

List of ACEA member company passenger cars, light commercial vehicles (vans) and heavy-duty vehicles (or heavy-duty engine models) that are compatible with using 'B10' diesel fuel

1. Important note applicable for the complete list hereunder

The European Fuel Quality Directive ⁽¹⁾ limits the content of Fatty Acid Methyl Ester (FAME) in European diesel to a maximum of 7 %vol (% by volume). Such diesel is commonly referred to as 'B7'.

B7 diesel may contain between zero and 7 %vol FAME and it is up to the individual member state of the European Union and fuel marketers to decide the level of FAME in diesel sold in a particular territory. In general, most diesel fuel (general diesel and proprietary diesel fuel offered by many fuel suppliers) that is sold in public filling stations for use in cars, vans and heavy-duty vehicles contains close to 7 %vol FAME.

Diesel vehicles and engines offered by ACEA companies (this includes all new models and all existing vehicles in the EU fleet) are compatible with the use of B7 diesel fuel.

Article 4 of the Fuel Quality Directive permits member states to allow the sale of diesel fuel having a higher than 7 %vol FAME content. Article 4 says:

"1. Member States shall ensure that diesel fuel may be placed on the market in their territory only if it complies with the specifications set out in Annex II (i.e. maximum 7 %vol FAME).

Notwithstanding the requirements of Annex II, Member States may permit the placing on the market of diesel with a fatty acid methyl ester (FAME) content greater than 7 %.

Member States shall ensure the provision of appropriate information to consumers concerning the biofuel, in particular FAME, content of diesel fuel."

This is not, in general, a problem for captive fleets (eg municipal local authority fleets of heavy-duty vehicles) that are refuelled from a central point and where manufacturers can choose to deliver new dedicated heavy-duty vehicles that are designed to be compatible with the use of diesel fuel with more than 7 %vol FAME.

However, ACEA has continually expressed a concern that the loophole of Article 4 could lead to different member states introducing diesel fuel with different FAME content in public filling stations as they determine if/how they will meet their 2020 target for

⁽¹⁾ Directive 2009/30/EC of the European Parliament and of the Council of 23 April 2009 amending Directive 98/70/EC as regards the specification of petrol, diesel and gas-oil and introducing a mechanism to monitor and reduce greenhouse gas emissions and amending Council Directive 1999/32/EC as regards the specification of fuel used by inland waterway vessels and repealing Directive 93/12/EEC, Official Journal of the European Union L140, 5.6.2009, p 88.

renewable energy use in transport laid down in Article 3(4) of Directive 2009/28/EC⁽²⁾, which says, "... the share of energy from renewable sources in all forms of transport in 2020 is at least 10 % of the final consumption of energy in transport in that Member State." Vehicles registered for use in the EU are designed and constructed in order to comply with common rules that apply across the EU internal market. This includes the environmental performance (ie limitation of pollutant emissions and CO₂) of vehicles with combustion engines that will need to refill with, in this case, diesel fuel. Aside from the fact that different quality market fuels in different member states would be an unwanted fragmentation of the EU internal market, it would also pose significant problems for manufacturers to ensure their vehicles perform as designed and approved when using different fuels in different markets. Therefore, ACEA is against any intention to introduce different fuels in specific member states.

Now, France has changed its national fuel quality law to permit the sale of diesel fuel containing maximum 10 %vol FAME ('B10') on the basis that it is allowed by Article 4 of the Fuel Quality Directive and European standard EN16734 provides a specification for B10 automotive diesel fuel. Until other member states would change their own national fuel quality law, the sale of B10 is not permitted in other member states, but there is no certainty that would not happen at some point in the future.

Therefore, ACEA has decided to publish this list to provide guidance for customers. It allows all ACEA member companies to indicate whether their new and older diesel vehicles or diesel engine models are compatible with the use of B10 diesel fuel.

2. Other information

CEN has transposed the requirements of European standard EN590 (automotive diesel fuel limited to maximum 7 %vol FAME content) into an equivalent European standard EN16734 for automotive diesel fuel that raises the maximum FAME content to 10 %vol (B10).

The use of diesel fuel containing FAME (and depending on the actual raw material used to produce FAME) is known to cause some operational problems in diesel engines, particularly in colder climates and in the winter period, even though diesel fuel is supplied in the EU member states according to climatic class chosen by the member state. Under certain colder conditions, diesel fuel containing FAME can start to form wax, which will lead to a blockage in diesel fuel supply in the vehicle fuel filter between the fuel tank and the engine fuel injectors. Vehicle and engine manufacturers have taken these operational concerns into CEN to have standards improved, but the speed of addressing these concerns has been rather slow.

⁽²⁾ Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 amending Directive 98/70/EC on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC, Official Journal of the European Union L140, 5.6.2009, p 16.

In this respect, and since diesel fuel available at filling stations does not advertise how the FAME content is produced (or what raw materials are used), it remains important that diesel fuel is delivered at the point of sale with the quality that customers expect and manufacturers demand for year-round no-problem use. Therefore, ACEA and its members respect the fact that the decree that provides the specification for the French national B10 specification has also introduced a decree addressing cold temperature resistance characteristics that places limits (applicable to both summer and winter diesel fuel) on the cloud filter plugging point (CFPP), cloud point, monoglyceride content and saturated ester content.

However, in many cases, maximum B10 diesel fuel (compared to maximum B7 diesel fuel) also results in other operational issues – one very important one being the impact of FAME (biodiesel) content on the engine lubricating oil. It is normal, especially on modern high-fuel injection pressure diesel engines, for diesel fuel to by-pass the piston rings and enter the oil sump in the engine crankcase, especially when post-injection is used to help regenerate particle filters that all diesel vehicles are now equipped with to meet the latest pollutant emission limits. Dilution of the engine oil in the sump with diesel fuel normally does not result in any major impact (the diesel evaporates in those conditions) but the FAME (biodiesel) in diesel is less stable (organic), it does not diminish in the oil sump (due to FAME's higher boiling range) and starts to reduce the important lubricating effect of the engine oil. Manufacturers must therefore advise more frequent service intervals to change engine oil or advise against the use of diesel fuel containing higher levels of FAME.

Therefore, this list provides guidance for customers and allows all ACEA member companies to indicate whether their new and previous diesel vehicles or engine models are compatible with the use of B10 diesel fuel.

3. Operational note

In countries that offer B10 diesel fuel, before you fill your vehicle with diesel please check that your vehicle is compatible with the use of B10 diesel.

If, by mistake, you would put B10 diesel into a vehicle that is not declared compatible with the use of B10 diesel, it is recommended that you contact your local vehicle dealer, the vehicle manufacturer or roadside assistance provider who may advise that the fuel tank be drained and/or the fuel filter be replaced. If it is necessary to drain the diesel from the tank then you should ensure it is done by a competent organisation and the tank is refilled with B7 diesel fuel. Owners experiencing any issues when using B10 diesel are advised to contact their local vehicle dealer or vehicle manufacturer and to use instead B7 diesel that should be clearly identified by 'B7'.

4. Vehicle and fuel pump identifiers

Article 4 of the Fuel Quality Directive ⁽¹⁾ says, "Member States shall ensure the provision of appropriate information to consumers concerning the biofuel, in particular FAME, content of diesel fuel." Therefore, if different diesel fuels are being sold, the customer must be

able to determine the FAME content. In this respect, where filling stations may offer both B7 and B10 diesel fuel (meeting EN590 or EN16734 respectively), there should be distinctive labelling of the fuel pump to allow customers of new and older diesel vehicles to fill-up with the diesel fuel compatible for use in their vehicle.

Addressing the concerns of customers regarding “which fuel can I put in my vehicle”, Article 7 of Directive 2014/94/EU ⁽³⁾ introduces new requirements for the labelling of new vehicles and fuel pumps to provide customers clear information on the compatibility of their vehicle to use certain fuels. On the basis of that legal requirement, European standard EN16942 ⁽⁴⁾ provides a new protocol for ‘fuel identifiers’ so the customer only needs to check for the same fuel identifier around the fuel filler flap/cap of his vehicle and on the fuel pump nozzle and body.

Please see the following website for information on the new fuel identifiers:

<https://www.acea.be/press-releases/article/fuel-labelling-information-to-help-consumers-and-operators-choose-right-fue>

A vehicle (car, van, truck, bus or coach) that would have a fuel identifier around its fuel filler cap/flap that shows the symbol ‘B10’ means that vehicle is compatible with the use of B10 diesel fuel (according to European standard EN16734). It is required that filling pumps offering B10 diesel fuel should also be clearly marked with the same ‘B10’ fuel identifier. It is up to each manufacturer to decide if any of his vehicles/engines would be compatible with the use of B10 diesel fuel. It may be assumed that if a vehicle has a B10 fuel identifier, that would cover both diesel fuel supplied according to EN590 and diesel fuel supplied in the territories of France according to the B10 decrees issued by France.

5. Update history

27 August 2018 First release of this ACEA compatibility list.

⁽³⁾ Directive 2014/94/EU of the European Parliament and of the Council of 22 October 2014 on the deployment of alternative fuels infrastructure, Official Journal of the European Union L307, 28.10.2014, p 1.

⁽⁴⁾ European (CEN) standard EN16942, Fuels - Identification of vehicle compatibility - Graphical expression for consumer information.

Section 1: Vehicle and engine brands/models equipped with a diesel engine declared to be compatible with the use of B10 diesel fuel according to the B10 decrees issued by France

General B10 compatibility information:

Section 1 indicates the manufacturers who have determined that their vehicles/engines are compatible with the use of B10 diesel fuel according to the B10 decrees issued by France.

PASSENGER CARS

PSA Groupe:

- Citroën:** All models introduced after 1 January 2000.
All other Citroën models are not compatible.
- Peugeot:** All models introduced after 1 January 2000.
All other Peugeot models are not compatible.
- DS:** All models.

Groupe Renault:

- Renault:** All models type-approved for engine pollutant emissions at the level of Euro 5 or better.
All other Renault models are not compatible.
- Dacia:** All models type-approved for engine pollutant emissions at the level of Euro 5 or better.
All other Dacia models are not compatible.

COMMERCIAL VEHICLES AND ENGINES

DAF Trucks NV commercial vehicles (trucks and buses) and engines:

- LF range:** All models built from January 2001.
- CF / XF range:** All models built from September 2017.
All other DAF models are not compatible.

MAN Truck & Bus commercial vehicles (trucks and buses) and engines:

All models type-approved for engine pollutant emissions up to Euro V inclusive.

The following models with D26 engines, type-approved for engine pollutant emissions at the level Euro VI:

018ON D2676LF55 - 440 kW.

018OM D2676LF54 - 480 kW.

018G7 D2676LF63 - 500 kW.

018G8 D2676LF64 - 460 kW.

018G9 D2676LF65 - 420 kW.

The following bus and coach models:

A20 and A21 equipped with engine type D2066LUH61-62 (bio).

A37 and A47 equipped with engine type D0836LOH83-84 (bio).

A27 hybrid equipped with engine type D0836LOH85 (bio).

A26, A36, A44 and A45 equipped with engine type D2066LUH61-62 (bio).

A23, A40, A42 and A49 equipped with engine type D2066LUH61-62 (bio).

All other MAN models and engines are not compatible.

Scania Group commercial vehicles (trucks and buses) and engines:

All models in the range PGR, type-approved for engine pollutant emissions at the level of Euro VI.

All models in the range NTG, type-approved for engine pollutant emissions at the level of Euro VI.

All models in the range FKN (buses and coaches).

All models type-approved for engine pollutant emissions up to and including the level of Euro V.

All other Scania models and engines are not compatible.

Renault Trucks:

Maxity light-commercial vehicle range:

Intermediate range D, equipped with a DTI5 or DTI8 engine.

Intermediate range D Wide, equipped with a DTI8 engine.

All other Renault Truck commercial vehicles and engines are not compatible.



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Volvo Group commercial vehicles (trucks and buses) and engines:

Intermediate FL range equipped with a D5K or D8 engine.

Intermediate range FE equipped with a D8K engine.

All other Volvo Group models and engines are not compatible.

Section 2: Vehicle and engine brands/models equipped with a diesel engine declared to be not compatible with the use of B10 diesel fuel according to the B10 decrees issued by France

PASSENGER CARS

BMW Group:

Apart from vehicles fitted with a specific 'B10' fuel identifier, all models from brands BMW, Mini and Rolls Royce are not compatible.

Daimler:

Apart from vehicles fitted with a specific 'B10' fuel identifier, all models from Daimler brands Mercedes-Benz, Smart and Maybach are not compatible.

FCA Group:

Apart from vehicles fitted with a specific 'B10' fuel identifier, all models from brands Alfa Romeo, Fiat, Lancia and Chrysler Group are not compatible.

Ford:

Apart from vehicles fitted with a specific 'B10' fuel identifier, all Ford models are not compatible.

Jaguar - Land Rover:

Apart from vehicles fitted with a specific 'B10' fuel identifier, all models from brands Jaguar and Land Rover are not compatible.

Honda:

Apart from vehicles fitted with a specific 'B10' fuel identifier, all Honda models are not compatible.

Hyundai:

Apart from vehicles fitted with a specific 'B10' fuel identifier, all Hyundai models are not compatible.

PSA Groupe:

Apart from the models/brands indicated in Section 1 or fitted with a 'B10' fuel identifier, all other models from brands Opel and Vauxhall are not compatible.

Groupe Renault:

Apart from the models/brands indicated in Section 1 or fitted with a 'B10' fuel identifier, all other models from brands Renault and Dacia are not compatible.

Toyota Motor Corporation:

Apart from vehicles fitted with a specific 'B10' fuel identifier, all models from brands Toyota and Lexus are not compatible.

Volkswagen Group:

Apart from vehicles fitted with a specific 'B10' fuel identifier, all models from Volkswagen Group brands Audi, Seat, Škoda, Porsche and Volkswagen are not compatible.

Volvo Cars:

Apart from vehicles fitted with a specific 'B10' fuel identifier, all Volvo models are not compatible.

COMMERCIAL VEHICLES AND ENGINES

Daimler Trucks:

Apart from vehicles fitted with a specific 'B10' fuel identifier, all Daimler Truck models and engines are not compatible.

Iveco:

Apart from vehicles fitted with a specific 'B10' fuel identifier, all Iveco models and engines are not compatible.

MAN Truck & Bus:

Apart from the models/engines indicated in Section 1 or fitted with a specific 'B10' fuel identifier, all other models/engines from MAN are not compatible.

Renault Trucks:

Apart from the models/engines indicated in Section 1 or fitted with a specific 'B10' fuel identifier, all other models/engines from Renault Trucks are not compatible.



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Scania Group:

Apart from the models/engines indicated in Section 1 or fitted with a specific 'B10' fuel identifier, all other models/engines from Scania Group are not compatible.

Volvo Group:

Apart from the models/engines indicated in Section 1 or fitted with a specific 'B10' fuel identifier, all other models/engines from Volvo Group are not compatible.

Volkswagen Commercial Vehicles:

Apart from vehicles fitted with a specific 'B10' fuel identifier, all Volkswagen commercial vehicle models are not compatible.