How to Repair a 2010-2014 Ford Mustang

Smart Junction Box

This guide will show the user how to take apart the junction box and clean any corrosion in your 2010-2014 Ford Mustang.

Written By: Bret James
INTRODUCTION

This guide will show the user how to take apart the junction box and clean any corrosion in your 2010-2014 Ford Mustang. If you have corrosion this can cause electrical problems.

TOOLS:

- Socket 10mm (1)
- 1/4" Drive Ratchet (1)
- Flathead Screwdriver (1)
- Wedge (1)
- Latex or nitrile gloves (1)
Step 1 — How to Repair a 2010-2014 Ford Mustang Smart Junction Box

- Pull hood release tab inside the car.

⚠️ After this step, protective gloves should be worn.

Step 2

- Disconnect the positive side battery cable from the battery with an 8mm wrench.
- Place the positive side battery cable on a non-conductive surface, like a towel.

⚠️ Electric shock can occur if positive side of battery is grounded
Step 3

- Pull off the passenger side kick-plate panel by pulling on the unconnected end with moderate force.

ℹ️ The kick-plate panel is located under the glove compartment and beside the passenger door.

Step 4

- Remove the six connectors from the junction box. The large connector at the bottom of the junction box will be removed during step 6.

⚠️ Be careful not to break any plastic tabs or clips.
Step 5

- Unhook nearby wires from hangers on junction box by using a flat head screwdriver.
- Use the screwdriver to push on the hanger tab and then pull the wire connector forward.

Step 6

- Using a 10 mm socket wrench, remove the mounting nut from bottom of junction box.
- Slightly lift the junction box and then remove the final large connector on the bottom of the junction box.
- Lift the junction box 90 degrees to unhook the junction box from the fender wall and then pull the junction box completely out.
Step 7

- Inspect all connectors for corrosion to indicate where the junction box needs cleaning.

Step 8

- Place the junction box in a clean ventilated area and on a flat surface.
- Remove the fuse panel cover.
Step 9

- Using the fuse puller located in the fuse cover, remove all of the small fuses.
- Remove the larger fuse and relay by hand using moderate force.
- Take a picture of fuses before removing to record their locations.

Step 10

- Use a flat head screwdriver or plastic opening tool to detach the small tabs on the junction box.
  - The small tab locations are circled in red.
  - To prevent damage to the walls of the junction box, do not widen the side of the junction box too far.
Step 11

- Remove the top plastic cover and the control boards from the bottom cover.

⚠️ As you lift the top of the junction box, ensure the control boards do not fall out.

⚠️ Static shock can damage the components on the control boards. Discharge static build up by touching a large metal object before touching the control boards.

Step 12

- Examine the top junction box cover for any corrosion or burn spots.

ℹ️ You can identify corrosion by a green, yellow or blue substance.

ℹ️ You can identify burn spots by melted plastic and/or black spots.
Step 13

- If no burns are found, spray contact cleaner on corroded areas. If there are burns on the control board, the junction box cannot be saved.

⚠️ Avoid too much overspray on adjacent components of control boards.

⚠️ Safety glasses should be worn to prevent cleaner from splashing in your eyes.

⚠️ You must be in a well ventilated area.
Step 14

- Before the contact cleaner dries, scrub the corroded components on the control board with a tooth brush.

- Scrub the control board cover with a wire or soft brush as needed.

⚠ Do not use wire brush on the control board. The wire brush could potentially bend pins and damage components.
Step 15

- Spray a moderate amount of contact cleaner on all corroded wire connectors.

⚠️ Make sure connectors that were connected to corroded areas on the junction box are cleaned even if there is no indication of corrosion.

- Before the contact cleaner dries, use a wire brush or soft brush to clean off the corrosion.

ℹ️ On hard plastic connectors, there is no risk from damage by a wire brush.

- Allow all components to dry for three or more hours.

To reassemble your device, follow these instructions in reverse order.