



27-12-2023

**Status of Enforcement Schedule of Emission norms
for Off-road vehicles in India (summary at a glance)**

(refer MoRTH amendment dt 22nd Dec 2023)

	Agricultural Tractor, Power Tiller, Combine Harvester	Construction Equipment Vehicle
	Section (9) of GSR 598 (E)	Section (10) of GSR 598 (E)
TREM - IV	1st January 2023 (in force)	
TREM – V*	1st April 2026*	
CEV - IV		1st October 2021 (in force)
CEV – V*		1st January 2025*

- (a) Emission tables are same for both TREM-V and CEV-V.
- (b) Dates of enforcement are different for TREM-V and CEV-V emission norms
- (c) There can be different engine configurations for same power rating for TREM-V and CEV-V emissions. Exhaust Control Device layout may be kept common for some TREM and CEV applications of similar power rating, however, tail-pipe layout will be different.
- (d) Anticipated development approach for TREM-V and CEV-V:-
 - Engines below 19 kW – diesel engine in this category would be typically NA engines. Some may be upgraded to turbocharged version towards upper power level. Emission control possible by normal combustion development. Some may use EGR and DOC/POC.
 - Engines between 19 to 56 kW – diesel engine will require turbocharging OR Turbocharging and intercooling, moderate fuel injection pressure system, improved combustion development, EGR, and Particulate Filter device.
 - Engines between 56 to 560 kW – diesel engine will require turbocharging and intercooling, high pressure injection system e.g. CRDI, improved combustion development, EGR, SCR and Particulate Filter device.
 - Engines above 560 kW – diesel engine will require turbocharging and intercooling, moderate/high pressure injection system, improved combustion development, EGR, and Particulate Filter device/POC.

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