

Date: September 29, 2024
Fast fix: Repairing electronic buttons in the steering wheel of a vehicle
Team tag: **UNT-Friess-F24S401G5**
Camera: iPhone 14 camera
Email: cynthiaeveritt@my.unt.edu

Dear iFixit:

For my Fast Fix Project, I will produce a guide to replacing the clockspring within a vehicle's steering wheel to fix broken electrical buttons, such as cruise control and radio controls. The clockspring is a plastic circuit that connects the steering column to the steering wheel without breaking the electrical connection during rotation. When it fails, the steering wheel loses its electrical connection, and its buttons and other features stop working. My guide will help the user replace the clockspring and restore the functionality of the steering wheel buttons on a 2014 Ford F150 Lariat.

Proposed title

How to Replace a Broken Clockspring

Vehicle: 2014 Ford F150 Lariat

Repair method

1. Disconnect the cables to your vehicle battery using a socket wrench and 10mm socket. Wait 10-15 minutes for the capacitors to discharge to ensure that no power might trigger the airbag to deploy.
2. Make sure your steering wheel and wheels are in the straight position.
3. Find the two holes on each side of the steering wheel. Insert a small screwdriver into the hole on one side and push to release the clip holding the airbag in place. Repeat on the other side to release the airbag.
4. Use a small flathead screwdriver to pop up the tabs on the airbag connector wires and disconnect them. Disconnect the horn wire. Carefully remove the airbag and set aside.
5. Use a socket wrench and 24mm socket to remove the steering wheel bolt.
6. Unclip and disconnect the steering wheel wires at the top.
7. Pull the steering wheel away from the steering column and set aside.
8. Use a socket wrench and 7mm socket to remove the three screws underneath the steering column that hold the two steering column covers in place. Separate the steering column covers and push aside to access the clockspring.
9. Unscrew the broken clockspring using a Torx screwdriver and T10 bit to remove the four screws holding it in place.
10. Remove the broken clockspring and set aside.

11. Install the new clockspring screwing it in place with a Torx screwdriver and T10 bit. Replace the four screws and tighten them. Remove the clockspring lock tab to release the new clockspring mechanism.
12. Move the steering column covers back into place and replace the three screws underneath using a socket wrench and 7mm socket.
13. Feed the airbag wires through the back of the steering wheel to begin reassembling it. Replace the steering wheel bolt and tighten it with a socket wrench and 24mm socket.
14. Reconnect the horn wires and the airbag wires. Push down the tabs on the airbag wire connectors to make sure the connection is good.
15. Return the airbag to its place and push to clip it back in place.
16. Reconnect vehicle battery cables.
17. Check for a successful installation by cranking the vehicle to see the Engine OK light on the dashboard. Check that the steering wheel control buttons work.

Tools needed

- Socket wrench
- 10mm, 7mm, 24mm sockets
- Small flathead screwdriver
- Torx screwdriver
- 10T Torx bit

Why this guide is needed

Most Americans use a vehicle to get to and from places. When a part of your vehicle malfunctions or breaks, it prevents you from completing your daily tasks and can even prevent you from getting to and from work or other essential appointments.

When a clockspring fails, the steering wheel's airbag, horn, and buttons don't function. These features are convenient and crucial for drivers' safety and control, making replacing a broken clockspring important. The average cost to have a mechanic replace your clockspring can be from \$400 to \$1000 or more, including parts and labor, while the price of aftermarket parts is around \$40 to \$50, and the price of Original Equipment Manufacturer (OEM) parts is around \$200 to \$400. Therefore, understanding this issue and considering a DIY replacement can save you significant money.

Existing guides

The top search results from Google are primarily message board posts that explain how to replace a broken clockspring. While they have good information, they are usually not professionally or plainly written, and sometimes, the included photos are outdated or have broken links.

Plenty of video guides show and explain how to replace a broken clockspring. The videos are helpful for users who need a visual explanation, but it is difficult to use them as a reference because it is difficult to locate specific information within a video.

Message board guides

<https://www.lincolnvscadillac.com/forum/threads/how-to-tips-on-replacing-clock-spring.41249/>

<https://www.ford-trucks.com/forums/1686732-how-to-replace-your-clock-spring.html>

<https://forums.tdiclub.com/index.php?threads/how-to-steering-wheel-removal-and-clock-spring-replacement-fix-your-broken-horn.290486/>

Video guides

<https://www.youtube.com/watch?v=zg8JHcxEW2E>

<https://www.youtube.com/watch?v=TKcUM5gT-r8>

I could not find a professionally produced how-to guide for replacing a clockspring from a reliable source.

Alternative topics

How to Replace a Hardwired Smoke Detector

Homes with alarm systems commonly have a smoke detector hardwired through the ceiling or wall to facilitate monitoring. If the smoke detector fails or breaks, the homeowner needs to address the replacement of it to ensure continued safety within their home. Replacing one of these smoke detectors is a straightforward process of connecting colored wire to a matching-colored wire. Still, many homeowners are not confident enough to try it without clear instructions.

How to Change a Whole-house Water Filter

Homes on a well system for water and those with sub-par quality water need a whole-house water filter, also known as a point-of-entry (POE) filter. These filters are usually located near the water shutoff valve to catch the water supply at the point of the plumbing line. The filter within the equipment should be changed every 3-6 months. Some companies offer this as a service, but if the homeowner is willing to learn how to change the filter, they can save on that cost. Again, it is a straightforward process, although it requires a special tool found on Amazon or the hardware store. If homeowners had a thorough guide to replacing the whole-house water filter, they would be confident to try it.

Camera

iPhone 14 camera

Repair Experience Inventory

What I discovered while completing the Repair Experience Inventory

My list of things I can repair is more extensive than I thought.

How will it make my project awesome?

Make my guide easy to read.



My experience and success with tackling DIY projects and repairs give me a good background to write an instructional guide that is clear and concise. I like to pay attention to details and information I want to see when I read through and refer to instructions.

Thank you for considering my proposal for *How to Replace a Broken Clockspring*. I look forward to working with iFixit to produce a helpful guide that anyone can follow and is representative of iFixit's standards. I am ready to proceed upon your response.

Regards,

[Cynthia Everitt](#)