

A/T emulation device "ATEMU" Installation manual

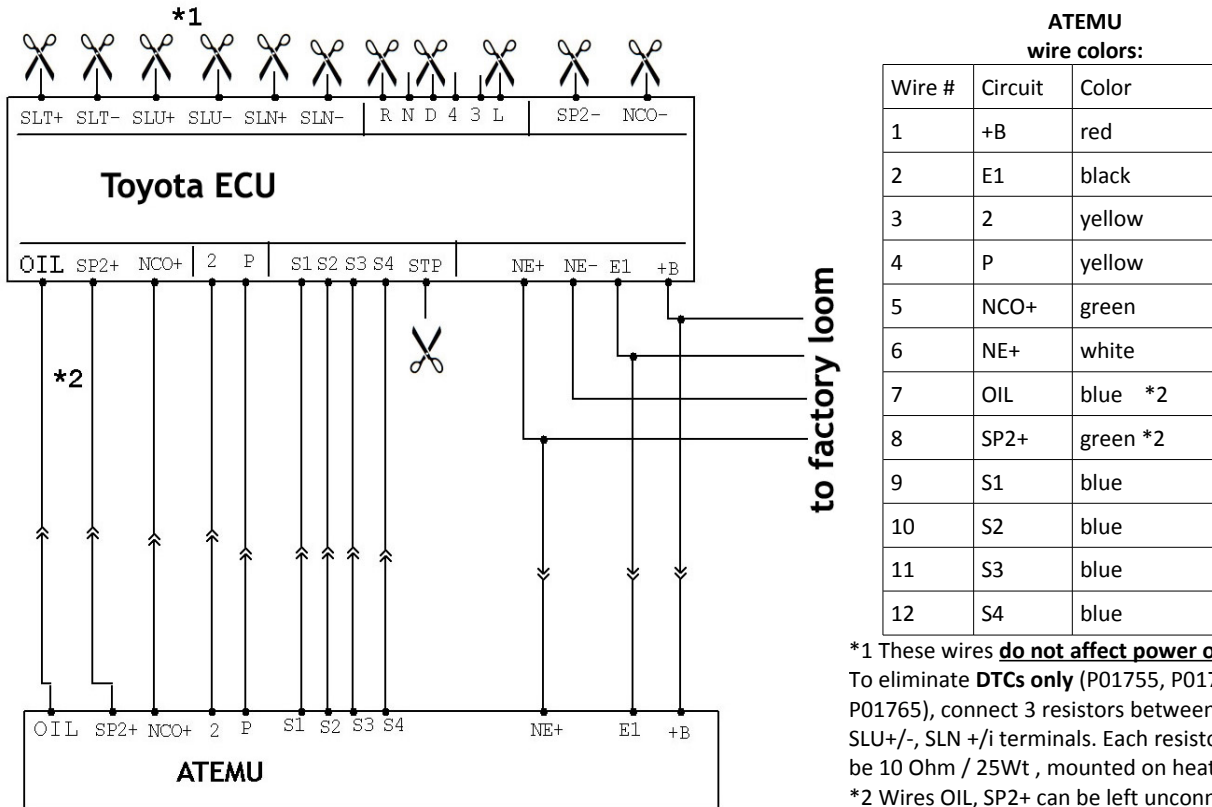
Purpose

ATEMU simulates most critical features of particular Toyota / Lexus auto transmissions which were available for UZ / JZ equipped vehicles since 1998. This makes it possible to obtain rated power from engine when using factory ECU and **any transmission** other than that ECU is designed to work with. Factory ECU would otherwise enter limp home mode with significant power and torque loss (for example, VVTi and ignition advance are both set at max retard for 1997-2000 Lexus LS400)

Some non-critical error codes remain intact for simplicity of installation and reducing the cost for off-road application. These codes can be easily addressed with additional components if emission test has to be passed for street legal application. See *1.

Installation

Wiring diagram for hooking up ATEMU to Toyota powertrain control module goes below



*1 These wires **do not affect power or CEL**. To eliminate **DTCs only** (P01755, P01760, P01765), connect 3 resistors between SLT+/-, SLU+/-, SLN+/- terminals. Each resistor should be 10 Ohm / 25Wt, mounted on heatsink

*2 Wires OIL, SP2+ can be left unconnected. They do not affect power.

Make sure that all unnecessary wires are cut from the loom completely (from ECU connector side). Keep in mind that connecting earth (black wire) to arbitrary point may lead to picking up noise and improper operation. Always hook up the wire in parallel to E1 terminal of ECU. Earth splice connector is usually available on factory loom about 20cm away from ECU.

Check of operation

When ignition is ON and the engine is stopped or idling (fully warmed up), LED inside ATEMU shows mode of operation (1-5) by series of blinks followed by pause. Default mode is 1 (see add-on for details). "P" input of ECU is activated (receives 12V), RPM[NCO] = 0

When engine is revved above 800 RPM, the LED blinks at variable rate following engine RPM. "2" input of ECU is activated (receives 12V), RPM[NCO] is slightly less than engine RPM

Clear DTCs after confirming the operation. Rev the engine to 3000 RPM a couple times. Make sure that you don't observe DTCs P0715, P0750, P0755, P0760, P0753, P0758, P0763, P0768, P0770

Parameters such as "PNP SW", "2", "RPM[NCO]" are best viewed with appropriate scan tool. Such a tool can be obtained at close to zero effort, cheapest option is ELM327 ver 1.5 (strictly 1.5) + ELMScan Toyota app. OBD2 port has to run 4 wires to ECU: +B, CG, SG, SIL

Warranty, tech support Yury.bar@gmail.com **No whatsapp, no facebook, no nothing just email, response time 24 hours**

Operation temperature: guaranteed to operate with ambient temp -15...+85 C

Humidity: has protection against condensing water. Install in a place where no dirt/dust/particles can enter

ADD-ON

This device has firmware that allows to choose 5 variants of operation slightly altering mid range performance

A variant can be chosen by pressing the button. One press cycles between modes 1-2-3-4-5-1-2 etc. The mode can be changed at any moment and is stored to nonvolatile memory immediately.

Current mode is indicated when ignition is on and the engine is either stopped or idling (warmed up).

Mode 1 offers the most balanced settings known at the moment of device manufacturing. Sometimes performance is improved when connecting "2" control wire (yellow) to "L" terminal of ECU instead of "2", and / or disconnecting SP2+ wire, and/or choosing different mode of operation.

As of 12oct.2016, the device v.109 has been successfully tested with following ECUs:

Toyota Crown Majesta 4.0 2WD 15x chassis vvti, Toyota Crown Majesta 4.0 2WD 17x chassis, Toyota Celsior 1997-2000, Lexus GS400 any year, Lexus GS430 (5a/t), Lexus LS430 (5a/t), Toyota Celsior 2000-2003 (4.3 5a/t), Lexus GS300 (3.0 5a/t), Toyota Aristo 16x (3.0NA 5a/t, 3.0T 4a/t)