
ROVER WORKSHOP— SERVICING YOUR POWER DOOR LOCKS

One of the nicest convenience features fitted to Land Rovers since the 1987 Range Rover hit the US shores, was the power door locking system. With the touch of a button you can quickly lock and unlock all of your doors and tailgate. Unfortunately after years of use the system starts to malfunction, turning one of the most convenient features into one of the most frustrating ones. The good news is that the system is very straightforward and you can somewhat easily service the various parts to get everything working again.

The central door locking system is activated from both driver and front passenger doors. A switch/lock actuator is fitted in both front doors.

Front and rear passenger doors can be independently locked or unlocked from inside vehicle but can be overridden by further operation of driver's door locking control.

Now according to the instruction and repair manuals, failure of one actuator will not affect locking of remaining three doors, tailgate or fuel filler flap. I have found that if one of the front doors is not locking properly, it can effect the operation of the entire locking system, because the front doors control the locking and unlocking of all doors. For instance, if the driver door is not properly locking, you may find this inhibits the other doors from locking and often sends the system into a rapid/erratic locking/unlocking "loop." But by following the procedures here, you should be able to return all four doors to their original condition.

Now this article was written based on my recent lock servicing that I performed on a 1991 and 1992 RR Classic, however, the basic system is universal to most models and will give you the general idea of what to do to get things working properly again.

First you need to remove the door trim panel to get access to the locking mechanism and actuator. If you have a problem with just one door, you should be able to focus on that door alone, however, if multiple doors are failing and you are not sure what door(s) is/are the source of your problem, I would recommend removing all of the door panels so that the operation of the entire system can be viewed.

The front and rear door panels are removed the same way. The drawing here shows the front door. (Note: the LR Manual suggests disconnecting the negative battery cable, but I left the power connected to assist in testing/troubleshooting the actuators.)

Ensure window is in its fully closed position.

Remove the screw securing the door pull handle trim.

Remove the surround/trim.

Pry door lock trim up and away from the door panel.

Remove (2) finishing buttons that conceal the screw in door pull pocket. These can be pried out with a small flathead screwdriver.

Remove the screws and withdraw the pull handle.

Firmly pull door panel off of door by pulling around the edges—making your way around the entire door.

Remove speaker connections and set trim panel aside.

Once you have removed the inner door panel, you may find a sheet of protective plastic covering the door—this can carefully be pulled out of the way or removed and set aside.

Now that you can see the actuator and other components, operate the central locking system using the pushbutton remote (if equipped) or the key or door lock / latch. Inspect the movement and operation of the assembly to try to determine what is not functioning properly. Many times the problem is a worn actuator that appears to be working properly, but the inner contacts and other components are no longer providing the right amount of pull and/or resistance, causing the system to malfunction. The door lock actuators are a non-serviceable part and you are best off replacing a failed actuator.

To remove the actuator(s):

1. Remove four screws and plain washers securing lock actuator mounting plate to inner door panel.
2. Release cable tie, at trailing edge of door, retaining electrical cable.
3. Maneuver actuator assembly from actuator link.
4. Withdraw actuator assembly, disconnect multi-plug.
5. Remove actuator assembly.
6. Remove actuator unit by loosening two screws securing it to mounting plate.

Test—With the actuator removed, attempt to manually lock/unlock the door by pushing and pulling. If the assembly works correctly, chances are you have a failed actuator. If the door is not locking/unlocking then you have a problem in the linkage assembly somewhere. One very common problem is with the plastic pivot/anchor (see diagram) connecting the two linkage rods. It can wear out so that it doesn't stay seated in the plastic anchor that keeps it secured in the door. If the piece is allowed to float in/out, it will not sufficiently move the linkage rods, causing the door not to open.

They are in different places on the front and rear doors, but each door utilizes the same piece and have the same chance of failure. Note: this part may be difficult to find. If you have a good fastener shop nearby, they may carry the item or you can do as I did and contact Grandpa's Retired Rovers, who carry a large inventory of used parts at reasonable prices (grandpas@verizon.net).

Another problem could be that the wiring harness to the actuator has, over time, made its way toward the power window and years of rubbing on the window or the window regulator have worn through the insulation and/or wires on the actuator wiring harness.

If you have isolated the trouble to the actuator, it may be time for a replacement. If your vehicle is more than 10 years old and the actuators have not been replaced, it may be time. You can use original Land Rover replacement parts, which are still readily available, or you can try one of the many generic actuators that are also readily available. I have found that the "pistol" type, like the one shown here, will mount in without any modification. You can buy them individually for less than \$5 each, or as an entire set at places like www.12vp.com or www.partsexpress.com. The rear doors are "slaves" to the front doors and only require a 2-wire actuator. The driver door is a master (as it controls all doors) and requires a 5-wire actuator. The passenger side can be replaced as a slave or a master. Most kits only contain (1) master and (3) slave actuators. The actuators do not have connectors on them so I cut the pigtail off of the failed actuators and spliced the new actuator to the original pigtail connector. The 2-wire units will be easy to determine what wire gets connected to what wire. The 5-wire actuator will take a bit more investigation to line up the wires correctly. I have tried a few different makes/models of these aftermarket actuators and they all included a detailed wiring diagram which you can compare to the wiring in your Rover. Basically determine what 2 wires control the lock/unlock on the rear doors and that combination will remain the same on all doors. Then you need to find the correct connection for the remaining three wires that you will find on the "master" actuators. Again, a little frustrating, but it can be done with a little trial and error. A copy of your Rover's circuit drawing will help greatly and may be in your owner's manual or workshop manual.

Once you have the wiring correctly connected, mount the actuator using the original mounting plate and screws. You may have to try a couple of different positions to make sure that the actuator and linkage function properly. Below are a few pictures that may help you with fitting an aftermarket actuator. If you

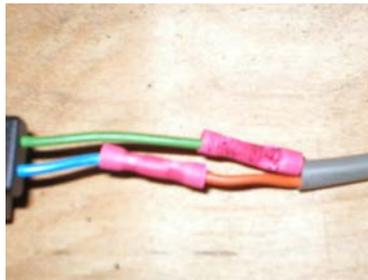
have to have 100% genuine components (or are easily frustrated), you may want to just spring for the OEM replacement, though you will expect to pay between \$100-200 per actuator...and you may find that the actuator wasn't your problem anyway.

NOTE: After you have the new actuator wired and physically mounted, check the operation of the power window. Open and close the window a few times to be sure that none of the wiring that you have disrupted is interfering with the path of the window. Secure all wiring with cable tie wraps so that everything is firmly in place and the window



Here is a picture showing the after-market pistol-style actuator ready to be mounted in the rear

Here is a new actuator spliced to the pigtail connector of the original actuator.



A pistol-style, 5-wire actuator getting installed in the front door of a RR Classic. You may have to try a few different positions (using the original mounting