

NEW FIAT DUCATO

30 YEARS IN THE MAKING

One of Europe's most popular commercial vehicles has just become even more attractive. After three decades and five generations, the new Fiat Ducato goes on sale in October 2011.

With an extended range of completely new engines, the latest Ducato is cheaper to run than the model it replaces. A new interior gives it a much more car-like cockpit while retaining the Ducato's trademark functionality. And with more versions than ever before, Fiat is offering the commercial vehicle buyer huge variety.

The three power outputs from the previous Ducato's three engines will be replaced by four outputs from two engine capacities on the new model. With a range of 110, 130, 148 and 177bhp engines, buyers have the opportunity to specify one that's exactly suited to their requirements.

Whichever engine they choose it'll benefit from Fiat's latest MultiJet technology and comply with strict Euro 5 emissions legislation. It's also more powerful than the engine it replaces and more economical, produces fewer CO₂ emissions and has longer service intervals.

The new Ducato's upgraded interior employs the sort of high quality materials that up until now have been alien to the commercial vehicle sector. New seats mean it's comfier while a complete re-design of the dash makes it more stylish to look at.

With this new sense of panache comes improved practicality. The re-designed dashboard now has a slot to accommodate the Blue&Me™ TomTom LIVE satellite navigation unit. The integrated radio/CD and MP3 player not only looks smart but can accommodate the latest generation of Blue&Me™. Vehicles specified with Blue&Me™ can also have eco:Drive Professional, a version of Fiat's award-winning eco:Drive Fleet. This lets drivers and fleet managers monitor how vehicles are being driven and alter habits accordingly to improve economy and lower costs.



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PROFESSIONAL

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There will be eight different capacities of van ranging from eight to 17 m³. But the Ducato isn't just a van. The various lengths and Gross Vehicle Weights of the chassis combined with the new engines give converters an enormous choice of base vehicle for anything from a minibus to a motorhome or even a flatbed truck.

When sales are combined with its stablemates from PSA, the Fiat Ducato was the best-selling commercial vehicle in its segment in Europe last year.

NEW ENGINES IMPROVE ECONOMY AND FLEXIBILITY

The latest Ducato benefits from a significant improvement in engine performance. The new power units make it cleaner, cheaper to run and more economical than the model it replaces. And the engines, which are all Euro 5 emissions compliant, offer a choice of four power outputs enabling buyers to choose the unit best suited to their budget and business.

Available with a capacity of either 2.3 or 3-litre, these engines use the latest generation of Fiat Powertrain Technology's MultiJet to achieve better economy and carbon dioxide emissions than their already impressive predecessors. But saving money at the pumps isn't their only benefit. They have longer service intervals so the vehicle spends more time on the road earning its keep and less time in the garage. They're also relatively light in weight enabling commercial vehicles to carry heavier loads without having an impact on overall tonnage.

All engines have four cylinders in line, with four valves per cylinder and double overhead camshafts. The 2.3-litre engines have the latest MultiJet II technology that employs faster injectors with a new servo valve and balanced shutter allowing them to operate at 1800 bar of pressure compared to the 1600 bar of the previous generation. These new injectors allow faster, more flexible and therefore precise injection strategies including Injection Rate Shaping where two consecutive injections come so close together that there is a continuous, modulated flow of fuel into the cylinders. This improves the combustion process, making it quieter with reduced particulate and Nitrogen Oxide (NOx) emissions.

The previous Ducato's entry level 2.2-litre 100bhp engine is replaced by an 110bhp 2.3-litre. The new unit features an aluminium alloy cylinder head on a cast iron block and uses a fixed geometry turbocharger with an intercooler.

Compared to the engine it replaces, the 110bhp unit is 10 per cent more powerful, and with 300Nm, has 20 per cent more torque, yet is 10 per cent more economical and has 11 per cent less emissions. Perhaps more crucially for business users, the improved economy means the range between fuel stops has been increased while service intervals have also been lengthened from 25,000 to 30,000 miles. So the latest Ducato will spend more time on the road earning its keep, and less time stationary at the pumps or in the garage.



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The 130bhp version of the 2.3-litre generates a healthy 320Nm of torque at just 1800rpm making it flexible in traffic and responsive even when the vehicle is heavily laden. Compared with its predecessor it has eight per cent more power, ensuring it's relaxing for longer journeys, yet emissions and consumption are down by nine per cent.

The engine is characterised by details designed to make it as efficient as possible. The turbocharger's wastegate valve enables the gradual outflow of some exhaust gases at more than 2200rpm, optimising torque delivery throughout the rev range and making the vehicle easier to drive. The glow plugs are located inside the combustion chamber to reduce cranking and pre-heating time, and to limit the stress put on the engine when starting from cold in low external temperatures.

The Exhaust Gas Recirculation valve helps reduce emissions sufficiently for the Ducato to meet strict Euro 5 legislation. The gases are cooled using a heat exchanger before being re-injected into the combustion chamber and the system is now electronically rather than pneumatically controlled for more accurate measurement.

The 150 MultiJet II version achieves its power boost courtesy of a variable geometry turbocharger. This makes the 2.3-litre engine a viable alternative to the previous generation 3-litre. Power is 148bhp and it's only six per cent lower than the much bigger engine, yet maximum torque is a healthy 350Nm at 1500rpm

while consumption is reduced by 19 per cent, CO₂ emissions by 20 per cent and weight by 40kg.

The most powerful engine in the Ducato range is the 3-litre 180 MultiJet Power unit. This appropriately named MultiJet Power engine achieves its maximum output of 177bhp at 3500rpm and is 13 per cent more powerful than the engine it replaces, making it the best-performing four-cylinder diesel engine in its class. It has the same 400Nm of torque as its predecessor but it's available from 1400rpm instead of 1700.

This high performance doesn't come at the expense of either economy or comfort. The early availability of maximum torque makes it a relaxed travelling companion no matter what weight it's carrying. And consumption is nine per cent better than the engine it replaces.

As with the Ducato's other engines, service intervals have been increased to 30,000 miles and the timing chain has been designed to last the life of the vehicle. Like the 2.3-litre, the glow plugs are located inside the combustion chamber and the engine has a cast iron block with integrated bearings and a dual-mass fly wheel that softens engine vibrations and greatly reduces noise.

Each engine is available with a six-speed manual gearbox while the 3-litre can be specified with the six-speed Comfort-Matic Manual Transmission Automated. This is a traditional manual transmission except there is no clutch pedal and the manual linkage to the gearbox is replaced by actuators controlled by a



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Transmission Control Unit. The shift is either performed automatically or the driver can use the gear lever to prompt changes by pulling backwards or pushing forwards.

CAR-LIKE QUALITY FOR THE COMMERCIAL DRIVER

Fiat has given the interior of the new Ducato a thorough overhaul. Understanding that for many owners the cockpit of a van is an office as well as a driving environment, its existing attributes of comfort and functionality have been improved during the makeover.

The dashboard design has the kind of car-like quality and style that's never been seen before in a commercial vehicle. It features an integrated radio/CD player with MP3 compatibility as standard and glossy black surfaces surrounding it. These combine with chrome effect plastic that makes elements such as the air vents, gear stick and ventilation controls stand out.

The controls for the sound system are mounted high up on the dashboard so they can be easily reached by the driver and passengers and there are buttons on the steering wheel. The system features the Radio Data System (RDS), Traffic Announcements (TA), and PTY which allows the device to select a specific genre of music automatically. The volume adjusts according to speed, sound settings can be customised using one of seven equaliser bands, and the radio can store up to 30 stations.

Blue&Me™ TomTom LIVE

The sound system can be controlled hands free using the optional Blue&Me™. It can also be connected to Bluetooth devices, an MP3 player and even a text reader. The intuitive Blue&Me™ user interface allows drivers to connect their mobile phones and MP3 players and control them and the sound system using either steering wheel or voice controls.

Usability is further improved thanks to new hardware. This enables better noise filtration and therefore voice reproduction, ensures full compatibility with Apple products, full playback of iTunes files and minimum indexing time so music will start immediately after connecting an iPod.

The upper central part of the dashboard has been redesigned to create space for the TomTom 'my port'. With this specified, Ducato owners can then order the Blue&Me™ TomTom LIVE satellite navigation system.

This is the result of a collaboration between Fiat and TomTom, Europe's leader in portable navigation devices. It's based on the popular TomTom Go1000 and sits in a purpose-built cradle that slots into the dashboard. This ensures the device is always fully charged when in the car but means it can also be removed for security reasons or for the driver to use it away from the vehicle.

The TomTom LIVE is controlled with a practical touch screen that allows the driver to use the satellite navigation, sound system and access traffic



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information which provides real-time updates on traffic jams and road closures.

eco:Drive Professional

Fiat's award-winning eco:Drive and its application for commercial vehicle drivers, eco:Drive Professional, are available on any vehicle fitted with Blue&Me™ and help drivers learn to use less fuel, thereby reducing CO₂ emissions and saving up to 15 per cent in running costs.

Drivers download eco:Drive to their computer. Then plugging any USB stick into the Blue&Me port allows acceleration, deceleration, gearshift and speed information to be saved onto it automatically. When the USB is plugged back into a computer, eco:Drive converts the data into facts and figures such as mileage, CO₂ emissions and money saved.

A development of this is eco:Drive Fleet which allows fleet managers to monitor all the data from the vehicles they supervise via an on-line dashboard. It automatically updates the database with management costs and the mileage count for maintenance intervals.

As well as enabling fleet managers to reward efficient drivers, it allows them to see how well their fleet is performing according to an overall eco:Index.

Eco:Drive Professional builds on this further by allowing commercial vehicle drivers to enter various parameters such as the load they're carrying and the frontal area of the vehicle. The software allows the driver or fleet manager to analyse the impact of the

load on the vehicle's efficiency and suggests the most appropriate behaviour to get the best economy.

New interior

In addition to this new technology, basic practicality remains one of the core attributes of the Ducato's cab. The glove box gets a new lid with a sturdier lock on it. There's a clipboard to stop those important bits of paper getting lost; the central compartment is big enough to store a lap top computer; and it can be locked with a key. The refrigerated compartment will hold a 1.5-litre bottle and the drinks holder can also be used to take a mobile phone or ashtray.

The door panels have been remodelled to bring them in line with the rest of the cabin but they retain the practical bottle holder, a place to store the optional Fix&Go tyre repair kit and the mid-height pockets for smaller easy-to-lose objects.

The oval instrument panel, now sitting beneath a more pronounced anti-glare hood, has been redesigned to make it even easier to read. And there's a Gear Shift Indicator available in combination with Start&Stop to tell drivers the most efficient point to change gear.

Driver comfort is a core feature of the new Ducato. Excellent noise insulation puts it top of the class for quietness thanks to the sort of refinement you'd expect in a medium category car, and a great deal of care has been taken over the seats. These are covered in a new red fabric, have a more luxurious head restraint and the driver's seat can be adjusted six ways, including up and down. Combined with an adjustable



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steering wheel and a movable arm rest, these allow drivers of all shapes and sizes to find a comfortable position at the wheel. Climate comfort is assured by manual or automatic air conditioning systems, an additional unit for the rear on passenger versions, all available as an option. In addition to these, a windscreen with reflective glass to keep the heat of the sun at bay is available as an option.

For passengers there's a choice of a standard two-seat bench featuring a central backrest that can be folded down to make a table if required, or an optional single seat. Both driver's and passenger's seats feature handy storage compartments beneath. And all front seats have seatbelts with pre-tensioners and a head restraint.

The full-size two-phase driver's airbag is standard; those at the side, over the windows and for passengers are an option. The ABS anti-lock braking is also standard and works in conjunction with Electronic Brakeforce Distribution. This uses sensors to ensure the braking action is divided over all four wheels to prevent locking and guarantee maximum stopping power. The braking system employs discs all round, with those at the front ventilated for consistently high performance.

MORE VERSATILE THAN EVER

The Fiat Ducato has always been a byword for versatility and the new model is no different, with more versions than ever before now available. This diverse range means there will be around 2000 chassis/

engine/mechanical variations which will allow for a huge range of vans, minibuses and conversions.

There are two basic mechanical architectures allowing Gross Vehicle Weights (GVW) between three and four tonnes. On 15-inch wheels, the GVW is three, 3.3 or 3.5 tonnes, while on 16-inch wheels the GVW is 3.5 to four tonnes. The Ducato sits on MacPherson front suspension with a rigid-axle and leaf springs at the back. This ensures optimum stability, excellent use of the loading area and cab space, reduced weight and a huge variation of uses.

Payloads can vary between 1000 and 2000kg including the driver, and van buyers have a choice between four lengths, three wheelbases and three heights. Vans will also be available with eight different load area volumes from 10 to 17 m³.

There are three different sizes of robust and practical sliding side doors while the rear doors can be opened to either 90, 180 or even 270 degrees. Inside it remains class leading in terms of maximum volume (17 m³), width between the wheel arches (1422mm), maximum height of the loading area (2.17m), rear door height (2.03m), and load height limit (46cm with the optional self-levelling suspension).

Between the cab and load area the partition can be fully panelled and upholstered in sound-proofed material for extra refinement, or have a sliding glass window to enable communication between the two areas. In the back there are load hooks with fastening rings that fold into the floor and waist level side hooks.



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The walls of the load area are protected by thermoformed panels up to waist height.

The body structure of the new Ducato is hugely versatile. Not only does it permit a GVW of up to 4000kg, it also allows the track to be increased to 1980mm for motorhome applications. All models can have self-levelling pneumatic suspension. This is controlled via buttons on the dash and makes for easier loading and unloading, improves performance over ramps and makes clearing obstacles easier.

The conversion base range which includes cabs, flatbeds and double cabs will have four wheelbases and five lengths. Maximum permitted loads over the front axle will be up to 2100kg and 2400kg on the rear axle.

The Ducato isn't just versatile in the load area, and as the basis for a wide variety of vehicles it's also got a comprehensive range of optional extras including the Blue&Me™ TomTom LIVE satellite navigation. The 2.3-litre engines (110, 130 and 150) are additionally available with Start&Stop. When the Ducato comes to a halt and is put in neutral, the engine cuts. Releasing the brake or pushing the clutch re-starts it automatically. It's estimated this can reduce consumption by 15 per cent around town.

Traction+

Other options include the Traction+ system. This uses the engine's Electronic Stability Programme (ESP) computer to simulate the behaviour of a self-locking

differential. When one of the driven front wheels spins on a slippery surface or over poor terrain, the brakes are applied to that wheel as simultaneously engine torque is transferred to the wheel with better grip.

The system is operated by a button on the dash, can be engaged at speeds of up to 19mph and ensures the best possible traction is maintained over the roughest terrain. And the combination of Traction+ with winter or all-season tyres gives Ducato owners the versatility to drive their vehicle over a wider range of terrains than rival commercial vehicles can cope with.

Traction+ includes ESP, which is also available as a stand-alone option. This important safety device uses information supplied by various sensors to check whether a vehicle is cornering safely or not. If the ESP computer believes the car is going to skid, it brakes the appropriate wheel or reduces engine power. However, ESP incorporates a host of other technologies. There is Load Adaptive Control (LAC) which identifies the size of the load and the vehicle's centre of gravity to enable the systems to work at peak effectiveness. Hill Holder makes starts on slopes easier by holding the brake on momentarily after the driver's foot has released the pedal. Hydraulic Brake Assist (HBA) increases braking pressure under emergency conditions, while Motor Schlepptomment Regelung (MSR) ensures torque remains at the wheels following a sudden downshift on an incline.

Daytime Running Lights (DRL), which have the Ducato's parking lights turning on automatically with the ignition, will also be available as an option.



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THREE DECADES OF SUCCESS

In 2011 the latest Fiat Ducato to be launched will incorporate the experience gained over 30 years of being at the cutting edge of van development. During that time, the Ducato has picked up international awards and sold more than 2.2 million examples worldwide. It's also seen service across a huge variety of business sectors, functioned as the basis for countless motorhomes and been transformed into specialist transportation such as minibuses, ambulances and insulated freezer vehicles.

Even when it was first launched in 1981 the Ducato was a practical and solid machine that majored on flexibility, reliability and economy. It was restyled in 1990 before the third generation was launched in 1994. To accommodate the varying demands of vastly different customers, this model had a family of 500 versions if you take chassis, size and tonnage into account. This innovation was warmly welcomed by customers and it was voted International Van of the Year 1994 as a consequence.

Rather than a radical reinvention, the fourth generation launched in 2002 used the looks and philosophy of its predecessor as a basis and built on those. Just four years later the fifth generation hit the streets and turned the van world on its head. It was more stylish, comfortable, practical and driveable than any van up until then. And it combined safety, reliability, economy and versatility as well ensuring the Ducato became one of the foundation stones for successful businesses all over Europe.

The Ducato is built in the Sevel plant in Val di Sangro between Atessa and Paglieta in the Italian province of Chieti. It's the largest commercial vehicle factory in Europe covering an area of more than 1.2 million square metres. The bodywork part of the plant creates 300 different types of chassis, paintwork uses around 120 colours, while the assembly line produces more than 6000 versions of commercial vehicle for both Fiat and PSA.



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