

Installation Instructions For Ranger EV

Remove Lead Acid Batteries, Battery Wiring and Battery Trays

1. Turn off vehicle, remove key.
2. Disconnect the factory MPC, main power connector. It is located under the drivers seat towards the rear of the vehicle. See factory manual.
Reconnect the MPC when you are finished the installation.
3. Disconnect the existing lead acid batteries. Start by disconnecting all the positive terminal cables. Then disconnect all the negative terminal cables.
4. Undo all the battery hold-down hardware and remove.
5. Remove the lead acid batteries.
6. Remove the rubber battery tray liner that is on top of the metal battery tray.
7. You can install the batteries on top of the lead acid battery trays or remove the trays and bolt the Atlas batteries to the frame rails. You can also install the Floorboard kit from Atlas ESS. If the battery trays are rusted remove or repaint them with rust paint. The Atlas Floorboards keep out much of the mud and dirt thrown up by the tires. They also create new storage areas.

Install Atlas Batteries

8. Pick one: Bolt Atlas batteries to frame rails or Bolt Atlas batteries onto of lead-acid battery trays or Install new Atlas Floorboards Kit.
9. The Floorboards Kit installation instructions are on the support page. To bolt the batteries to the frame rails follow the photo instructions and drill holes in the frame rails for the 5/16" bolts that hold each battery in place. 4 bolts per battery.
10. The two battery boxes are wired in series. Install one battery on the passenger side of the Ranger. Install the second battery on the driver side of the Ranger. Ensure there is a negative terminal and a positive terminal at each end of the vehicle. For example, if the passenger side battery has the negative terminal at the front of the vehicle then the driver side battery must have the positive terminal at the front of the vehicle.
11. Bolt the batteries in place, 4 places. Each bolt receives a split lock washer and nut. Tighten the nuts until the split lock washer is flattened.
Floorboards have nuts built-in to them.

Install PDM, Cell Loop Cables and Power Cables

12. Follow the wiring diagrams and photo instructions and install the power cables, cell loop cables and place the PDM on top of a battery.
13. Locate the PDM to minimize stress (pulling) on cables. Place the PDM so the 3 connectors are facing towards the drive shaft.

Install Fuel Gauge in Dash

14. Install Victron BMV-712 battery meter in the dash. You can follow the Victron instructions or you can replace the factory gauge with the Victron gauge. If you replace the factory gauge, keep the factory gauge plugged into its wires and use cable ties to secure it to the inside of the dash,

under the front hood. If drilling a new hole, the gauge can go anywhere you want. It is shown on the right side but it can also go on the left side of the steering wheel.

15. The gray shunt cable is run from the PDM white plastic box to the Gauge in the dash through the front drive shaft tunnel. Use cable ties to fix the cable to the body to prevent contact with the rotating drive shaft.

Test

Once the wiring is complete reconnect the MPC, main power connector. Test that the Ranger turns on by turning the On Off rocker switch to the “on” position and then push in the Start switch. You should here a “clunk” as the contactor inside the PDM turns on. You have to push-in and hold-in the Start switch for a second for the circuit to latch in the “on” position. Once the battery is on you can turn the ignition key to on and observe the Ranger operates normally.

Normal Use.

For normal use: turn the battery “on” by turning on the ON OFF rocker switch then push the start switch in for 1 second. Then start the Ranger.

When finished driving you can leave the battery on or turn it off by turning the ON OFF rocker switch to OFF. The fuel gauge battery meter is always powered.

Emergency Use

When the battery is empty or broken and will not turn on and you need power to get off the road: turn the ON OFF switch to on. Push and hold in the Start switch. The battery will power the Ranger as long as the Start switch is held “in” and the battery has enough voltage to operate. This procedure is not a substitute for repairing a broken battery. The BMS Cell Boards record use of this procedure.

Long Term Storage

For long term storage turn the rocker switch off. Remove the inline fuse from the PDM. This way power drain is minimized and the battery can sit for many months.