



As we mentioned in the introduction to our last electrical grab bag (**Audi-O-Visual**, July 1993 *Import Service*), some vehicles have developed a reputation among repair technicians for having a higher than normal number of electrical problems.

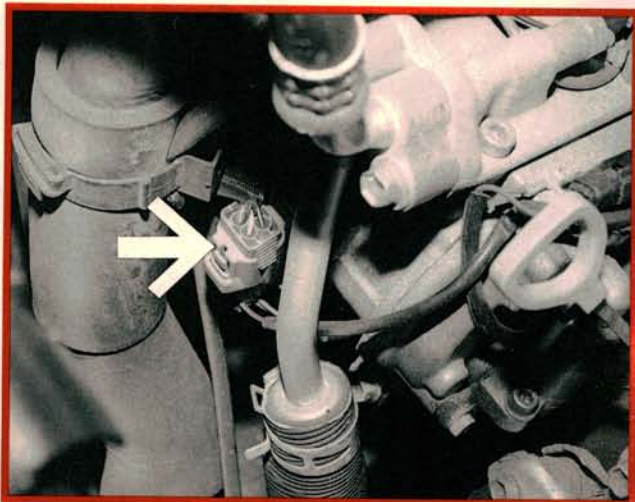
Whether this reputation has been fairly earned is a matter of personal opinion. After all, there are some technicians who would consider any sentence that even has the word "electricity" in it to be a problem.

Toyotas aren't high on most technician's lists of electrical problem vehicles. That's pretty amazing when you consider the number and variety of different models that Toyota factories crank out every

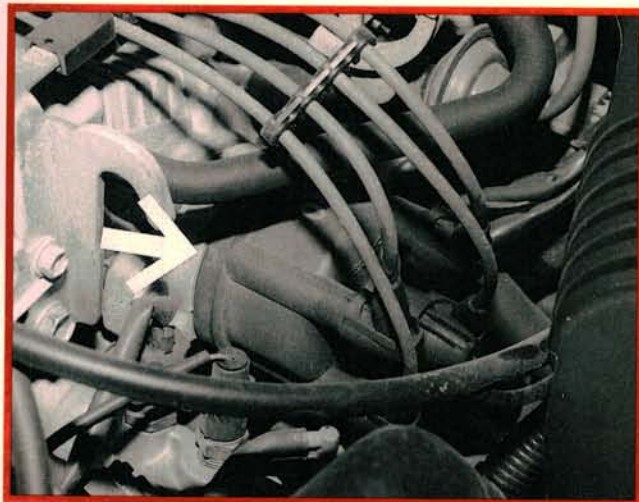
year. With that many miles of wire running from end to end of so many different vehicles, the potential for an electrical disaster would seem enormous.

In fact, we were greeted by a few blank stares while making inquiries for this article. Could it be that Toyotas have no electrical problems? Well, not quite. There are occasional assembly-related problems, but these are usually cleared up at the dealer. After that, be on the lookout for the grab bag assortment of problems shown on the following pages. Thanks to Mike Craft and Ed Majercak for their help in the preparation of this article.

— By Karl Seyfert



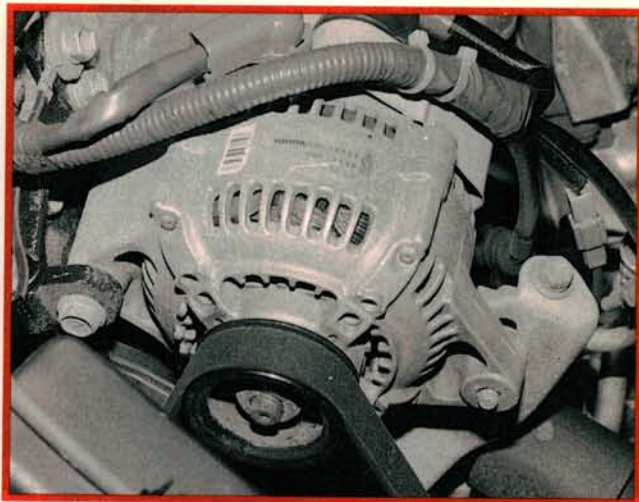
1 If the dash-mounted A/C light flashes and the air conditioning is disabled on 1989-91 Celicas, the compressor clutch speed sensor wiring may be to blame. Check both halves of the four pin connector at the sensor. Even though the connector halves plug together securely, terminals inside the connectors may have backed out. Separate the connector halves, then repair the loose terminals as necessary. Give the loose terminals a twist to ensure a tight fit with their mates.



2 A hot restart problem on Toyota Celica and Camry models is often caused by the pickup assembly in the distributor. As the pickup gets hot, the winding resistance increases. For a quick pickup check, spray the distributor with carburetor cleaner to cool it down. If the engine starts, you've found your problem. Also be on the lookout for weak or broken wires leading into the pickup. These very light gauge wires may break, especially on early models equipped with a vacuum advance.



3 A damaged neutral safety switch may cause starting problems on second generation Camry models. This problem is often misdiagnosed as starter, battery, or ignition switch problems. The neutral safety switch is mounted directly below the battery tray. Battery acid may find its way into the switch, causing an intermittent or complete switch failure. Have an assistant turn the ignition switch while you wiggle the neutral safety switch and its wiring. If the starter cranks, replace the neutral safety switch.

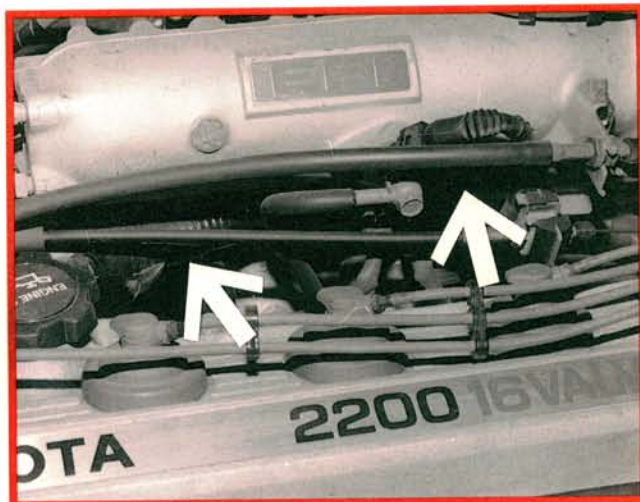


4 Some late model Camrys and Corollas are factory-equipped with Delco alternators. When a Delco alternator fails, it must be replaced with another Delco unit. Even though the Nippon Denso alternator found in other Camrys and Corollas will fit the mounting brackets and the harness connectors appear to be the same, the new alternator will not work properly. So if your friendly counterperson tries to tell you that there has been a parts supersession, don't believe it.

Grab Bag



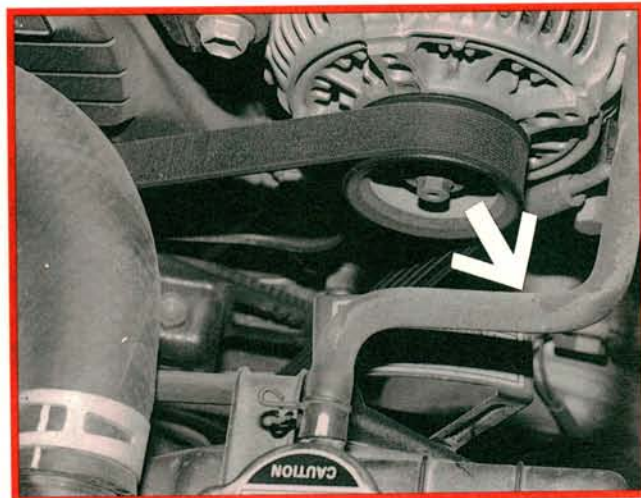
5 A failed temperature control motor may cause a no-heat complaint on Celica and Camry models equipped with automatic temperature control. The default position for the air mix door is full cold, so if the servo motor fails, the ATC can't control the temperature. To check the air mix door motor, reach under the dash while manipulating the heater controls. If the motor is working properly, you'll feel the motor move the door open and closed as the ATC is moved from full heat to full cold.



6 Any strange or erratic electrical problems on Camry and Celica models may be traced to a damaged wiring harness that runs beneath the intake manifold, near the EGR valve piping. Problems may include dead injectors, no alternator charge, unusual transmission shifting problems, and various ECU trouble codes. Problems may also crop up if the car has been in a front end collision. If the engine is tilted out of position, the wiring harness may be stretched, then damaged by the hot EGR.



7 If the alarm system won't cancel when the driver's door is opened on 1985-88 Cressidas and Supras equipped with factory alarm systems, the most likely cause is a bad door latch switch. When you remove the door panel, there may be as many as four different kinds of door switches inside the door. They're all related to the alarm system. Before you pull out your hair, test the switch that is attached to the door latch mechanism. Experience has shown that this switch fails most often.

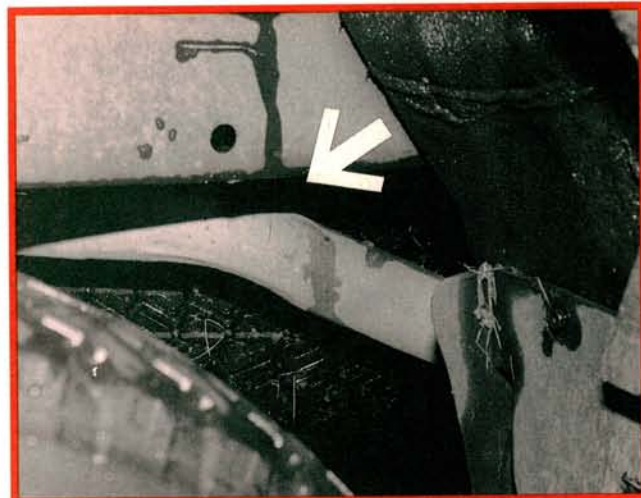


8 A high current draw from the compressor clutch may cause the A/C fuse to blow after 20 minutes of A/C operation on 1986 1/2 to 1990 Supra and Cressida models. Substituting a heavier fuse only moves the problem upstream, and opens the A/C circuit breaker instead. This problem is usually caused by the compressor clutch, but a binding compressor can produce the same symptoms. A tight compressor makes the clutch work harder to stay engaged, increasing the electrical load.

Grab Bag



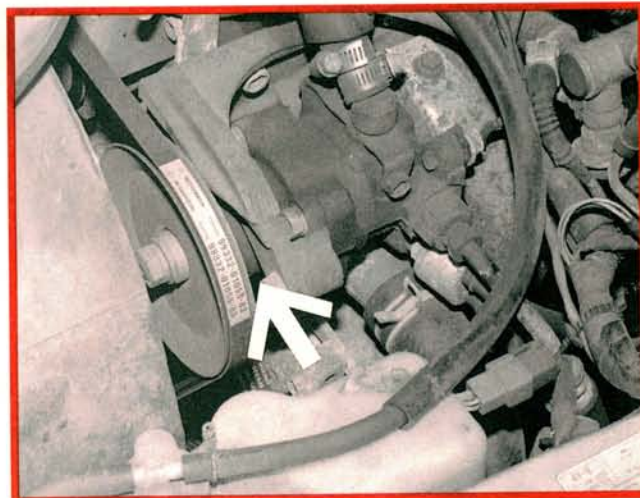
9 On pickup models, several important wires run through the front fender wells on their way from the engine compartment to the inside of the cab. These wires are wrapped in a plastic harness and protected by a plastic inner fender shield. However, these wires may be damaged on vehicles that are subjected to a lot of off road abuse. Look for a broken or water-damaged heavy black/white wire in the left inner fender harness if there is no battery power to the interior fuse box or ignition switch.



10 The rear wiring harness runs next to the spare tire, near the exhaust system on Truck and 4Runner models. Wires may melt together if the harness gets too close to the exhaust. Since these wires are power feeds to the tail lights, backup lights, and running lights, melted wires can produce some interesting cross feed situations. Brake lights may come on when shifting into reverse, or the turn signals will come on while braking. Repair the damaged wiring and reposition the wiring harness.



11 Water in the main relay may cause hard starting or a no-start condition on fuel injected Truck models. The main relay is located on the right kick panel, above the ECU. Water from a leaking windshield may find its way into the relay and possibly the ECU. This problem can be difficult to diagnose because the system may randomly lose fuel pressure, spark, or both. Remove the trim panel, then check the relay for water or corrosion damage. Make sure the leaking windshield gets fixed, too.



12 A no-charge condition on Van models may be caused by a power steering leak. The power steering pump is mounted directly above the alternator, and may have leaked into the alternator. If the alternator has been doused, chances are good that it will have suffered internal damage. Power steering pump leaks are most often caused by a loose hose or a pump shaft seal and are fairly common on Vans and other Toyota models. Shaft leaks can be repaired by replacing the seal, as long as the shaft isn't scored.

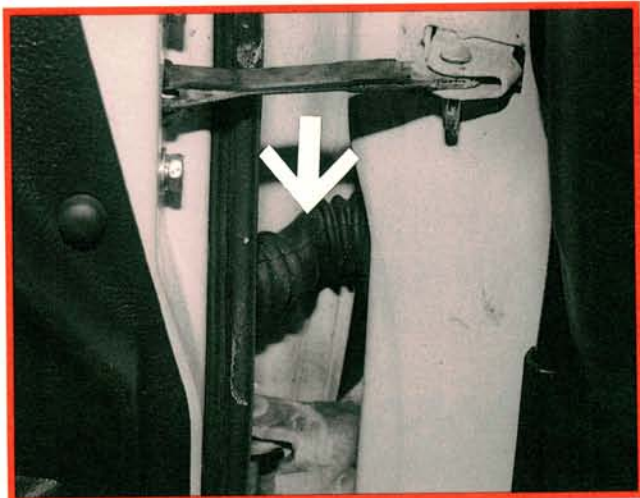
Grab Bag



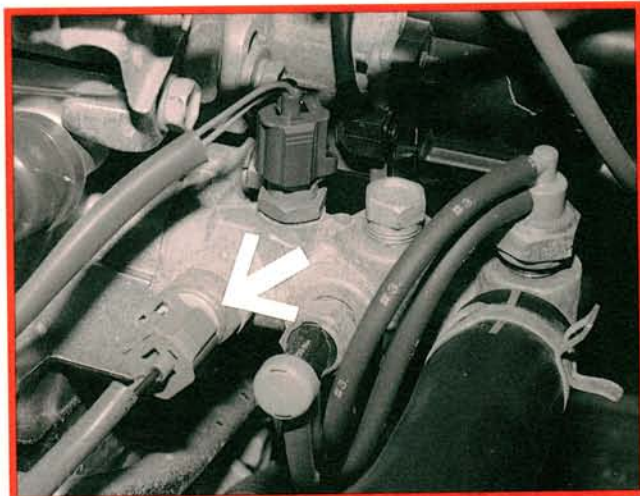
13 Intermittent starting and accessory problems on Van models may be caused by a damaged fuse box. Check the back of the fuse panel for damage by removing the glove box, then removing one fuse panel screw. Lower the fuse panel, then twist it to the side to look at the back where all of the electrical connectors plug in. Look for burnt connectors or a melted panel. Some fuse panels can be repaired, but often need to be replaced. Similar problems occasionally crop up on Supra models, too.



14 It isn't necessary to remove the dashboard and blower housing on a Van if you need to replace a noisy or inoperative blower motor. For a quicker method, remove the glove box, then the right headlight trim and the headlight assembly. Look through the opening where the headlight used to be. You should be able to see the blower motor squirrel cage nut. Remove the nut, then remove the blower motor from inside the car, leaving the squirrel cage behind. Reverse the procedure to install the new motor.



15 Dead radio speakers may be caused by broken wires inside the rubber door conduits. This problem seems to occur more frequently on the driver's side, probably because this door is opened and closed the most often. Peel open the rubber conduit, then check for broken wires. On vehicles equipped with power windows and power door locks, operation of these accessories may also be affected by broken wires inside the conduit.



16 Toyota automatic overdrive transmissions use an engine coolant temperature sensor to limit transmission overdrive operation. The transmission control unit will not permit overdrive engagement until the coolant temperature reaches a set level. Complaints of no overdrive engagement may be caused by a bad coolant temperature sensor. Check the sensor with your DMM. The sensor resistance should decrease as the coolant temperature increases.