

# Tach sensor kit – installation manual

## Introduction

This manual provides instructions for connection of the tach sensor (78-009001), used for installation of ALCOLOCK alcohol interlock devices.

### ATTENTION!

- This guide is intended for authorized service technicians only
- This guide is intended for use with an ALCOLOCK device installation manual
- Ensure vehicle is in park (or neutral with parking brake engaged) and there is sufficient ventilation for vehicle exhaust
- Ensure vehicle engine is off before installing tach sensor
- Do not connect tach sensor until vehicle electrical system is inspected
- Do not connect ALCOLOCK auto cable to ALCOLOCK device until all wiring is complete and visually verified
- ALCOLOCK device, tach sensor and all cabling must not obstruct vehicle operation
- Keep ALCOLOCK device, tach sensor and all cabling away from components that move or that may become excessively hot
- Use existing hardware and holes where available to minimize vehicle modification
- All connections must be soldered, taped and sealed **only** after ALCOLOCK device is installed and verified
- Do not use butt or clip connectors to seal wiring, as this may lead to corrosion and intermittent power

## Tach sensor – description

Install the tach sensor to the vehicle alternator when a strong tach (rpm) signal cannot otherwise be located – for example:

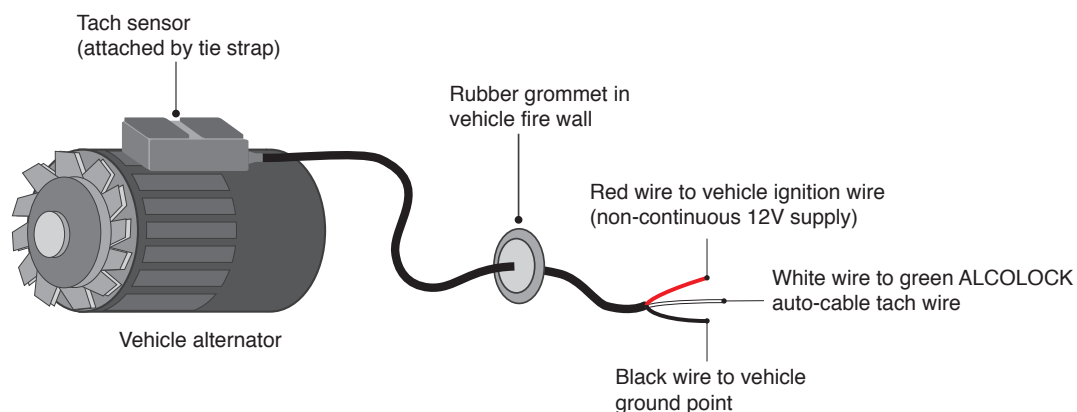
- In diesel engine vehicles
- In vehicles with multi-coil pack systems (as opposed to vehicles with single coil pack systems)

## ACS parts

Tach sensor cable (78-009001)

Tie wrap (26-000006)

## Connection summary



## Connection steps

1. With the vehicle engine off, position the flat side of the tach sensor onto the alternator-housing grooves – preferably on the top front-centre of the alternator.  
  
The sensor must have a clear line of sight with alternator stator core (AKA the coils visible through the alternator-housing grooves).
2. Use the supplied tie wrap to attach the sensor to the alternator-housing grooves.
3. Apply wire loom to the length of the tach sensor cable.

4. Use tie straps to attach the loomed tach sensor cable to the vehicle, incorporating the cable along the existing vehicle wire loom.

Leave enough slack on the length of cable nearest to the sensor. This is to compensate for engine movement and to allow for future repositioning of the sensor.

5. Run the tach sensor cable through an existing rubber grommet in the vehicle fire wall.

**ATTENTION!** *If drilling a hole in the fire wall is necessary, a rubber grommet must be installed to prevent electrical shorts.*

6. Strip the end of the tach sensor cable to an appropriate length, exposing the three tach sensor wires.
7. Fit a heat shrink over the white tach sensor wire.

**ATTENTION!** *All connections must be soldered, taped and sealed **only** after the ALCOLOCK device is installed and verified.*

8. Attach a ring terminal (21-000022) to the black tach sensor wire.
9. Use a tamper proof screw (45-000054) to connect the ring terminal to a vehicle ground point.
10. Twist the end of the white tach sensor wire around the green ALCOLOCK auto-cable tach wire.
11. Use the computer-safe test probe to locate the (non-continuous) **ignition** wire of the vehicle main harness.

To test: move the vehicle ignition switch through all positions, ensuring +12 volts are **only** present in the **ON** or **RUN** positions.

12. Use wire strippers to expose ½ inch of the vehicle ignition wire. Do not clip vehicle ignition wire.
13. Twist the end of the red tach sensor wire around the exposed point of the vehicle ignition wire.

The ALCOLOCK auto-cable ignition wire is also connected to this point.

**ATTENTION!** *Do not continue to the next step until:*

- Completing all ALCOLOCK auto-cable wiring connections
- Performing a preinstall procedure on the ALCOLOCK handset display (this is to check the strength of the tach source)
- Testing the installed ALCOLOCK device to ensure it works correctly

**ATTENTION!** *If attempting to reposition the tach sensor, first ensure the vehicle engine is off.*

14. Solder and apply electrical tape (3M brand or equivalent) to all wiring connections, except for the vehicle ground.
15. Seal the heat shrink over the white tach sensor wire and the green auto-cable tach wire.
16. Apply a tamper proof label over the red tach sensor wire, the auto-cable ignition wire and the vehicle ignition wire.
17. Apply a tamper proof label over the black tach sensor wire and the vehicle ground point.

## Tach sensor installation is complete.

### Examples



The tach sensor is installed on the alternator-housing grooves and has a clear line of sight with the **stator core**.



The loomed tach sensor cable is neatly incorporated along the existing vehicle wire loom.