

INSTALLATION INSTRUCTIONS

109088 Dual Fan Relay System for new style SPAL Dual Fan Plug-And-Play for 1986-1987 Buick Turbo Regal

This dual relay system is necessary when replacing the factory single coolant fan with an aftermarket or OEM dual fan system. The single factory-installed fan relay is inadequate for driving two fans. This system permits the factory-installed relay to drive a pair of relays, each of which is wired to its own individual coolant fan. Since each fan draws between 11 and 18 amps, this system provides a sealed 30 amp relay to control each fan.

NOTE: This kit is designed to plug into the SPAL fans that use the white unsealed connectors on the fan assembly.

Additionally, a Relay Delay Module (Caspers part number 109086) is installed on one of the two fan control relays; this provides a $\frac{3}{4}$ second delay, "staging" the fans to minimize excessive startup load associated with running two fans instead of one. This feature minimizes potential electrical problems which could cause engine control malfunctions relating to momentary system voltage drop.

To maximize the effect of using dual fans, the system is designed to run both fans when low speed cooling is requested and also both fans when high speed cooling is requested. This provides maximum available air flow across the vehicle's radiator and keeps the engine running cooler – allowing more available horsepower on your turbocharged engine.

Installation is simple and straight-forward. After installing the fan assembly on the vehicle and checking for normal fit, plug the large male connector into the mating connection in the engine bay. This is the 3-way connector that was plugged into the original coolant fan harness. Then insert both fan motor connectors into the fan motor receptacles. If there are any connectors currently in the motor receptacles, remove and discard them. Relays can be mounted on the top of the fan shroud in any convenient location, towards the passenger side of the vehicle, using the self-tapping screws provided in the kit. Remove the positive battery lug and press the original bolt out of the red insulated cable lug. Press the supplied spacer into the red insulator as shown below. Then, slip the long bolt (supplied in this kit) through the 10mm ring terminal on the new harness, then through the spacer. Finally, thread the assembled cables into the battery positive terminal and firmly tighten the bolt using a 5/16 in (8mm) wrench. DO NOT over-tighten the bolt as you could possibly strip the threads on the battery post. Once installed, the feed wire to the relays will be securely attached.

