**TECH TIP: Ground-Based Electrical Problems**

Troubleshooting Vehicle: Discovery 1994-1996

Poor grounds can cause numerous problems on a 1994 - 1996 Discovery. The following are main ground locations and the components they effect. To clean the contact surface, remove the fastener and use a wire brush to clean the post, connector and nut as needed. Spraying on a little contact cleaner may help, too. If the contact point is painted, a star washer can also be added to improve the connection.

Check these ground locations:
2. Below the battery, inside the right frame rail. Battery ground.
4. Right frame rail, inside wheel well. Starter.
5. Left footwell, behind trim panel. ECM, key switch, radio, OBDII data link.
6. Right footwell, behind trim panel. Starter solenoid relay, park-neutral position switch, alarm, data link connector.
7. Left side of luggage compartment, behind access panel for taillights, above light assembly. Fuel pump, fuel level sensor.

**Battery Mat**

Used and recommended by the U.S. Air Force, the Battery Mat traps and neutralizes battery acid, protecting your battery box and surrounding hoses, wires, metal, etc. from corrosion. Get one for every battery you own and protect your lawn tractor, snowmobile, boat, etc. from corrosion, too!

Battery Mat (9108)

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<th>Battery Mat</th>
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**Alternator**

8 D1ALTFK ALTERNATOR FIXING KIT

9 NAD101490 STARTER MOTOR ASSEMBLY

8 ERR5579 BELT, drive, polyv eye (e) 50D engines

9 STARTFK STARTER FIXING KIT

**Battery Cables**

3 POSITIVE CABLE #AMR4803AB

4 NEGATIVE CABLE #PRC5235AB

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**BATTERY AND ROTATING ELECTRICS**

**Remarks Legend** -

Engine (e) numbers:
- 35D = 3.9 liter, manual transmission, distributor ignition
- 36D = 3.9 liter, automatic transmission, distributor ignition
- 50D = 4.0 liter, electronic ignition

**Money-Saving Kits Noted in Red Type**

**Tech Tip: Optima Battery Upgrades**

Optima Spiralcell Battery – Red – Regular Cycle (9603)
Optima Spiralcell Battery – Yellow – Deep Cycle (9602)

The revolutionary Optima Battery features patented Spiralcell technology that lasts up to 3 times longer than conventional flat-plate batteries! The Optima's totally-sealed design will not leak even if it's cracked open. And, it's much more resistant to jarring and vibration common to off-road driving (a primary killer of conventional liquid-filled batteries). Choose the regular cell with 800 Cold Cranking Amps, or the deep cycle with 750 C.C.A. for winching or other situations that require occasional recharging.