



## FIAT DUCATO COURSE OUTLINE SECOND PHASE



## DOCUMENTATION MODIFICATIONS / UPDATES

Date	Referent	File Name	Description of modification

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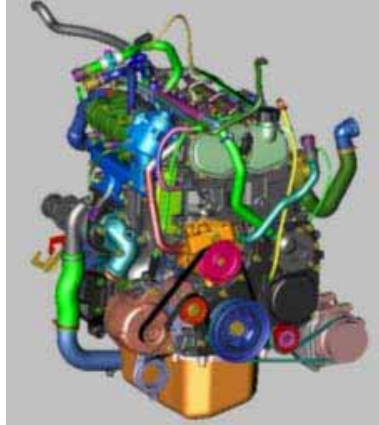
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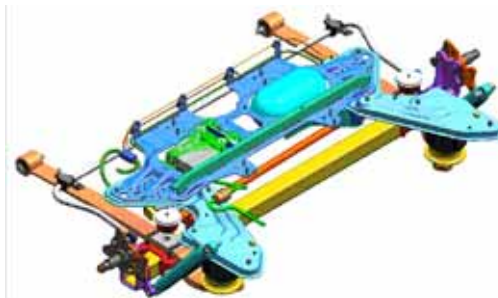
## 1. BRIEFING

After the sales launch in June 2006, the new Fiat Ducato range is complemented by new features for improved versatility and efficiency.

The range of engine versions is complemented by the 157 bhp 3.0 Multijet engine combined with the new M40 gearbox.



The new self-levelling rear air suspension offers great comfort and consistent chassis attitude under all loading conditions (vehicle laden or unladen, load distributed evenly or unevenly). In addition, the rear loading sill can be lowered to facilitate loading and unloading and the rear end can be raised to improve ramp breakover angle and/or increase ground clearance when driving over an obstacle.



The new rear-view parking camera system with in-cab display provides better rear visibility when manoeuvring.



Lastly, the new Ducato can be equipped with a digital tachograph to monitor vehicle usage, a convenient feature for companies that operate large fleets of vehicles



## 2. TECHNICAL DATA

### 2.1 ENGINE

#### 2.1.1 Characteristic data

Type code	SofimF1CE048ID
Cycle	Diesel
Number and arrangement of cylinders	4 in-line
Piston diameter and stroke (mm)	95.8x104
Total displacement (cm <sup>3</sup> )	2999
Compression ratio	19:1
Maximum power output EEC(kW)	117
Maximum power output EEC(bhp)	157
At (rpm)	3500
Maximum torque (EEC) (Nm)	400
At (rpm)	1600
Fuel	Diesel fuel (ENS 590 Specification)
Fuel system	Multijet™ Common Rail™ direct injection



## 2.2 CLUTCH

Type	Dry single-plate, pressure plate with automatic play take-up device
Drive	Push-type
Outer diameter of driven plate (mm)	258±1
Inner diameter of driven plate (mm)	160±5

## 2.3 GEARBOX

Type	C546 (M40)	
Gear ratios	I	4.167
	II	2.350
	III	1.462
	IV	1.047 0.955(*)
	V	0.786 0.659(*)
	VI	0.652 0.552(*)
	RM	4.083

(\*) Different versions

## 2.4 DIFFERENTIAL

Axle ratio	3.950 - 4.222 - 4.563 (*)
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(\*) Different versions



## 2.5 SCHEDULED MAINTENANCE PLAN

Description					
	45	90	135	180	225
Check tyre condition / check for wear, adjust tyre pressure (if needed).	+	+	+	+	+
Check operation of lighting system (headlamps, indicators, emergency lights, luggage compartment/passenger & driver compartment lights; instrument panel warning lights, etc.).	+	+	+	+	+
Check operation of windscreen wiper & washer; adjust nozzles if necessary.	+	+	+	+	+
Check positioning/wear of windscreen wipers	+	+	+	+	+
Check brake pads for wear; check front and rear disk pad wear indicator for proper operation (if fitted)	+	+	+	+	+
Visually inspect the conditions and soundness of body outside, underbody protection, rigid and flexible pipe lengths (exhaust, fuel feed and brake pipes and hoses), rubber parts (boots, sleeves, bushes, etc.)	+	+	+	+	+
Visually inspect the accessory drive belts		+			+
Check the fluid levels (engine cooling, brakes, windscreen washer, battery, etc.) and top up, if necessary	+	+	+	+	+
Check the handbrake lever travel and adjust as required	+	+	+	+	+
Check that the locks are clean and the levers clean/lubricated	+	+	+	+	+
Measure exhaust emissions/smoke	+	+	+	+	+
Check operation of engine control systems (via the diagnostic connector)	+	+	+	+	+
Replace the accessory drive belt			+		
Change fuel filter	+	+	+	+	+
Change air filter cartridge	+	+	+	+	+





Change engine oil and engine oil filter	+	+	+	+	+
Change brake fluid (or every 24 months)		+		+	
Change pollen filter (or every 24 months)	+	+	+	+	+

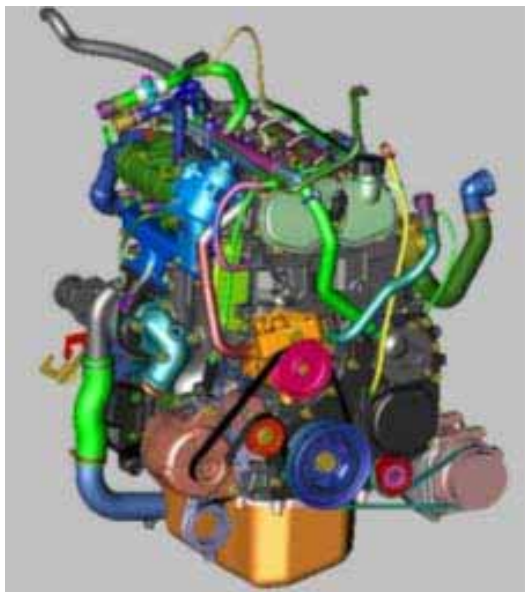
Service must be performed every 30000 km if the vehicle is chiefly used in any of the following particularly harsh conditions:

- Towing trailer or caravan;
- Dusty roads;
- Frequent short trips (less than 7-8 km) with outside temperatures below freezing;
- Engine frequently left idling or running long distances at low speed (door-to-door delivery for example), or if not used for a long time;
- City traffic.



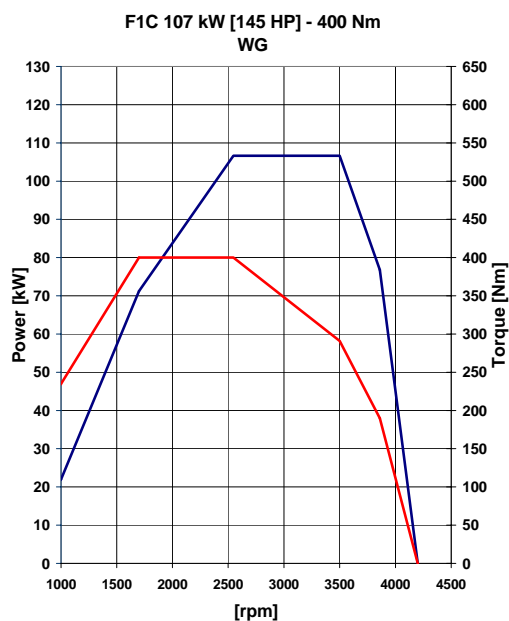
### 3. ENGINE

#### 3.1 3.0 ENGINE



##### 3.1.1 Features

The main features of the 3.0 Multijet engine are as follows:



- turbocharged Diesel engine with fixed geometry turbocharger;
- Euro 4 emissions compliant
- power output: 160 bhp;
- four cylinders in line;
- 2998 cc displacement;
- bore: 95.8 mm;
- stroke: 104 mm;
- compression ratio: 19:1
- firing order: 1 – 3 – 4 - 2
- double overhead camshaft, 16 valves;
- aluminium alloy cylinder head;
- camshaft bearing housings incorporated in upper head section;
- chain-driven timing system;
- rocker arms with hydraulic tappets;
- centrifugal water pump incorporated in crankcase;
- engine control unit: Bosch EDC16C39;
- high-pressure pump: Bosch CP3.2 (no transfer gear pump);
- nodular cast iron engine block;
- pressed sheet metal oil sump.

