

TECHNICAL INFORMATION

Engine Harness Oval Conduit – Broken Conduit Clips – '86-'89 turbo 3.8L

The factory engine wiring harness on your 1986-1987 turbo Buick is a complex assembly using 50 connectors, 740 feet of copper wire, hundreds of terminals and seals, and measures over seven feet in length. It is a specially made assembly using a hard plastic wiring channel (specific to the turbo engine) which routes the wiring from the front of the engine and channels around the intake at the drivers side and then to the rear of the intake. The wiring channel then attaches to a section of large oval conduit, about 23-1/2 inches long, which is affixed to a steel heater box shroud using specially made plastic conduit clips. The bulk of the engine harness then is routed to the firewall, behind the plastic inner-fender well, and feeds into the passenger compartment through a large rubber grommet.

The problem begins when the plastic clips break. This allows the oval conduit to sag and drop down in the engine bay, eventually contacting the down-pipe. Once this happens, the heat from the down-pipe quickly burns thru the harness conduit, contacting the wiring, quickly destroying the harness. Replacing a burned \$800 harness is not a good idea.

Why does the plastic clip fail? Three factors are involved: Original design, material used in the part, and age. The factory design involved a square flange and a single mounting bolt. Early failures were found where the square flange breaks, placing the entire weight of the copper-filled conduit onto the single mounting bolt. Since the upper part of the clip is a "forked" bolt mount instead of a "closed" mount, the excessive weight along with engine heat caused the forked opening to spread, releasing it from the mounting bolt, finally dropping off altogether, causing a sagging appearance in the conduit. The weight of the harness constantly pulls the harness downward and quickly contributes to the failure.

The material used in the original production run (early 1986) had less glass fill in it and was prone to softening with engine heat. Around early 1987, GM discovered the problem and ordered a material change, requiring a greater glass fill and a higher temperature plastic material. Thus, the late production cars had a more reliable part. However, the years and accumulated heat have taken their toll on the clips and today, most if not all of the existing parts in service have failed. The parts supply has dried up and the later version of the part is now long obsolete. Although several years ago, there was an aftermarket steel replacement part available, but that too became obsolete.

Fast-forward to 2008. You want to restore your 20+ year old turbo Buick and want to replace the damaged clips. Caspers has tooled up for the later version of the clip, using the improved material. Also available is the OEM oval conduit, part number 103011 which is furnished in a length longer than the original, so you can custom-fit it to your engine bay. This will enable you to restore that section of the engine harness to OEM specifications and bring the original look and fit back to your wiring harness.

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●Oval Conduit

Oval Conduit Clip●



Clip Failure



This is the latch that usually fails