

E100 Flex-Fuel Vehicles: MoRTH Amends Central Motor Vehicle Rules

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Why in News?

The Ministry of Road Transport and Highways (MoRTH) has amended the Central Motor Vehicle Rules (CMVR) to allow vehicles operating on 100% ethanol (E100).

- The amendment explicitly incorporates E100, in addition to E85, within the emission testing and certification provisions.
- This notification does not require existing vehicles to change fuels or undergo modifications.

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Key Terms		
Term	Meaning	
 E100	Fuel consisting of 100% ethanol, as described in the notification.	
 E85	Petrol-ethanol blend containing up to 85% ethanol by volume.	
 E20	Petrol containing up to 20% ethanol.	
 Flex-fuel vehicle (FFV)	Vehicle specifically designed and certified to operate on a range of ethanol blends, from E20 to E100.	
 CMVR	Central Motor Vehicle Rules, which include provisions governing motor vehicle compliance and certification.	
 MoRTH	Ministry of Road Transport and Highways.	

Key Provisions of the Amendment

- **Inclusion of E100 in certification rules** - Emission certification provisions now explicitly include E100 in addition to E85.
- **Compliance requirements** - Vehicles certified for E85 or E100 must meet all applicable emission and safety standards for their respective categories.

- **No compulsory conversion** - Owners of existing vehicles are not required to convert to E85 or E100, nor to modify their vehicles, as a result of this notification.
- **Vehicle-specific compatibility** - E85 and E100 fuels are intended exclusively for vehicles that are specifically designed and certified for their use.
- **Biodiesel provisions** - The notification updates biodiesel-related provisions and incorporates technical corrections.

Ethanol Blending in India

- Oil marketing companies currently offer E20 petrol, which contains up to 20% ethanol.
- The government promotes ethanol blending and the adoption of flex-fuel vehicles to decrease reliance on imported crude oil.
- The central government also seeks to increase the proportion of isobutanol blended into diesel.

Advantages of Ethanol Blending and Flex-Fuel Vehicles

- **Energy Security** - Increased utilization of domestically produced ethanol can reduce dependence on imported crude oil.
- **Environmental Benefits** - Higher ethanol blends can reduce tailpipe emissions of carbon monoxide (CO) and specific hydrocarbons (HC).
- Lifecycle greenhouse gas emissions may also decrease, depending on the feedstock and production process.
- **Fuel Flexibility** - Flex-fuel vehicles, specifically engineered for ethanol compatibility, can operate on various ethanol blends, thereby reducing exclusive reliance on conventional petrol.

International Experience

- **Brazil and the United States** have already implemented flex-fuel technology.
- India is promoting ethanol blending and flex-fuel vehicles as part of its effort to reduce fossil-fuel import dependence.

Reference

[BS | E100 Flex-Fuel Vehicles](#)