

Introduction

*This document describes how to correctly make gear calibration proceeding for calculated gear channel. The proceeding is made in **three steps: activation, learning lap and calculation**. Please follow carefully this proceeding in order to allow your instrument to correctly compute the engaged gear number and thereby show it on the display.*

Required conditions

Gear calibration proceeding is made using two inputs: **RPM** and **speed**. These two channels should be correctly configured and the related sensors installation should be faultless. If the logger has more than one speed input, gear calibration proceeding will take as reference speed the one shown on display. We suggest you to take as reference the speed of the driving wheel. Gear calculation proceeding can be made also on not driving wheel but in this case you should pay more attention not to have the wheels sliding or blocked during learning lap.

Activation

To start this function or to reset previous values and re-start gear calculation proceeding:

- press [**MENU/←**] button until you see:

GEAR CALIBRATION

- press [**MEM/OK**] button: you will see:

calculated gear

- press [**MEM/OK**] button and set maximum engaged gear number using [**←**] and [**→**] button;
- confirm the inserted value pressing [**MEM/OK**] button;
- Quit MENU mode pressing [**VIEW**] button. The display shows:

running GEAR CAL

Gear calculation proceeding has started.

Learning lap

After gear calibration proceeding activation you need to run a track lap. During this that we call learning lap, please follow carefully these instructions:

- Engage all gears.
- Keep each gear engaged for at least 5/6 seconds.
- Drive in a smooth way avoiding sudden accelerations or wheels blocks during brakes; let the engine keep RPM gradually and keep brakes as long as possible too in line with track characteristics and traffic situation. If your reference speed comes from a not driving wheel, please pay particular attention to your driving style reducing sliding between driving wheels and not driving ones.
- Please go to the pit lane alter the learning lap and switch the engine off.
- **Warning: please totally avoid** “revs” while the vehicle is moving; **avoid** running through the pit lane with friction engaged. If the vehicle needs it you **can** press the accelerator before switching the engine off **but when the vehicle is completely stopped**.

Gear calculation

After engine switch off gear calculation proceeding starts automatically. During this period **LED AL1** blinks. After a few seconds (duration of the calculation depends on learning lap length) **LED AL1** switches off and the display no more shows:

running gear cal

All **AIM** systems allows gear calculation proceeding working also if you need to switch the engine off. In this case you only need to re-switch the system on and calculation proceeding re-starts automatically with recorded values. In this case calculation proceeding takes more time and you see blinking before **LED AL2** and after **LED AL1**.

WARNING: do not move the vehicle and do not switch the engine on during gear calculation. If you move the vehicle you could let your logger record values that would make it misdoing the calculation.

Final suggestions

Gear calculation proceeding is only possible thanks to the measurement of the angular speed of the driving shaft and of the driving wheel. When the friction is completely engaged between the two speeds there is a ratio mechanically defined by the engaged gear. If the friction slides this ratio is no more determinable. If reference speed comes from a not driving wheel the sliding between driving wheel and not driving one due to accelerations and brakes implies an error in the gear compute. This is why we recommend you to drive as smoothly as possible during learning lap.