



Electronic Stability Program (ESP), Electronic Stability Control (ESC): Changes And Removal Information; Permissible PAR File Changes - US07 And Newer Emissions, Model Year 2008 And Newer



> Internal Content

I. Information

The Anti-lock Braking System (ABS) system can be configured in several different ways:

- Basic ABS: 4S4M only, no traction control.
- ATC ABS: 4S4M, 6S4M or 6S6M configurations, traction control, with or without hill start, no stability control.
- ESP ABS: 4S4M, 6S4M or 6S6M configurations, traction control, with or without hill start, stability control.

Basic ABS and ATC ABS do not normally require programming.

Some programming is completed at the plant for tire size settings, and to configure and activate the Hill Start function.

ESP ABS is heavily parameterized to define the truck's geometry and performance, Replacement of the Electronic Control Unit (ECU) will require the ECU to be reprogrammed. There are certain physical changes to the truck that can be made, but require the actual parameter file to be revised and thus also reprogramming:

- Wheelbase changes
- Drive axle bogie spread changes
- Installation of pusher or tag axle



- Axle arrangement changes. i.e. 6x4 converted to 4x2

- Vehicle type changes, i.e. tractor to truck

Note: Trucks with two driven axles requires 6S6M ABS. Most vehicles are not 6S6M to start with, changes are likely to be required.


Tractor to truck changes are approved based on the body type to be installed.

Current approved body types/vocations:

- Auto Hauler (Towing Truck)
- Concrete Mixer (Non-towing)
- Dump Truck (non-towing or Towing)
- Fire Apparatus (non-towing)
- Flat Bed (non-towing)
- Liquid Bulk Tanker (non-Towing)
- 6x4 Motor Home (non-towing or towing)
- 4x2 Motor Home (non-towing)
- Roll-off Dumpster (non-towing)
- West Coast Fuel Hauler (towing Truck)

Any body type not listed above will require approval from (PD). (PD) may require the vehicle to be tested by Bendix with its new body for final approval. Alternatively, (ESP) may be removed.

II. ESP removal:

 Live UI may be required or requested to be removed under certain conditions

Vehicles required by regulation to have Electronic Stability Control (ESC):

United States:

Three axle tractors having a steer axle with a Gross Axle Weight Rating (GAWR) of 14,600 pounds or less and two driven axles with a GAWR of 45,000 pounds or less **built after 1 August 2017** are required by Federal Motor Safety Standard [FMVSS 136](#) to have an electronic stability control system. ESP **may not** be removed from these vehicles. At the time of this article's publication, there is not an equivalent Federal Motor Carrier Safety Regulation (FMCSR) requiring these vehicles to keep the ESC system in order to pass a DOT inspection, although the Federal Motor Carrier Safety Administration (FMCSA) may add one in the future. **Current regulations should be reviewed when changes or removal are required.**

All remaining tractors built after 1 August 2019 will be required to have ESC.

Canada:

Canada enacted Canadian Motor Vehicle Safety Standard [CMVSS 136](#) some time, following [FMVSS 136](#). Transport Canada kept the same implementation plan and timing as in [FMVSS 136](#). The US spec and timing above then also apply to Canada.

ESP removal, details:

The ESP system cannot be electronically turned "off". Removal requires removing the ESP ECU and replacing it with an ATC ABS ECU. The yaw rate sensor, steering angle sensor, trailer modulator valve, and brake pressure sensors must be electrically disconnected and preferably removed. There are certain messages broadcast by the ESP ECU that are "expected" from other vehicle ECUs. These must be reprogrammed with non-ESP data sets in order to maintain cruise control and/or other functions.

The vehicle parameter file needs to be re-written to delete or comment parameters specific to ESP in order to avoid the risk of ghost fault codes.

 Tags

[volvo](#)

[mack](#)

[bendix esp](#)

[esc](#)

[k51939357](#)

Related links and attachments

No links or attachments available



Feedback

[Give feedback](#)

to help improve the content of this article