

# Firtst Start up / Getting started

## Getting started / installing the Controller

### First Connect, all plugs

Gearbox plug the big one direct to gearbox  
Gear Lever Plug to Gear Lever  
TPS plug, to TPS sensor  
Boost sensor plug.

### Then Connect Power

Black to Ground, make sure you have a good connection  
Red to 12V Ignition Use an 8 Amp fuse.

### Now before starting engine, you have to setup 0% - 100% TPS (Throttle Position Sensor)

PUT "W/S" in W position (if you have the Mercedes Gear Lever)

- 1.Power up, but do NOT start engine.
  - 2.Press Joystick down to "SETUP"
  - 3.Press Joystick Right, to enter this menu
  - 4.Now you are in SETUP MENU.
  - 5.Press Joystick down until "Setup TPS "
  - 6.Press Joystick Right, to enter this menu
  - 7.Now width 0% TPS press joystick UP
  - 8.Then press throttle to 100% press joystick DOWN
  9. PUT W/S in S position, and do point 1-8 again.
10. Now press joystick right one more time, then you get to an page called Aggressiveness TPS.
- If you have standard OM603 and you have around 60% TPS while cruising then set to SLOW
  - If you have Diesel Mekkan pump set to aggressive
  - If you have gasoline and TPS show only 10-15% TPS when cruising, set to aggressive
  - If you have TPS around 35% when cruising then all ok.

### Gear Lever (Only if you do not have Mercedes PRND4321 Lever)

PUT "W/S" in W position

- 1.Power up, but do NOT start engine.
- 2.Press Joystick down to "SETUP"
- 3.Press Joystick Right, to enter this menu
- 4.Now you are in SETUP MENU.
- 5.Press Joystick down until "Lever Setup "
- 6.Press Joystick Right, to enter this menu
- 7.If you have the 10 pin plug in the Gear Lever PRND4321. Press Joystick UP or Down to get "0"  
If you have no plug for Gear Lever set to "1"
- 8.Press Joystick Right to save
9. PUT W/S in S position, and do point 1-8 again.

### Load

For diesel engine Momentum of the engine is if there is mounted a boost sensor ´calclatet by TPS + Boost.  
This means if a diesel engine has 250 Nm width no boost, and 100% TPS that gives around 33% momentum. When boost kicks in and boost at 2 bar we then have the rest 66% momentum = 750 Nm  
For a Gasoline car it is differnt here we just only use TPS, 100% TPS is 100% load.

## See Other side

## “Setup Parameter” -> “Load - TPS Boost”

Diesel cars where boost sensor is mounted, set it to 2.5 (Default by reset)

Gasoline cars 6 cyl set it to 1.5

Gasoline cars V8 or more set it to 1

When number Change it is saved automatically, no need to press right to save here

## “Setup Parameter” -> “Boost Part Load”

Diesel cars where boost sensor is mounted, set it to 33 (Default by reset)

Gasoline cars 6 cyl set it to 1

Gasoline cars V8 or more set it to 1

Here you have to press right to save after number is changed to wanted value

## Shift Firmness.

When you first drive the car, be weary aware how hard the shifts are at low load.

If all shift are to soft. or to hard

“Shift Firmness” -> "General Firmness"

If shift are to Soft lower the number to get Harder shifts. (Do not change more than +/-2)

If shifts are to Hard higher the number to get softer shifts. (Do not change more than +/-2)

Please be aware that if shifts are to soft, it can give problems that a shift not complete and it stay in the gear it was in. **A little to hard shift is always better than a too soft shift.**

## External Speed / External RPM

The best is to have the controller setup to EXTERNAL SPEED SENSOR.

This controller need a +/- signal min 0.5 V, Like ABS sensor, or other inductive type sensor.

But as many of the old cars do not have any, the controller can work with the speed sensors internal in the gearbox.

“Speed EXT/INT” and another for “RPM EXT/INT”

PUT “W/S” in W position

1. Power up, but do NOT start engine.

2. Press Joystick down to “SETUP”

3. Press Joystick Right, to enter this menu

4. Now you are in SETUP MENU.

5. Press Joystick down until "Speed INT/EXT" Or "RPM INT/EXT"

6. Press Joystick Right, to enter the menu

7. Press Joystick up and down to set it to “0” for External “1” for Internal **(Or set to 6 for Max safety) \*\***

8. Press Joystick Right to save

9. PUT W/S in S position, and do point 1-8 again.

An external speed sensor is absolutely to prefer, as there is some limitation on the internal speed, as the speed cannot be read while shifting.

After connected the External speed sensor, run the car slow 10 km/h and see what the speed says, in “Live Data” if it is not correct adjust in setup menu

“Ext Speed %”

If Mercedes W124 ABS sensor set it to 30

More here

<http://ofgear.dk/userguide/rpmkmin.html>

## 3-4 Shift flailing

Also the 3-4 shift is normally flaring a little, the setting is default set to only do this shift if TPS is lower than 40%, if you do not like this setting

“Setup Parameter” -> “delay 3-4” change setting from -4 to 0

**Important info, if nothing is working, disconnect power from controller and test if you can drive forward and back.**

**Gearbox will then start in “2 gear” and “high reverse”. Just to make sure the gearbox is working at all**

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## External Speed continued Set it for best safety

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“Speed EXT/INT” and another for “RPM EXT/INT”

PUT “W/S” in W position

1.Power up, but do NOT start engine.

2.Press Joystick down to “SETUP”

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5.Press Joystick down until "Speed INT/EXT" Or "RPM INT/EXT"

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If you have set it to the value 6, then the speed internal in the gearbox is compared to the external speed sensor.

That way we are sure the gearbox is always in right gear, and if it is not all shift is locked. And you have to power off and on again.

GOTO “View Live Data” press right on joystick 6 times

The you will see a page like this

EXT :0	0/0	Show Speed from External sensor
INT :0	0/0	Show Speed from internal sensors
Sync:1	Time:0mS	If Speed in Sync:1 if not in sync 0
DIF :0		DIF is Difference between Internal and External
TPS:100		

You can adjust both internal and external speed here

“Setup Parameter” -> “Int Speed %”

“Setup Parameter” -> “EXT Speed %”

# How to adjust different map / Pressure sensors

## MERCEDES W210 E300 Turbo Diesel Boost Sensor

If you need max 1,65 bar = 25 PSI Then the originally MB boost sensor from a W210 E300 Turbodiesel can be used as it has a standard 0-5 volt output I have only tested this exact type below

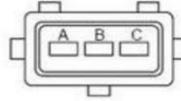
"Boost Control" -> "General Boost" -> "0 point boost" set it to 305

"Boost Control" -> "General Boost" -> "Max boost at 5v" set it to 170



Electrical connection

PIN	description
A	+ 5 Vdc
B	GND
C	Signal OUT



This sensor is shipped with a lot of kit -1 bar to +3 bar

"Boost Control" -> "General Boost" -> "0 point boost" set it to 245

"Boost Control" -> "General Boost" -> "Max boost at 5v" set it to 350



## This sensor -1 bar to +2,4 bar pressure, MAP

"Boost Control" -> "General Boost" -> "0 point boost" set it to 203

"Boost Control" -> "General Boost" -> "Max boost at 5v" set it to 270



If you get the moulded plug  
 Red to White : 5V  
 Black to Brown : 0V Ground  
 Green to Green: 0-5V Signal

## This sensor 0 bar to +5 bar pressure, MAP, Oil, Diesel

"Boost Control" -> "General Boost" -> "0 point boost" set it to 90

"Boost Control" -> "General Boost" -> "Max boost at 5v" set it to 570

Thread G1/4"



If you get the moulded plug  
 Red to White : 5V  
 Black to Brown : 0V Ground  
 Green to Green: 0-5V Signal

moulded plug

Black to Brown  
 Green to Green

Or Goto

"Userdata/Factory" -> "Quick set / Reset" ->

Press up for 5 bar sensor Stainless Steel

Or Down for 2,5 Bar sensor Brass