BREAKING it DOWN

OE-Specified Voltage Environment for Reprogramming

When it comes to vehicle reprogramming, there is one constant, and that is the need for a stable voltage environment to ensure a successful reprogramming event. No matter what your reprogramming tool of choice is, be it factory tool, after-market tool or pass-through device, each OE has a recommended target system voltage in which the event should take place. Not surprisingly, they vary from make to make and can even vary from model to model within one manufacturer.

Below, please find chart providing a quick reference to the specified voltage environment for module reprogramming by manufacturer. (Updated February 2026)

Manufacturer	Recommended Voltage	Comment
Acura	above 12V	Ideal target is 13.5V
Alfa Romeo	13.2V-13.5V	Not above 13.5V
Audi	12.8V-14.2V	Must remain >12.5V; ideal target is 13.5V
BMW	14.2V	13.8V for lithium batteries
Buick	13.4V	
Cadillac	13.4V	
Chevrolet	13.4V	
Chrysler	13.2V-13.5V	Not above 13.5V
Dodge	13.2V-13.5V	Not above 13.5V
Fiat	13.2V-13.5V	Not above 13.5V
Ford	12.6V-13.6V	** See note.
Genesis	13.5V	
GMC	13.4V	
Honda	above 12V	Ideal target is 13.5V
Hyundai	13.5V	
Infiniti	13.5V	
Jaguar	13.4V	
Jeep	13.2V-13.5V	Not above 13.5V
Kia	13.5V	
Land Rover	13.4V	
Lexus	13.5V	
Lincoln	12.6V-13.5V	**See Note.
Mazda	13.5V	
Mercedes	12.5V-14.5V	
Mini	14.2V	13.8V for lithium batteries
Mitsubishi	13.5V	
Nissan	13.5V	
Porsche	13.5-14.5V	Ideal target is 14.2V
Smart	above 12.5V	
Sprinter	12.5V-14.5V	
Subaru	13.5V	Do not exceed 14.0V – will cause programming to abort.
Toyota (except supra)	13.5V	Supra 14.2V
Volkswagen	12.8V-14.2V	Must remain >12.5V; ideal target is 13.5V
Volvo	13.4V	

***Note:** *Most OEM's also now have a recommendation that the vehicle module temperature must be no higher than 68F. It may be necessary to cool the vehicle down prior to programming.*

****Note:** *Ford designates negative cable to be connected to engine or chassis ground. If both negative and positive battery cables are connected to the battery post, the battery monitoring system must go through a recalibration (the system calibrates the battery state of charge after about 8 hours of sleep time).*

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