

INSTALLATION INSTRUCTIONS

Model: 8510 & 8510TK Ford E Series Van 1994 – 2002 with stock power mirrors

Tools required for the installation are: 7/16 socket, T20 screwdriver or 8mm socket, screwdriver, phillips screwdriver, electrical tape, and a sharp tool (such as an exacto knife) for cutting a hole for the in/out switch. For model 8510TK a volt meter will also be needed. If you have any questions after reading this installation manual, please call our service department at (800) 337-2557.

Before starting the install, disconnect the vehicle's battery.

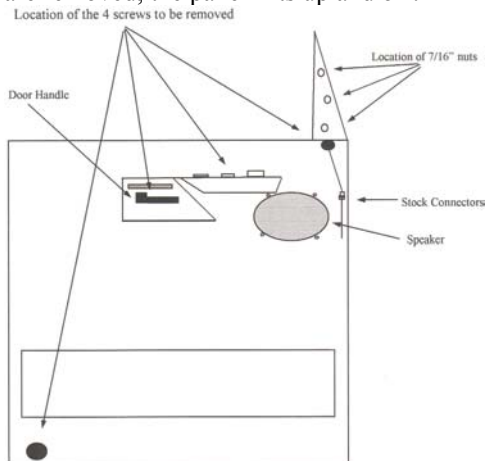
REMOVAL OF EXISTING MIRROR:

It is first necessary to remove the door trim panels to get inside the door to remove the stock mirror, mount the Power Vision mirror, and run the necessary wiring.

1. Remove the triangle shaped inside door trim piece behind mirror mounting area.
2. Using a flat-head screwdriver, remove the door trim piece around the door handle and the arm rest control panel. There are notches around the trim pieces to fit the screwdriver into. Lift the notched end of the trim piece, then gently rock the other end free and out.
**Note – if you have manual windows, it will be necessary to remove the screw under the window handle trim (see picture).



3. Remove the door trim panel. This is achieved by removing the four screws indicated in the diagram below. Once the screws are removed, the panel lifts up and off.



4. The connector to unplug the stock mirrors is behind the door speaker. Remove the four screws around the speaker and unplug it to set it aside allowing for access to the inner door.
5. Unplug the mirror connector.
6. Holding the stock mirror, remove the stock nuts from the mirror studs using 7/16 socket. Save the stock nuts for use on the Power Vision mirror.
7. Remove the mirror from the vehicle. Gently peel off the foam gasket from the back of the mirror for use on the Power Vision mirror.



ASSEMBLY AND INSTALLATION OF POWER VISION MIRRORS

1. Gently extend the mirror manually approximately 5 inches. Attach the mirror door mount bracket (“mount”) to the mirror using 3 of the #8 screws with yellow patch provided in the hardware bag. (Note: This is also where you can adjust the sweep of the mirror in relation to the door later on if necessary.)



2. Plug the cord coming through the mount into the cord under the boot.
3. Place the open end of the boot around the lip on the mount to hold it in place.



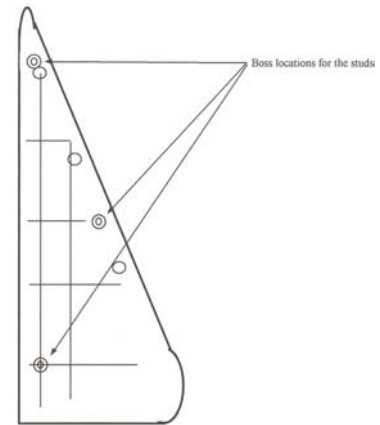
4. With the hardware provided for Power Vision mirrors are six mounting studs (three for each side). The blunt, short end of each stud must be screwed into the mount. The studs must go in the threaded holes in the mounting bracket as indicated in diagram at right.

5. The stock door gasket from step 7 above then must be placed onto the Power Vision door mount.

6. While supporting the mirror, align the mirror mount with the mirror mount lines on the vehicle door. There will be a hole in the mirror mount area on the vehicle door to run the mirror wire through.

7. Place the nuts saved from the stock mirrors onto the studs. Make sure everything is properly aligned and tighten down the nuts. A torque of 70 inch pounds is recommended.

8. Repeat process on passenger side.

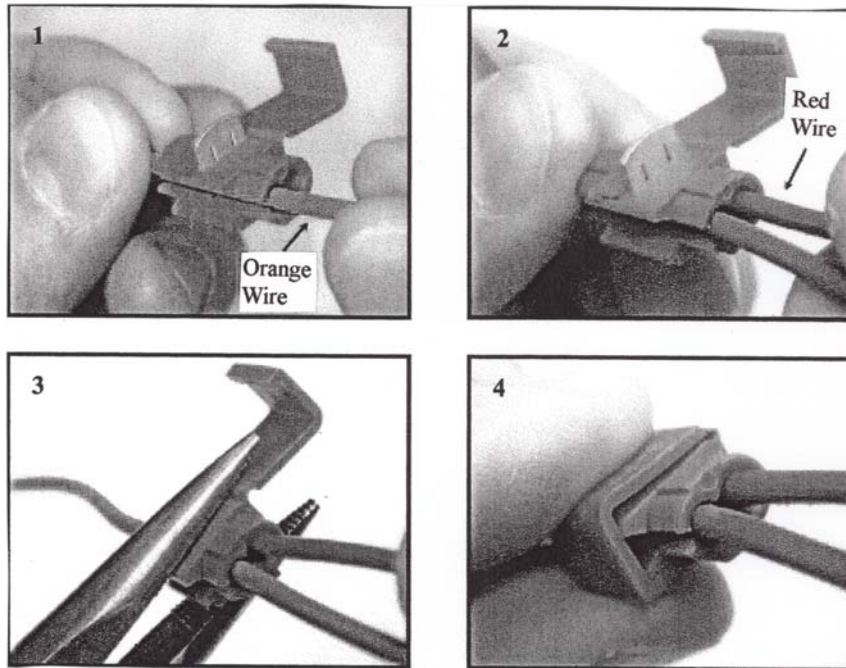


WIRING

YOU MUST HAVE STOCK POWER MIRRORS TO FOLLOW THE BELOW WIRING INSTRUCTIONS. IF YOU DO NOT CURRENTLY HAVE POWER MIRRORS, THE WRONG SET HAS BEEN ORDERED.

- **TURN SIGNAL WIRING: *If you ordered a kit without the turn signal (TK) option, skip to the “mirror wiring” section below. We recommend removing the air bag fuse during installation.***

1. Run the two strand grey wire that is coming off the driver side mirror from inside the door, through the boot connecting to the cab, and into the cab to under the dash by the steering column. (Hint: if you have trouble running the wire into the cab, see “mirror wiring” on page 3).
2. Turn on your left (driver’s side) blinker. Probe the wires coming from the steering column, identify which wire is the active left blinker wire (recommend trying the light green w/white stripe wire).
3. Using one of the scotchloks provided, connect the red wire inside the two-strand harness that you brought in from the driver’s side mirror to the active blinker wire identified in step 2. If you have questions on how to use the scotchlok, see the pictures on page 3. (Note – the orange wire labeled in the picture are for illustration purposes only and does not mean that orange will be your active color for turn signals).



4. Repeat steps 1 through 3 for the passenger side identifying the right side active turn signal wire (recommend trying white w/light blue stripe wire) and tapping the passenger mirror into it using a scotchlok. Small tie straps have been provided for your use in keeping the grey two-strand wire held neatly under the dash.
5. Take the black wire from inside the driver side two-strand harness that you have run into the cab and the black wire from the passenger side and crimp them together in the ring terminal provided. The turn signal system can then be grounded under the dash.
6. Test the turn signal system by turning on your turn signals and checking to see that the turn signal indicators in the mirror glass light up. If they do not, re-check to see that you have scotchlocked into the correct wires.

- **MIRROR WIRING**

Before starting the wiring install make sure the vehicle's battery is disconnected.

1. Using the measurements in diagram A, cut a hole for the in/out switch. We recommend placing the in/out switch on the driver's door between the door handle and the speaker. In the picture shown, the center of the hole is 1.75" down from the line where the arm rest control panel meets the door trim panel. It is important to follow the measurements on the diagram. The switch should fit snugly, but not bind. The in/out switch will be snapped into place later in the installation.



2. The wiring lead coming from the mirror into the door has 3 pink-insulated terminals. Plug each of these terminals into the appropriate slot on the vehicle's mirror connector in the door. The combinations are:

Driver's side: Green/brown – Yellow
Red – Blue
Blue – Red

Passenger side: Green/brown - Yellow
Red – Purple
Blue - Green

This enables you to use your stock glass tilt switch to tilt the glass in your Power Vision mirrors.

3. Next you will need to install the main harness. The end with only a two-pin connector is for the passenger side. This needs to be run from inside the driver's door, into the cab, across the cab (under the dash) and into the passenger door to plug into the passenger mirror two-pin connector.

Between the driver's door and the cab you will see a rubber boot that contains the wiring for the door. The hole in the door to access this boot is slightly below the speaker – under the plastic sheeting that covers the door. You can either run the passenger end of the harness to this hole through the hole in the plastic sheeting for the arm rest control panel wires or cut a small slit in the plastic sheeting to access the opening to the boot. Using a fish wire attached to the passenger end of the harness with electrical tape, fish the harness through the access hole in the door and through the rubber boot (you can remove the ends of the boot from the door and cab to make this easier – they can be put back into place when you're done).

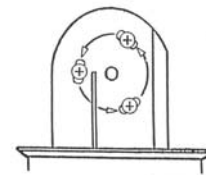


On the cab side of the boot you will see the outer hole to access the cab. The inside hole to access the cab is higher up and can be seen by looking up from the emergency brake area. The main harness with fish wire needs to go in then up through this hole. It will then drop down to under the dash. The wire is run across the under side of the dash and into the passenger door through the same process. Remove the fish wire and plug the two-pin connector into the passenger mirror.

4. On the driver's side of the main harness there is a two-pin connector, an in/out switch, a red wire, and a black wire. Plug the two-pin connector into the two-pin connector coming off the driver's side mirror. Using one of the two scotchlocks provided, crimp the end of the red wire to the stock green/yellow stripe wire with the on the back of the glass tilting switch. Using the other scotchlok, crimp the end of the black wire to the stock black wire on the back of the glass tilting switch.
5. Push the in/out switch into the hole in the driver's door trim panel that was cut earlier. To re-attach the in/out terminals into the proper position, see diagram B on page 5.
6. The door trim panels can now be put back into place and the battery reconnected.

ADJUSTMENTS/CARE

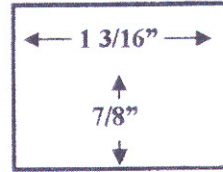
1. The mirror assemblies can be swept closer to or further away from the vehicle door. This is accomplished by sliding the black rubber boot off the mount (toward the mirror) to reveal the inner side of the mount. The three screws you used to assemble the mirror will be visible. **WHILE SUPPORTING THE MIRROR ASSEMBLY**, loosen the three screws, you will feel the notches as you slowly move the mirror assembly to the desired angle. After adjusting the mirror to your satisfaction, carefully tighten the screws back down. The rubber boot must then be put back in place.



2. When installation is complete, we recommend running the mirrors in and out several times to break in the motor.
3. Manually extending the mirror was necessary in the assembly process, but now that the mirrors are assembled, **DO NOT** manually extend or retract the mirrors. They should only be run under their own motor power only.
4. For ease of break away, extend the mirrors approximately two inches prior to breaking away. This gives the boot room to fold up.
5. No lubrication is necessary.

DIAGRAM A
CORRECT HOLE SIZE FOR IN/OUT SWITCH

Note: You must cut the hole to a maximum size of 1 3/16" x 7/8". There must be at least 1 1/2" depth for the switch.



Caution! Cutting the hole too small and forcing the switch into the undersized hole could cause the in/out switch to stick in an operational mode. This will cause the extension motors to have continuous power applied after they have reached their stop position either in or out. The result of this condition is motor failure due to overheating.

An improper installation of the in/out switch that results in motor failure or damage will void the product's warranty.

DIAGRAM B:

EXTEND/RETRACT SWITCH
ROCKER SWITCH ASSEMBLY

