

Modify ELM327 Adapter MSCAN bus using FORScan

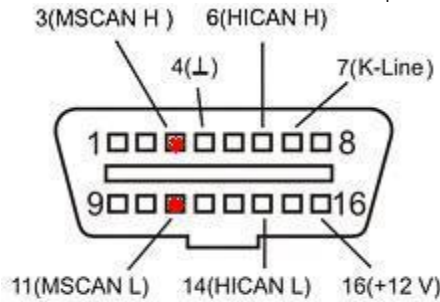
[Lucas Robinson](#) August 16, 2017

Many Ford, Lincoln, Mercury and Mazda models are equipped with **MSCAN bus**, in addition to HSCAN bus. ELM327 is supported **HSCAN bus**, MSCAN bus is not supported by the stock OBD2 ELM327 adapter, because MSCAN bus is a Ford protocol specific solution and on non-OBD2 pins. However, ELM327 is very flexible tool. You need small modification to add the MSCAN bus support.

How to modify ELM327 with HS/MS CAN switch

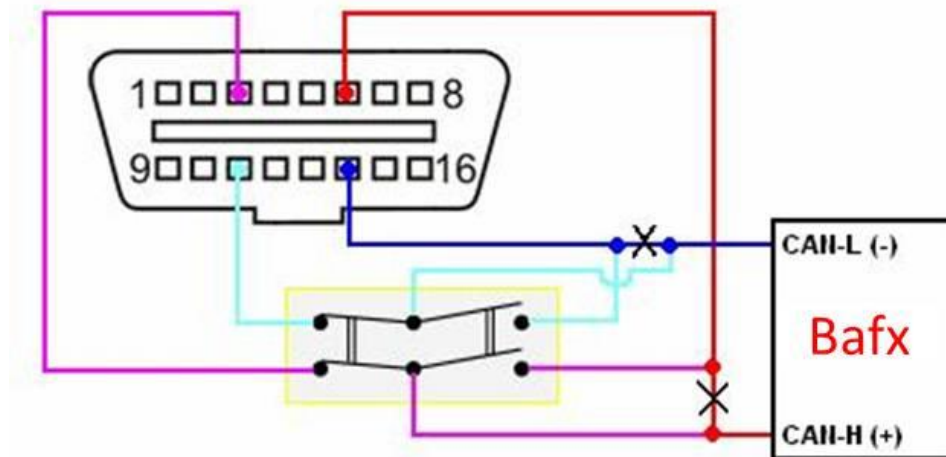
The ELM327 OBD2 adapter supported HSCAN bus from stock, because HSCAN bus completely with OBD2 standards. It is support pins 6 and 14. With MSCAN bus occupies pins 3 and 11. The photo below will show the thing

(**ATTENTION**: the OBD2 socket on the photo means vehicle one "OBD2 female". The adapter is one is "OBD2 male", so it is "mirrored".)



• not OBD II

The easy method to implement MSCAN bus support is to add a switch that will shift between MSCAN/HSCAN bus. The picture below will show the modification (**ATTENTION**: the OBD2 socket on the picture means one "OBD2 female". The ELM327 OBD2 adapter is one is "OBD2 male", so it is "mirror". The pins are often mixed up because of this. Always remember pins on OBD2 socket. That will help you fast modification)

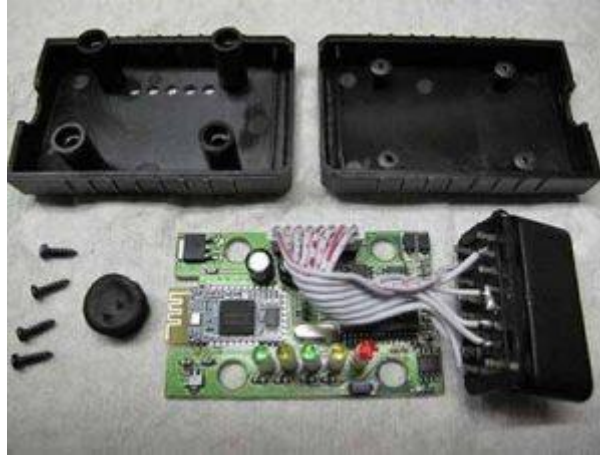


What do you need to modify MSCAN bus?

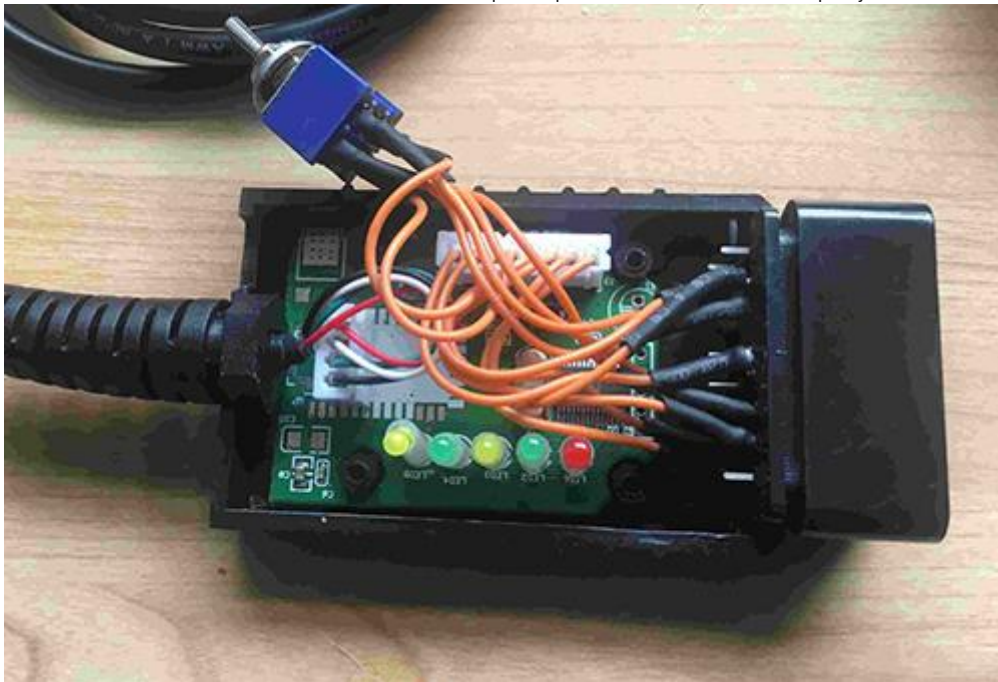
You need to buy a 6 pin mini-switch of ON-ON type (for example, MTS-202-A2) in any shop that sells electronic components, also prepare a wire.



- Disassemble ELM327 OBD2 adapter (carefully remove the label that hides 4 screws, unscrew them).



- Find a place for the mini-switch (most complex part of the whole operation for some devices that are extremely compact).
- Unsolder wires from pins 6 and 14 of the OBD2 adapter jack and solder them to the 2 middle pins of the mini-switch ON-ON.
- Solder 2 new wires from 2 outer mini-switch pins to pins 6 and 14 of the OBD2 adapter jack.
- Solder 2 other new wires from 2 other outer mini-switch pins to pins 3 and 11 of the OBD2 adapter jack.

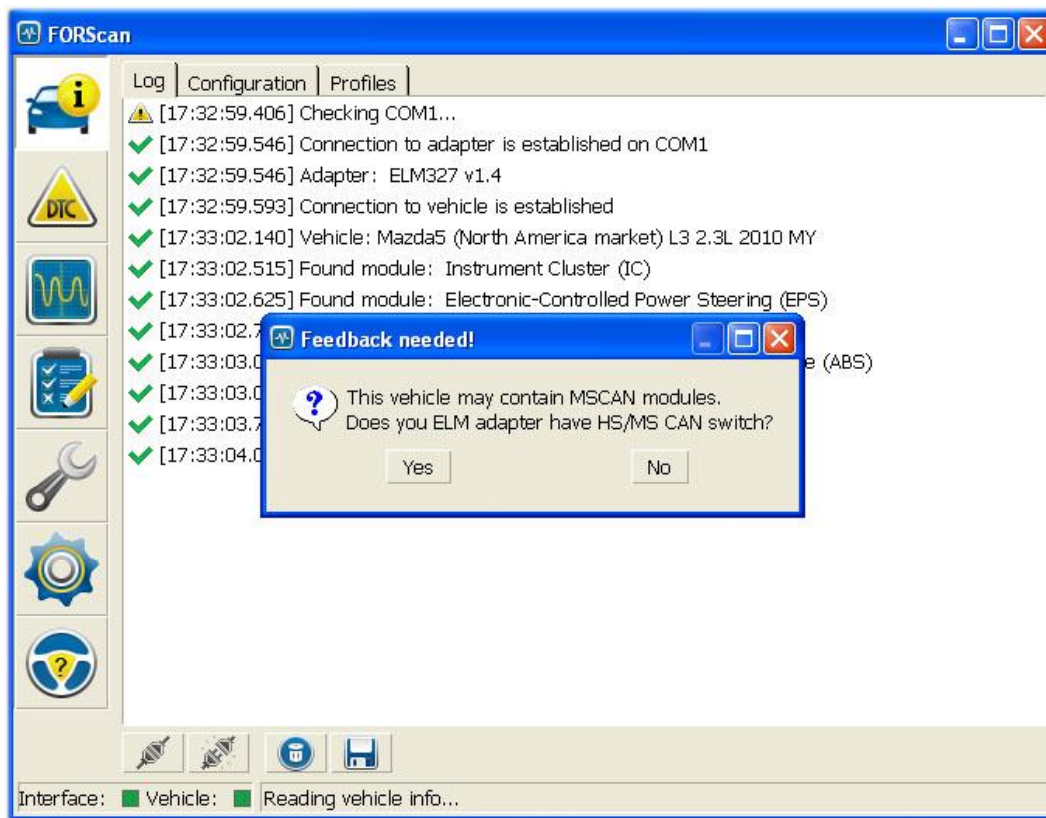


Check the work (it is very important to do not mix CAN-L and CAN-H wires up!) and assembly the ELM327 OBD2 adapter, mark the MSCAN bus and HSCAN bus position on the device box to avoid confusion.

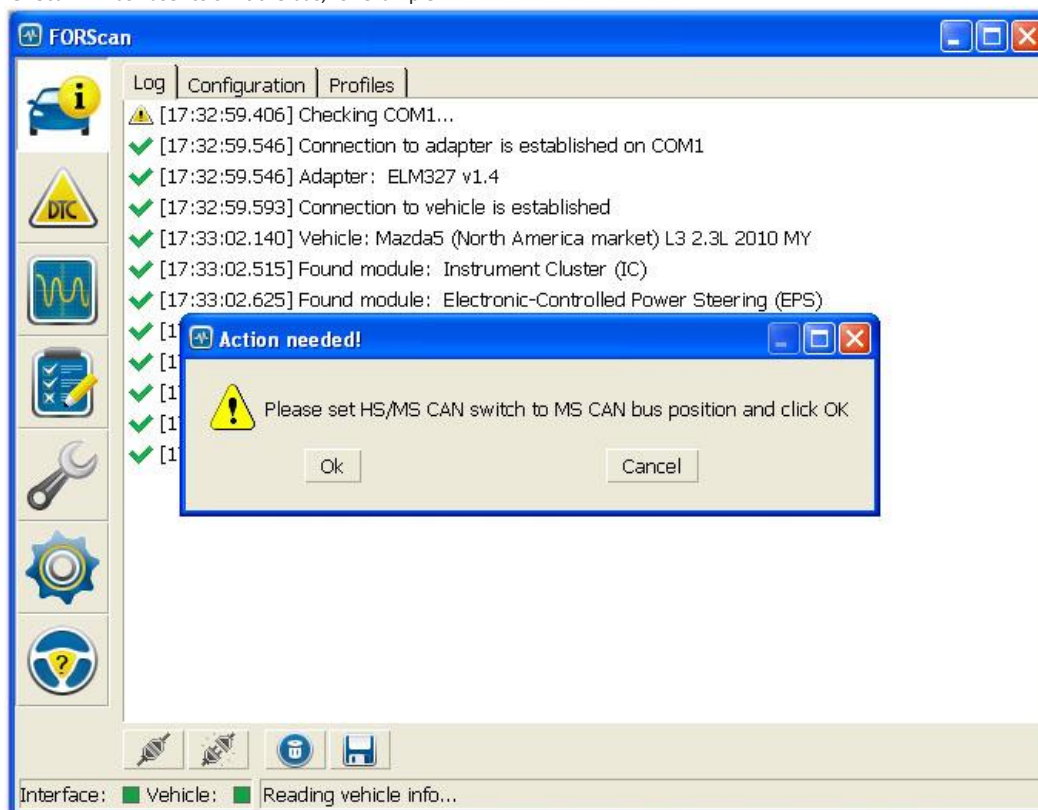


How to use FORScan with ELM327 MSCAN

FORScan version no.2 has support of MS CAN bus and optimized for using the HS/MSCAN switch. There is no necessity to adjust any ELM327 OBD2 adapter parameters for MSCAN bus. FORScan makes all the necessary changes in an automated mode. When FORScan establishes a vehicle connection, it analyses the vehicle configuration. Module MS CAN bus are supported, FORScan will ask user about HS/MS CAN switch.



It means FORScan doesn't expect a presence of MS CAN bus and is not going to look for it. If user confirms the MS/HS switch presence, FORScan will ask user to shift the bus, for example:



Conclusion

Using the HS/MS CAN switch (minimize number of necessary shifts) with FORScan version 2. For example, reading DTCs in all of 5 HS CAN modules and 2 MS CAN modules will always require only 1 shift.