

# HIGHER EFFICIENCY AND RELIABILITY

## MODEL YEAR 2019

Feedback and  
technical details



# Powerful, efficient and reliable

Model year 2019 proves itself in practice

Feedback from market  
and TÜV comparison



**4 % reduction in consumption** for the D26 in Euro 6d configuration confirmed in the field!

**Cost reduction** of up to **1,300.- € per year** in long-haul operation

*With diesel price of 1.0163 €/l (as stated by German Office of Statistics for Jan 2019); 120,000 km/a; consumption of 28 l/100 km in long-haul transport*

Key facts



Influence of **higher engine speeds** and **inexperienced drivers** on the engine's efficiency is reduced



The **simplifications** in the D26 Euro 6d engine largely follow the **efficient and reliable basic concept** of the successful **Euro5/EEV engine**



The **key technology** is the new **Soft EGR** combustion process

## TÜV confirms 4 % reduction in fuel consumption with D26 Euro 6d

	D26 Euro 6c	D26 Euro 6d
<b>Test vehicle</b>	TGX 18.500 4X2 BLS	TGX 18.510 4X2 BLS
<b>Speed</b>	76.00 km/h	78.20 km/h
<b>Consumption</b>	26.50 l/100 km	25.40 l/100 km

### General conditions for the comparison measurements

- Length of route: 607 km
- Gross train weight: 37 t
- Identical tyres
- Identical semitrailers
- Same driver
- Comparable vehicle fittings

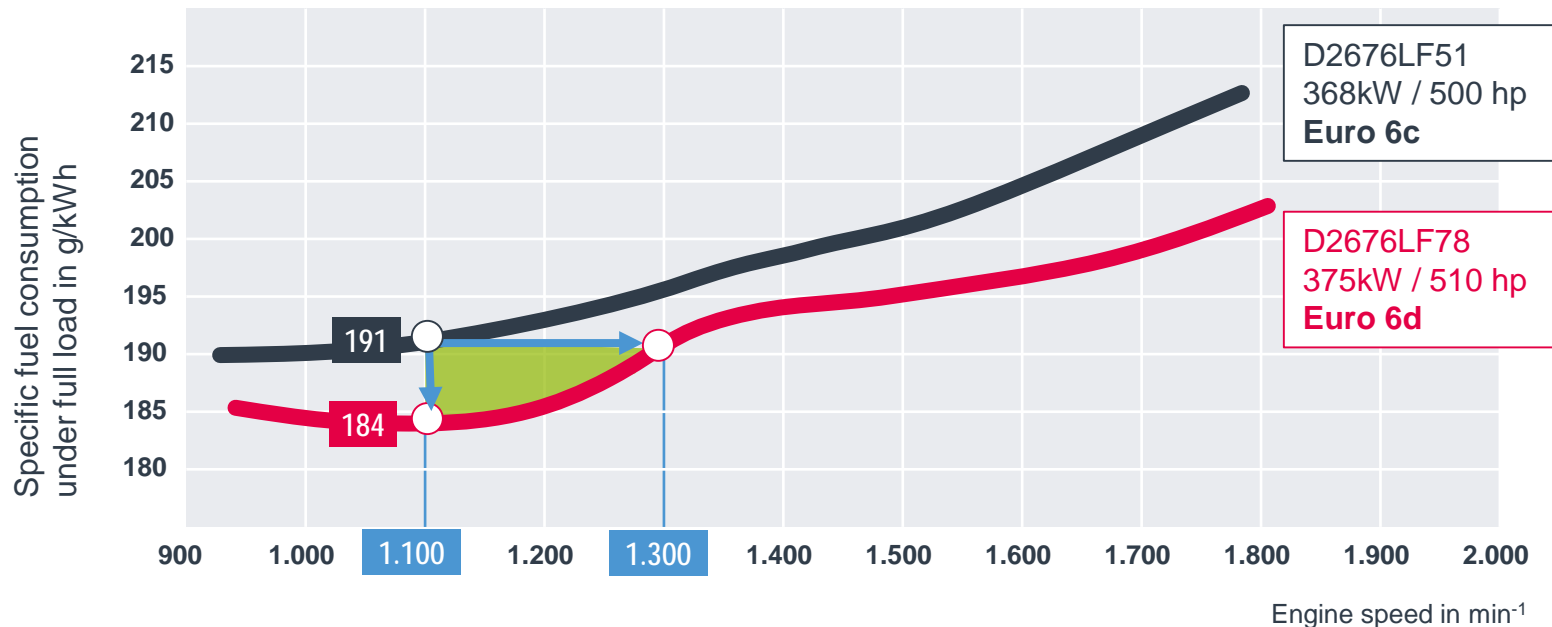


**Fuel consumption**  
– 1.1 litre/100 km  
▶ 4.2 % saving

- Tendency towards even better consumption figures apparent in the market. Summary of feedback to follow.
- RIO measurements currently not reliable. RIO update to come at end of September.
- TÜV test and results with E6d 470 v. E6c 460 to follow by end of September.

## Fuel consumption reduction with D26 Euro 6d (model year 2019)

### Comparison of consumption under full load: D26 Euro 6c versus D26 Euro 6d



- Considerably lower fuel consumption  
(*Example: at 1,100 min<sup>-1</sup>: Euro 6c records 191 g/kWh, Euro 6d records 184 g/kWh*)
- Efficient operating ranges extended towards higher engine speeds ▶  
Influence of higher engine speeds or inexperienced drivers on engine's efficiency is reduced  
(*Example: Euro 6c already records 191 g/kWh at 1,100 min<sup>-1</sup>; Euro 6d not does not reach 191 g/kWh until 1,300 min<sup>-1</sup>*)

## System simplified for D26 in Euro 6d

- Considerable simplification of large sections of engine and exhaust-gas treatment concepts
- Resulting customer benefits: higher efficiency and reliability
- New interpretation of the efficient and reliable basic concept for Euro 5/EEV

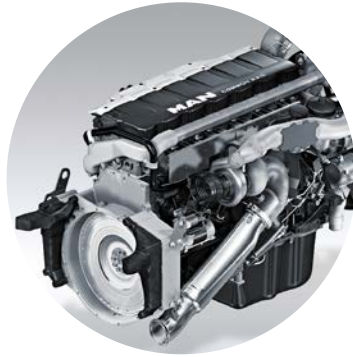
EfficientLine 2010 – Euro 5/EEV



EfficientLine 2019 – Euro 6d



# Simplification of D26 system for Euro 6d

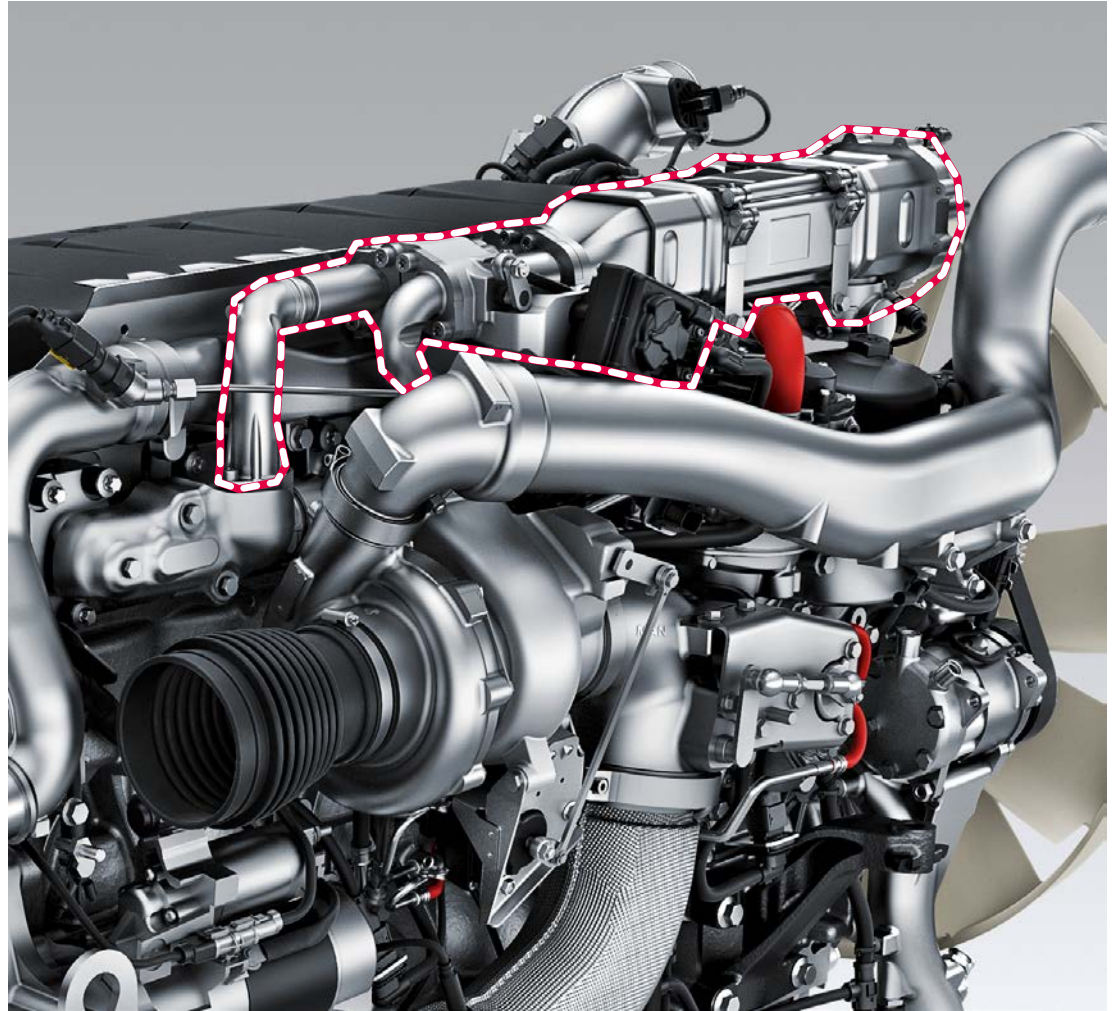


Exhaust-gas standard	Euro 5 (from 2006)		Euro 6a-c (from 2012)		Euro 6d (from 2019)	
Supercharging	One-stage		Two-stage		One-stage	
Intercooling	Direct		Indirect with intermediate and main cooling		Direct	
	Air-to-air		Air-to-water-to-air (separate low-temperature cooling circuit)		Air-to-air	
NO <sub>x</sub> reduction	Without EGR		EGR (up to 30 % recirculation)		<b>Soft EGR (reduced recirculation)</b>	
	SCR catalytic converter (4 – 5 % AdBlue)		SCR catalytic converter (2 – 3 % AdBlue)		SCR catalytic converter (7 – 8 % AdBlue)	
Compression	19:1		18:1		21:1	

## The key technology: "Soft EGR"

### Soft EGR

- Use of controlled exhaust-gas recirculation reduced considerably compared with Euro 6 systems installed to date
- EGR used less and only with reduced effect
- Increased effect of SCR catalytic converter ensures from exhaust-gas viewpoint compliance with limits for oxides of nitrogen
- Compression ratio and combustion temperatures considerably higher than in forerunner versions
- **Improvement in thermodynamic efficiency of engine**





**“MISSION EFFICIENCY  
ACCOMPLISHED!”**

