Special Edition



Leader in Passenger Transportation Solutions

Info Zone



Launch of the DD5/DD8 [™] engine

AUTOBUS THOMAS, ALWAYS A STEP AHEAD!

We already offer the best-in-class C2, and now Detroit introduces the DD5 engine.

The revolution!



OFFER INNOVATIVE SOLUTIONS SUPPORTED BY THE DAIMLER GROUP

A Word from the President

The arrival of the C2 on the school transportation scene bode well for the future for the industry. During the acquisition of Thomas Built Buses by Daimler in the early 2000s, it was clear that the future held continuous improvement and innovation at every level.

Global trends have a radical impact on the nature of mobility:

- Greater vehicle connectivity;
- · Advances in self-driving vehicles;
- Development of digital mobility and transportation services.

All strategic actions taken by the Daimler Group centre around a single objective: the client!

Case in point: the launch of the **DD5 engine for the C2** and the **DD8 for the HDX**. Since 2013, this engine has proven its worth in diverse sectors of the heavy vehicle industry and is the solution to your needs. The manufacturer is so confident of this engine's performance that it comes with a **5-year**, **160,000** km warranty for school vehicles.

This completely supports our way of doing business and demonstrates our commitment to always exceed our customers' expectations.

Bernard Dubé, President

The Detroit DD5 Engine

THE MOST ADVANCED ENGINE TECHNOLOGIES ENGINEERED TODAY

This next-generation mid-range engine delivers unsurpassed efficiency with exceptional endurance.

Daimler Truck Financial









DD5 BENEFITS

Performance

Meet your deadline every time

- Sturdy rear gear train and ribbed cast iron block minimizes noise vibration harshness (NVH)
- Simple fixed-geometry dual-stage turbo provides performance, efficiency and reliability
- Robust design provides B10 life of 640,000 km

Economy

Smart, fuel-efficient design makes the most out of every litre

- Advanced common rail fuel system optimizes each injection event to minimize fuel consumption
- Piston and cylinder design reduces friction and provides optimal combustion
- Variable cam phasing technology for improved after-treatment system performance
- · Variable speed fan and advanced cooling reduce fan on time, contributing to lower fuel consumption

Serviceability

- Maintenance intervals of 73,000 kilometres
- · Oil and fuel filters are positioned above the frame rails for easier, faster and cleaner filter changes
- Detroit™ Connect Virtual TechnicianSM remote diagnostic service for maximum uptime Talk to your representative.

Compliance

- The DD5 is compliant with 2017 Greenhouse Gas (GES17) requirements up to 2021 and 2028 to come
- 2016 On-Board Diagnostics Certified

SUPPORT PARTS AND SERVICE

We are pleased to offer you high-quality parts and service to match this innovative, high-performance engine.

Training

We participate in a technician training program. One of our staff has already been certified, with another soon to be in November and a third in January.

In 2019, there will be training sessions available to you. Please consult our website and InfoZone newsletter for dates.

Connected to our customers

Did you know that if you experience problems while on the road, you can access Detroit Connect for assistance? Detroit Connect acts as a virtual technician who will help you to identify the source of the problem and your geographic position, find the closest service centre and even confirm if the part required is in stock.

Warranty

The manufacturer offers a 5-year, 160,000 km warranty, the best in the industry. We are ideally positioned to provide you with the service you would expect.

SPECIFICATIONS AND MAINTENANCE

DD5 technical specifications				
Configuration	Inline 4			
Cylinder Displacement	313 cu. in. (5.1 L)			
Compression Ratio	17.6:1			
Bore	4.33 in. (110 mm)			
Stroke	5.3 in. (135 mm)			
Weight (Dry)	1188 lb. (539 kg.)			
Electronics	DDEC®			
Service Fill (Oil & Filter Change)	18 qt. (17.5 L)			
Horsepower Range	200-240			
Torque Range	560-660			

POWER

DD5 Power Ratings	
200 HP at 2200 RPM	560 lb-ft at 1400 RPM
220 HP at 2200 RPM	560 lb-ft at 1400 RPM
240 HP at 2200 RPM	660 lb-ft at 1400 RPM

STANDARD WARRANTY	Warranty Limits (whichever occurs first)		Repair Charge (paid by owner)	
Item		Kilometre(s)	Parts	Labour
Engine -	3 years	241,000 km commercial	No charge	No charge
	5 years	160,000 km school	140 Charge	No charge

Kilometre(s)

Item	Severe Duty	Short-Haul	Long-Haul		
Engine Oil and Filter Change	56,000	73,000	80,000		
Fuel Filter Change	56,000	73,000	80,000		
Valve Lash Adjustement	Adjustment to 145,000 km or years, whichever comes first.				
Diesel Particulate Filter	321,000	321,000	321,000		
	A check-engine light will illuminate when ash requires removal.				
DEF Pump Filter	Replace the filter every 3 years or 480,000 km, whichever occurs first.				

The best in class C2

ALWAYS INNOVATING

Over the years, the Saf-T-Liner® C2 school bus earned a reputation for:

- · safety and efficiency
- remarkable handling
- exceptional driving ergonomics
- better visibility

Innovation was never more intelligent

From our fleet-wide telematics system to our PV360°; 360° camera, every component of the Saf-T-Liner C2 represents the most advanced technology available.

BUSWISE® Technologies: driving assistance

BusWise® Technologies is a **robust, technologically-advanced platform** that combines the latest innovations in safety, efficiency, serviceability and fleet management.

Zonar System

Imagine being able to follow the location, speed, and fuel consumption of your buses while they are on the road.

This subscription-based service provides **real-time data** on a dozen vehicle functions, allowing you to manage your fleet better than ever before.



Allison Transmission

The ultra-efficient Allison transmission for the C2 comes standard with Allison FuelSense®, a collection of shift schedules designed to maintain optimal engine speed as well as a dynamic shift point detection that continuously finds the ideal balance of fuel economy and performance for the duty cycle.

Warranty

Thomas Built Buses offers the best warranty: **3 years**, **80,000 km and with the least exclusions in the industry**. This warranty covers the chassis, electric and manual orders, safety equipment, assemblies and much more.

Corrosion protection

Our FleetShield™ protection program offers three specialized, highperformance coatings designed to protect the most vulnerable areas of your buses, such as bumpers, stepwells and fuel tanks.



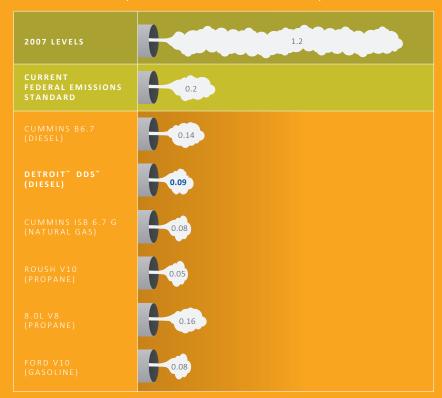
Graph 1

NITROGEN OXIDE EMISSIONS

(GRAMS PER BRAKE HP PER HOUR)

FACT

All current engines emit 90% less emissions compared to 2006.



homas BUILT BUSES - NITROGEN OXIDE CAUSES ACID RAIN -

Le DD5 ^{MC}
The most evolved engine in its category

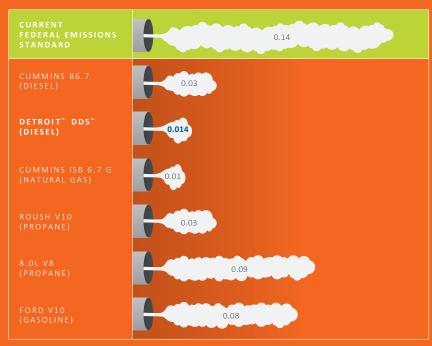
Graph 2

FACT:

Diesel emissions are now just as clean, if not cleaner, than other fuel types.

NON-METHANE HYDROCARBON EMISSIONS

(GRAMS PER BRAKE HP PER HOUR)



- NON-METHANE HYDROCARBON CAUSES SMOG -





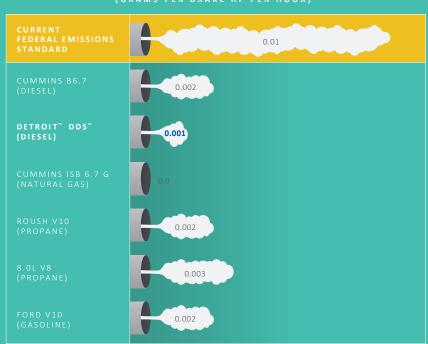
Graph 3

PARTICULATE MATTER EMISSIONS

(GRAMS PER BRAKE HP PER HOUR)

FACT

The difference in emissions from engine to engine is quite small.



- PARTICULATE MATTER IS A CARCINOGEN -



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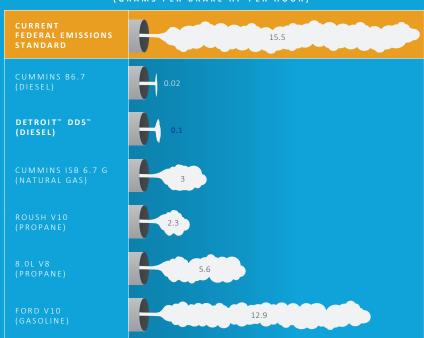
Graph 4

CARBON MONOXIDE EMISSIONS

(GRAMS PER BRAKE HP PER HOUR)

FACT:

Alternative fuel engines are not always the cleanest.



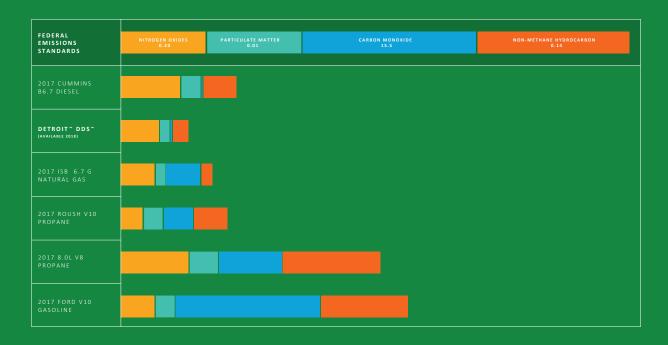
- CARBON MONOXIDE IS A GREENHOUSE GAS -



Graph 5

FACT:

All engines currently meet or exceed EPA emissions regulations with further emissions improvements on the horizon.







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