - Power Fold Motor (D)
 - 1x - Automatic Folding Motor Control Base (E)
 - 1x - Power Fold Motor Wire Harness (F)
 - 1x - OEM Replacement Adjust & On Switch (G)
 - 1x - OEM Replacement Adjust & On Switch (H)
 - All Hardware Included
- Items You May Need:**
- Drill
 - Mirror Mounting Pin Tool
 - Drill Bit / 1/8" Drill Bit
 - Philips Head Screwdriver / Small Flat Head Screwdriver
 - Pry Bar / Pry Bar
 - Splicing Plug / Splicing Wire Connector
 - 1/2" Bar Clamp / 1/2" Bar Clamp
 - Ad-A-Pose / 3M Wire Tape / OEM Terminals / Wire Cutters
 - Electrical Tape
 - Cable Ties



STEP 1: REMOVING THE FRONT DOOR PANELS

We're going to show you in detail everything to do on the driver side, but the passenger side is the same procedure. In order to remove the front door panels, there are 6 steps to follow. Please note where you are going to want to remove the door panel, as well as the location of the door panel. Other hidden screws (FIG. 1) must follow the steps that are listed before you and the door panel will come right off.



1. Using a Plastic Pry Tool, pop out the plastic trim panel cover (FIG. 2) that is behind the interior door handle. You will want to keep the door handle up while you use the pry tool and wedge it behind the door panel to remove the first hidden screw (FIG. 3).



2. Using a Small Flat Head Screwdriver, pop the cover open (FIG. 4) next to the door handle. Pry the cover from the top and pull down to reveal the second hidden screw (FIG. 5).

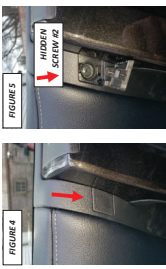


FIGURE 4

FIGURE 5

3. Using that same Small Flat Head Screwdriver, pop the cover open (FIG. 6) under the driver panel grab handle from the top and pull down to reveal the second hidden screw (FIG. 7).



FIGURE 6

FIGURE 7

4. Remove the triangle plate, raise in the upper right corner of your door panel by just pulling it outward with your hand slowly (FIG. 8). Start at one corner and slowly work your way to the top (FIG. 9). Once you have the panel removed, make sure you remove the white tabs (FIG. 10) and replace them back onto your panel, so they do not get lost (FIG. 11).



FIGURE 8

FIGURE 9

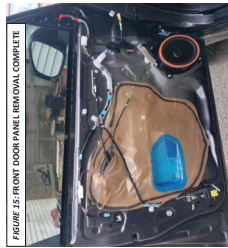


FIGURE 10: FRONT DOOR PANEL REMOVAL COMPLETE

(FIG. 13) and your OEM Courtesy Light (FIG. 14). You do not want to forget about this final step unless you plan on ripping your light out.



FIGURE 13

FIGURE 14

5. The door panel has a variety of tabs that are holding it in place. Remove the first tab, removing the rest of the door panel is easy. After you have pulled all the tabs out, lift the door panel up and out. Then reach down and through to disconnect the act and lock on the panel (FIG. 12).

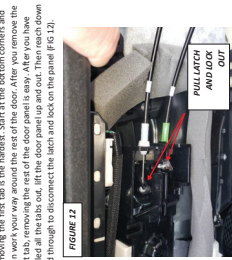


FIGURE 12

6. The final step in removing your front door panel that you do not want to forget about that is to do with disconnecting your window OEM Connector

STEP 2: REMOVING THE SIDE MIRROR

1. Disconnect the mirror wiring harness (FIG. 1). The harness has a little tab on the top (FIG. 2). Push it down and disconnect the harness.

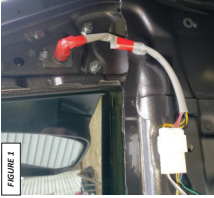


FIGURE 1

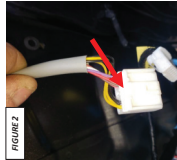


FIGURE 2

2. Using a 10mm socket and ratchet with extension or drill, remove the three 10mm nuts that are holding the mirror in place (FIG. 3).



FIGURE 3

3. Using a Small Flat Head Screwdriver or your hand, reach in and release the tab that is still holding the side mirror in place (FIG. 4). You also have a small little tab in the corner that is connected to the mirror floating that needs to be removed as well (FIG. 5, 6, 7, & 8).

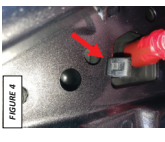


FIGURE 4



4. Remove the side mirror (FIG 5).

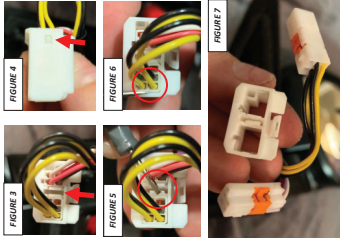


FIGURE 9: SIDE MIRROR REMOVAL COMPLETE

STEP 3: OEM MIRROR BREAKDOWN

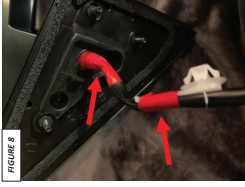
- Using a plastic pry tool or your hands, remove the side mirror back cover (FIG 1). This sometimes can be a challenge (FIG 2).

NOTE
Be careful because when it does eventually come off, sometimes it goes flying.

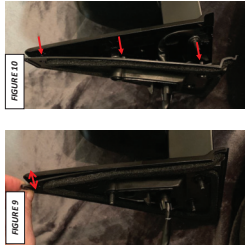


- Continuing with the Wiring, remove the red tape that secures the wire harness to the inside of the mirror housing (FIG 8) so that you

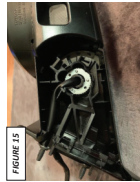
are able to remove the wire harness all the way through the mirror and get it out of the way of the hinge area.



- Remove the inner mirror mounting base plate by pulling the top cover apart extremely easy and it is only held in by little tabs on the inside (FIG 10). This allows for you to pull the wiring harness all the way through and then you can set the inner mirror mounting base plate on the ground. After you have the mirror housing removed, set it aside until the very end of the rebuild phase.



- Next, you'll want to remove the inner bottom cover that hides the hinge and power wires. This cover just pops into place, so it is easy to remove. Use the exposed edge of the bottom cover (FIG 12) to pry it away from the rest of the mirror housing. Use a Plastic Pry Tool (FIG 13) to pop the cover up the rest of the way. Once you have the Plastic Pry Tool in place, go ahead and just push it in (FIG 14) and this cover will just pop right off (FIG 15).



- Now finish removing the Wire. Go on the rest of the way through the hinge and up to the top of the mirror (FIG 16, FIG 17, FIG 18 & FIG 19).



that align with the two little notches on the camlock washer (FIG 20). Use the Bar Clamp to compress the spring, while you use the screw to turn the washer (FIG 21). Once you have the camlock washer turned, the Bar Clamp and the Bar Clamp (FIG 22).

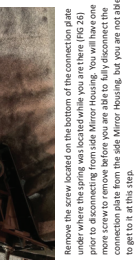


- Continuing with the Wiring, remove the red tape that secures the wire harness to the inside of the mirror housing (FIG 8) so that you

are a variety of mirror hinges out there and they all have a different twist to them. For certain hinge styles, using a set of retaining ring there is no need to turn the Bar Clamp. However, you must still turn the Bar Clamp to compress the spring in order to release the spring (FIG 20, FIG 21, & FIG 22).



I like to think of it as righty-tighty, lefty-loosey.

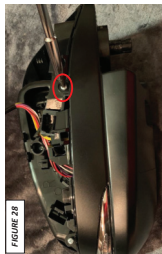
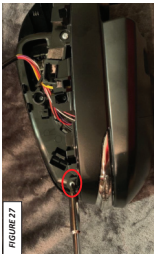


- Remove the screw located on the bottom of the connection plate under where the spring was located while you are there (FIG 26) prior to disconnecting from the Side Mirror Housing. You will have one more screw to remove before you are able to fully disconnect the mirror housing from the Side Mirror Housing, but you are not able to get to it at this step.

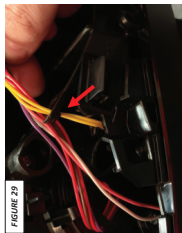
- Separate the hinge depends on the Mirror you have as well. Like I have stated before, I have found out during the process that there

Bar Clamps and modifying two filter touches out of a 1/16" socket

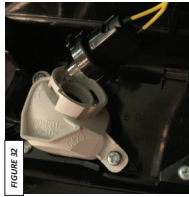
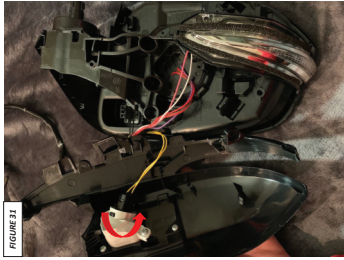
9. Using a Phillips Head Screwdriver, remove the two screws that are holding the turn signal in place (FIG 27 & FIG 28).



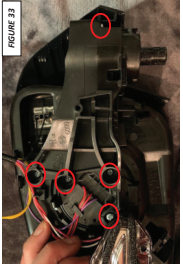
10. Now, because you have already removed inner cover, it will make it easier to remove the outer cover. To start, before you just pull, look at the turn signal assembly. You will notice that the turn signal assembly is not that thick, it is simple. Tuck your fingers under the edge and when you are pulling upward with them, push downward with your thumb on the inner part of the mirror (FIG 29). It really doesn't take much force before the cover will pop right off.



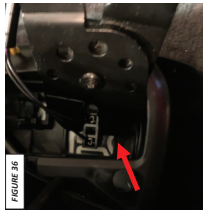
11. Remove the bulb housing from the Puddle Light in the outer cover (FIG 31). The easiest way to do this is by flipping the outer cover and then turning the bulb housing to the left. This allows you to fully remove the bulb housing from the outer cover. Once you have it set aside for the remainder of the time until the very end of the rebuilding phase (FIG 31).



12. With the back of the mirror housing now wide open, using a Phillips Head Screwdriver, remove the 5 screws that are holding the connection plate in place (FIG 33).



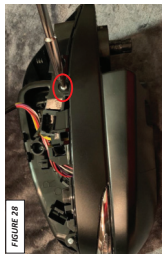
13. Disconnect the rest of the wiring connector and the front glass with the adjuster actuator on the set aside for until the beginning of



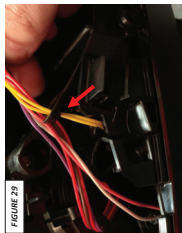
the building phase (FIG 36). First, start with disconnecting the turn signal connector. Use a Small Flat Head Screwdriver to push the tab to release and detach the turn signal wiring harness (FIG 36 & FIG 37). Then, use a Phillips Head Screwdriver to remove the screws that hold the heater connector and detach it from the back side of the mirror glass (FIG 38 & FIG 37).



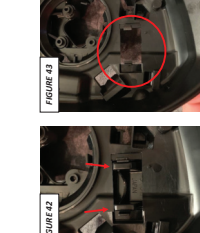
14. Remove the turn signal from the mirror housing by flipping the housing over (FIG 40 & FIG 41) and releasing the two tabs on the inside part of the housing (FIG 42 & FIG 43).



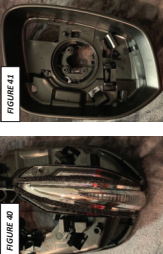
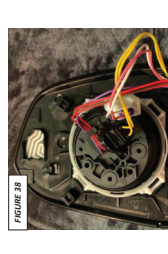
15. Remove the OEM Connection Plate by flipping the mirror housing back over. This is a two-step process. In 1st step, you will need to push the connection plate up and then the second step, you will



need to pull the connection plate outward to release it from the mirror housing (FIG 45 & FIG 46).



16. Done! You have now successfully taken apart your OEM Mirrors.



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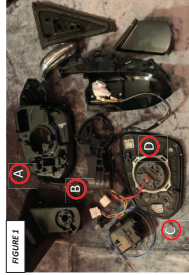


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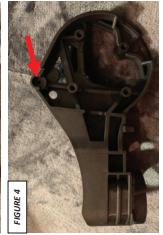


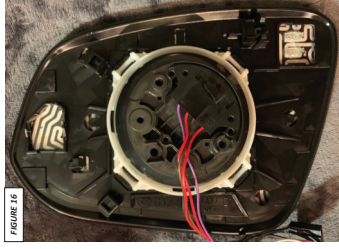
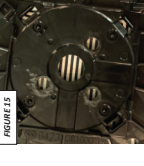
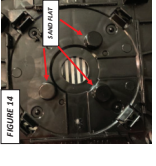
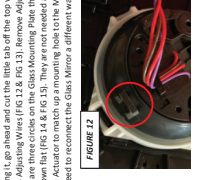
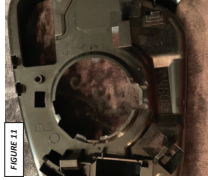
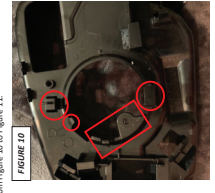
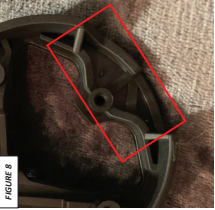
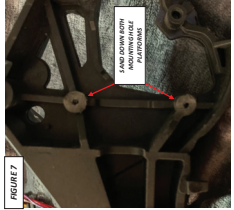
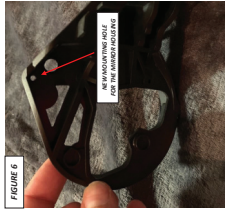
STEP 4: OEM POWER FOLDING MIRROR REBUILD

1. Begin by grabbing your parts that are going to need modifying: Mirror Housing (A), Connection Plate (B), Glass Mirror (C), and Adjuster Actuator (D).



2. On the New Connection Plate there are a variety of areas that will need to be modified due to the OEM Adjuster backing being removed. However, we have made it work with just a few modifications. First, use a Dremel and cut off the two notches that hang out so that the OEM Bottom Outer Cover will be able to lay flat up against the New Connection Plate. This is done by using a 1/8" drill bit to drill a hole all the way through the Connection Plate (FIG 4, FIG 5, & FIG 6). By having a Dremel, it makes the following step easy. Grab the Dremel and use it to cut off the two notches that hang out from the back of the plate. They also have an adjuster actuator. Finally, use the cutting tool on your Dremel and follow the lines on your Connection Plate to cut the corner out to make room for your Turn Signal Connector (FIG 8 & FIG 9).





4. The last modifications can be done at the same time. Grab the Glass Mirror which currently still has the Adjuster Actuator on the back. Prior to removing it, go ahead and cut the little tab of the top which use to hold the Glass Mirror in place. This tab is located on the top edge and there are three circles on the Glass Mounting Plate that need to be standed down flat (FIG 14 & FIG 15). They are not needed and in order to rotate the Actuator to match up, ammounting back to the Mirror Housing, you will need to reconnect the Glass Mirror a different way (FIG 16).

5. Let's start by sliding the OEM Mirror into Power Folding Mirrors. You will now reconnect everything. I will not cover every detail, but I will highlight the some of the new areas. Using a Phillips Head Screwdriver, grab one of the new screws provided to you in your kit. This screw is used to secure the new mounting hole you made for the connection plate to mount to the mirror housing (FIG 17).

6. Using a 1/8" drill bit, drill a hole in the one mounting location that lines up with the OEM Adjusting Actuator (FIG 18 & FIG 19).

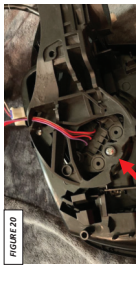
7. Using a Phillips Head Screwdriver, grab one of the new long screws provided to you in your kit and screw it into your new mounting hole you made for the connection plate to mount to the adjusting actuator (FIG 20). You should be able to fit your mirror housing centered location, as well as, it is sitting down into the mirror where it should be (FIG 21).

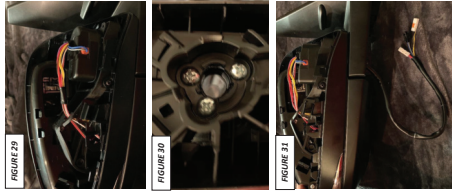
8. Install the Power Fold Actuator into the connection plate. If you removed it, if you didn't remove it from the connection plate, make sure you removed the two screws on the bottom of the connection plate and using a Phillips Head Screwdriver, re-insert the two screws

9. Route the Power Fold Actuator two wires through the OEM Wire Harness (FIG 24, FIG 25, FIG 26, & FIG 27).

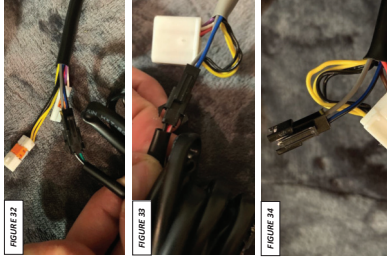
10. Re-install the turn signal and lower outer cover. Make sure to reconnect the OEM Connectors while you are there for the turn signal and the puddle light. When you install the two screws to secure the Power Fold Actuator into the connection plate, make sure the connection plate and into the Power Fold Actuator (FIG 28).

11. To make it look like a clean and professional wiring job, feel free to tidy up your wiring after you reconnect everything up top (FIG 29). Also, prior to using the wiring down through the hood area, make sure you are routing the wiring down through the hood area. The hole in the bottom of the Power Fold Actuator to secure your OEM Hinge to your Mirror Housing/Motor (FIG 30 and FIG 31).

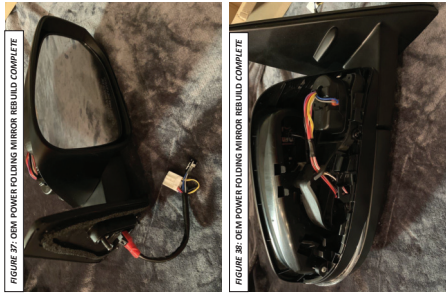
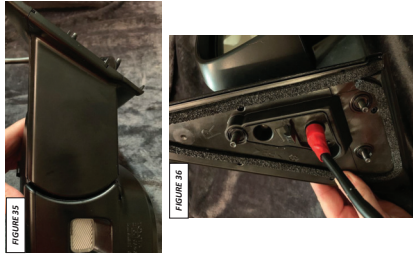




12. Grab the extension wire harness, connect the Power Fold Actuator blue and grey wires into the black connector (FIG 29 & FIG 33) and then disconnect the end of the connector (FIG 34). You can set the wires aside for a moment. When you get to installing the wiring harness into the 4R mirror.

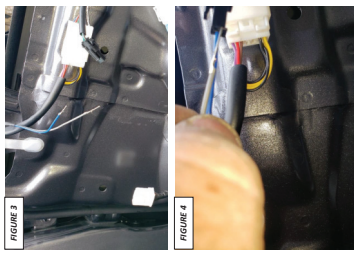
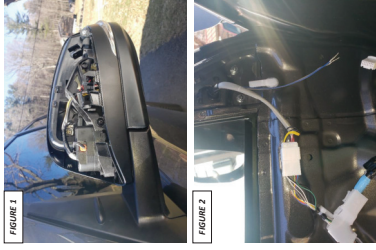


13. To finish rebuilding your OEM Mirrors, re-install your bottom inner cover (FIG 35) and the inner mirror mounting base plate (FIG 36). DONE!

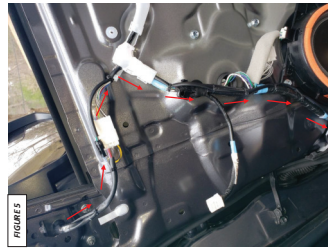


STEP 6: INSTALLING THE POWER FOLD MIRROR WIRING HARNESSSES

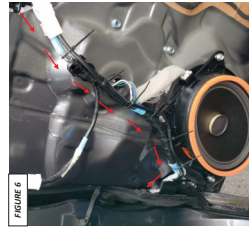
1. Begin by installing the mirrors back on the 4R inner (FIG 31). If you run the New Power Fold Actuator wires and haven't installed the New Black Connector on the ends yet (FIG 2 & FIG 3). It is the time to do so (FIG 4). Run all the new wires into the A/C/S pack.



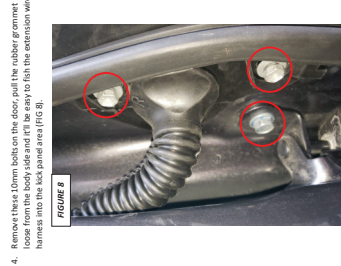
2. Using Cable Ties or Electrical Tape, route the extension wire harness down the door panel (FIG 5).



You are going to follow the OEM wire harness all the way down the door panel and to the weather-strip location on the inner part of the door (FIG 6).



3. Pull the weather-strip loose (FIG 7).



4. Remove the 10mm bolts on the door, pull the rubber grommet loose from the body side and it'll be easy to fish the extension wire harness into the sock panel area (FIG 8).

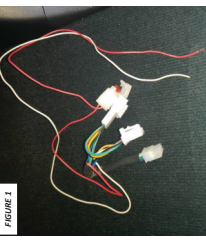
5. Route the passenger wiring across to the driver's side through the center and to the sock panel area where you will run the extension harness up to the Switch (FIG 9 & FIG 10). Once you have finished both doors, you can re-install both door panels in the reverse order you removed them.



FIGURE 10: POWER FOLD WIRING HARNESS COMPLETE

STEP 7: INSTALLING THE REPLACEMENT OEM ADJUST & FOLD SWITCH

1. Begin by laying the wire harness in front of you (FIG 1) and the New Switch (FIG 2 & FIG 3).



2. You should have two wires with terminals on the end from the Power Fold Extension Harness (FIG 4) that will connect directly to the OEM O1 Connector (FIG 5).

NOTE
Depending on your wire routing, you may need to add additional wiring to get the extension harness to reach the OEM O1 Connector.

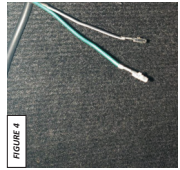


FIGURE 4



FIGURE 3

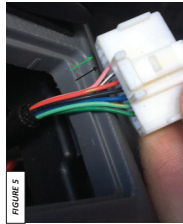


FIGURE 5

3. The easiest way to complete the wiring is to drop your lower dash panel (FIG 6, FIG 7, FIG 8, FIG 9 & FIG 10).



FIGURE 6



FIGURE 7

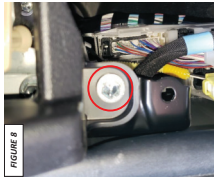


FIGURE 8



FIGURE 9



FIGURE 10



FIGURE 11

4. Disconnect and remove the ODM OJ Switch (FIG 11, FIG 12 & FIG 13).

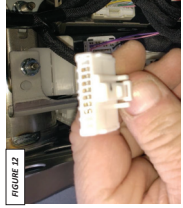


FIGURE 12



FIGURE 13



FIGURE 14



FIGURE 15

6. Extension Harness was a little short around the brake pedal. If this happens to you, using wire cutters, cut the two wires with the extension harness. Then connect the extension harness to the OEM OJ Mirror Switch (FIG 16 & FIG 17).



FIGURE 16

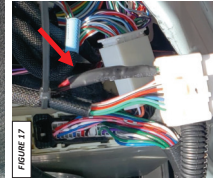


FIGURE 17

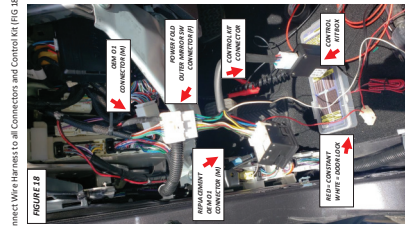


FIGURE 18

7. Connect Wire Harness to all Connectors and Control Kit (FIG 18).

8. Locate the OEM Connector in the Kick Panel to connect the White Wire to the Locking System (FIG 19) and disconnect the Control Power. Power pins must be connect to your Power Wire (FIG 20).

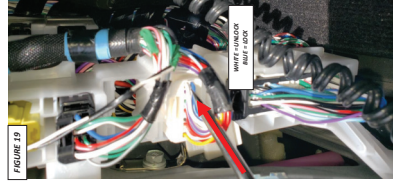


FIGURE 19



FIGURE 20

9. Push the lower dash panel back into place and re-install all the hardware in the reverse order. Test the system out and ENJOY!



FIGURE 21. REPLACEMENT ODM ADJUST & FOLD SWITCH COMPLETE

STEP 6: FINISHED PHOTO GALLERY

