

F I A T D U C A T O



C O M F O R T - M A T I C

This Supplement describes the procedure for using the COMFORT-MATIC electronically controlled manual gearbox on the Fiat Ducato.

For the correct use of the gearbox, it is essential to read this Supplement in full to find out at the outset which operations are correct and permissible.

For additional information, consult the User Handbook to which this Supplement is attached.

CONTENTS

COMFORT-MATIC GEARBOX	3
READY TO START	3
OPERATING PROCEDURE	4
WARNING LIGHTS AND MESSAGES.....	10
IF THE VEHICLE NEEDS TO BE TOWED	13
IF A FUSE BLOWS	13
SERVICE SCHEDULE.....	14
CHECKING FLUID LEVELS.....	14
AIR CLEANER	14
ENGINE CODES - BODYWORK VERSIONS	15
PERFORMANCE	16
TRANSMISSION	16
CAPACITIES	17
FUEL CONSUMPTION / CO ₂ EMISSIONS	18

COMFORT-MATIC GEARBOX

Your vehicle is equipped with an electronically controlled manual gearbox known as the “COMFORT-MATIC” that is able to operate in two modes: **MANUAL** and **AUTO**.

The gearbox consists of a conventional manual transmission equipped with a lever **A-fig. 1**, to which has been added an electronically-controlled hydraulic device that controls the clutch and gear shifts automatically.

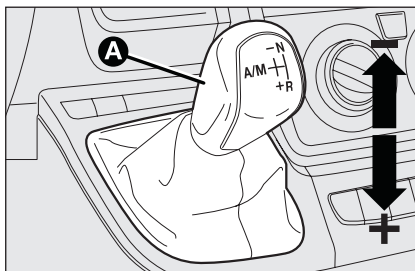


fig. 1

F0N0350m

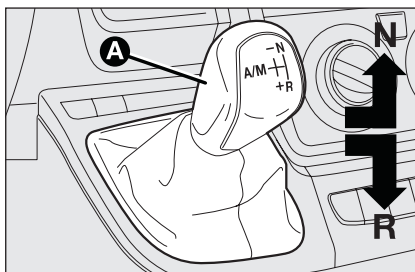


fig. 2

F0N0351m

READY TO START

MANUAL MODE

IMPORTANT For correct use of the system, it is advisable to use your right foot only to operate the pedal.

- ☐ Press the brake pedal.
- ☐ Start the engine.
- ☐ Push the gear lever towards **+** (shift up) **fig. 1** to engage first gear (if starting from **N** or **R** simply move the lever to the central position) or **R fig. 2** to engage reverse.
- ☐ Release the brake pedal and press the accelerator pedal.
- ☐ When driving, push the gear lever towards **(+)** **fig. 1** to engage a higher gear or towards **(-)** **fig. 1** to engage a lower gear.

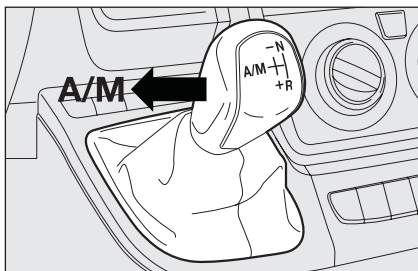


fig. 3

F0N0352m

AUTOMATIC MODE

IMPORTANT For correct use of the system, it is advisable to use your right foot only to operate the pedal.

- ☐ Press the brake pedal.
- ☐ Start the engine.
- ☐ Push the gear lever to **A/M** **fig. 3**, to engage automatic mode **+** (higher gear) **fig. 1** to engage the first gear, if starting from **N** or **R** move the lever to central position **R** **fig. 2** to engage reverse.
- ☐ Release the brake pedal and press the accelerator pedal.

OPERATING MODE

The gearbox can operate in two operating modes:

- ☐ the first is manual (**MANUAL**), where the driver decides directly when to shift gear;
- ☐ the second fully automatic (**AUTO**), where the system decides when to shift gear. This mode allows you to use the **UP** function (steep road function), which allows you to shift gears at higher speeds to allow you to drive up very steep roads easily with any load. To engage this function, press the **UP** button - **fig. 4** between the controls on the dashboard. Select the gear and the operating mode **MANUAL** or **AUTO**) by operating the control lever at any speed.

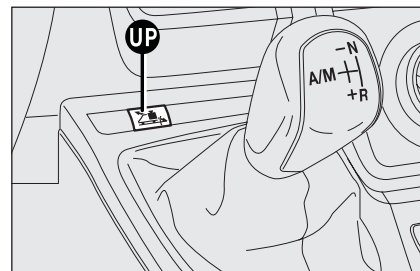


fig. 4

F0N0353m

CONTROL LEVER

Control lever **A-fig. 1**, on the central tunnel is a floating multistable lever, i.e. it can take up three stable positions and three unstable positions.

The three stable positions correspond to neutral **N-fig. 2**, reverse **R-fig. 2** and the central position between the unstable positions **(-) and (+) fig. 1**.

The unstable positions, i.e. positions left by the lever as soon as it is released, are upshift request **(+)**, downshift request **(-)** and automatic mode request **(A/M) fig. 3**.

The system is returned to manual mode by returning the lever to **A/M** position.

With the vehicle at a standstill and the key out, the lever may be moved with/without the brake pedal pressed. The system does not carry out any action after the lever has been shifted and remains in the gear stored before the key was removed.

IMPORTANT With the engine running, a buzzer sounds to indicate errors between the lever position and the gear effectively engaged until the inconsistency is resolved.

MANUAL OPERATION (MANUAL)

In this operating mode, the driver is responsible for choosing the best gear ratio to engage, depending on vehicle service conditions.

Proceed as follows to shift gear:

☐ shift the lever to **(+)** position **fig. 1** to engage a higher gear;

or

☐ shift the lever to **(-)** position **fig. 1** to engage a lower gear.

The accelerator pedal need not be released during the gear change.

The system will not allow the gear change if the gear shift request could impair correct operation of the engine and gearbox.

In this case, the system will notify the driver that it is not possible to change gear by displaying a dedicated message on the reconfigurable multifunction display (see “Warning lights and messages” paragraph), accompanied by a buzzer.

The system will shift down through the gears automatically when the engine is idling (e.g. during deceleration).



fig. 5

F0N0354m



Avoid keeping your hand on the lever when you are not requesting a gear shift or an Auto/Manual mode change.

AUTOMATIC OPERATION (AUTO)

to engage/release automatic mode (**AUTO**) press the lever to **A/M** position **fig. 3**; activation is indicated by the message **AUTO fig. 5** and the gear engaged appearing on the reconfigurable multifunction display.


In **AUTO** mode, the system will shift gears on the basis of vehicle speed, engine rpm and the pressure applied to the accelerator pedal. A gear shift may be requested by operating the gear lever, but without necessarily disengaging this mode: this function, known as 'gear suggestion', suspends automatic mode for the time required to select the ratio requested by the driver.



Avoid keeping your hand on the lever when you are not requesting a gear shift or an Auto/Manual mode change.

Automatic operation (AUTO with UP function engaged)

The **UP** can only be activated with automatic mode engaged.

The **UP** function is turned on by pressing the **UP button fig. 4** located between the controls in the dashboard. After this function is activated the (green) warning light  in the instrument panel comes on together with a confirmation message in the reconfigurable multifunction display (see next paragraph).

With the **UP** active, the system will select the most appropriate gear on the basis of vehicle speed, engine rpm and pressure on the accelerator pedal, with the aim of overcoming steep gradients in the easiest, most comfortable manner.

Where necessary (e.g. overtaking), the system will react to the accelerator being pressed to the floor by shifting down through one or more gears in order to deliver the power and torque required to give the vehicle the acceleration required by the driver (all this takes place in automatic mode, irrespective of whether the **UP** function is on or off).

INFORMATION ON DISPLAY

When the ignition key is turned to **MAR**, after one second, the reconfigurable multifunction display shows the gear engaged and the last mode used (**AUTO** or **MANUAL**):

N = neutral;

1 = first gear;

2 = second gear;

3 = third gear;

4 = fourth gear;

5 = fifth gear;


6 = sixth gear;

R = reverse.



fig. 6

F0N0354m

When the **UP** function is activated the (green) warning light  in the instrument panel comes on together with a confirmation message in the reconfigurable multifunction display.

IMPORTANT If the display does not show the gear engaged after 10 seconds with the ignition key on **MAR**, turn the ignition to **STOP**, wait for the display to turn off and then repeat the manoeuvre. If the problem persists, contact the **Fiat Dealership**.

ENGINE STARTING

The system permits engine start-up with a gear engaged and also with the gearbox in neutral (**N**); the brake pedal must always be pressed with the gear engaged.

It is advisable to place the gear lever in neutral (**N**) before starting the engine.

After start-up:

- ☐ the gearbox automatically engages neutral (**N**)
- ☐ the lever remains in the same position as the last time the engine was turned off
- ☐ the reconfigurable multifunction display shows the message (**N**) and an acoustic signal indicates any inconsistency between lever position and the gear engaged
- ☐ the gears that may be engaged are 1st, 2nd or reverse (**R**), with the brake pedal pressed.

IMPORTANT If start-up is requested with the gearbox in a position other than **N** and without the brake pedal pressed, the reconfigurable multifunction display shows a dedicated message (see “Warning lights and messages”). In this case, repeat the start-up manoeuvre, pressing the brake pedal.

IMPORTANT If start-up is requested with the gearbox faulty, run the “Delayed start-up” procedure (see also associated messages): hold the key on **AVV** position for at least 7 seconds with the brake depressed and the engine will start. The system will remain in recovery mode (maximum speed permitted: 3rd, Auto mode not available). If the engine does not start, contact a **Fiat dealership**.

IMPORTANT When the driver’s door is opened, the system activates the automatic part to prepare it for subsequent engine start-up.



If the engine does not start with the gear engaged, a potentially hazardous situation because the gearbox has automatically shifted to neutral is indicated by a buzzer.

DRIVING OFF IN THE VEHICLE

Driving off in the vehicle, take-off, is permitted in 1st gear, 2nd gear (recommended on road surfaces with poor grip) and reverse (**R**).

To engage 1st gear

- ☐ press the brake pedal;
- ☐ with the lever in (**N**) or (**R**) shift the lever to central position;
- ☐ with the lever already in central position, move the lever toward + (higher gear) **fig. 1**;
- ☐ release the brake pedal and press the accelerator pedal.

To engage 2nd gear

- ☐ press the brake pedal;
- ☐ with the lever in (**N**) or (**R**) **fig. 2** move the lever to central position and then towards + (higher gear) **fig. 1**;
- ☐ with the lever already in central position, move the lever twice toward + (higher gear) **fig. 1**;
- ☐ release the brake pedal and press the accelerator pedal.

To engage reverse (**R**)

- ☐ press the brake pedal;

IMPORTANT If the vehicle is moving, the request is accepted and carried out if the vehicle speed is less than 3 km/h within 1.5 seconds of the request: if the request is not implemented, the system will maintain the gear engaged or if vehicle speed drops below 10 km/h it will put the gearbox in neutral (**N**) and the manoeuvre must then be repeated.

- ☐ Shift the lever to (**R**) **fig. 2**;
- ☐ release the brake pedal and press the accelerator pedal.

BUZZER WARNINGS

For safety reasons, a buzzer warning sounds when the vehicle is parked with the gearbox in neutral (**N**) (the warning sounds when the ignition key is turned to **STOP**).

With the vehicle at a standstill, engine running and (**1**), (**2**) or (**R**) gear engaged, the system turns on the buzzer and automatically shifts the gearbox to neutral (**N**) when:

- ☐ the accelerator and/or brake pedals are not operated for at least 3 minutes;
- ☐ the brake pedal is pressed for longer than 10 minutes;
- ☐ the driver's door is opened and the accelerator and brake are not operated for at least 1.5 seconds;
- ☐ a fault has been detected in the gearbox.

PARKING THE VEHICLE

To park safely, it is essential to engage 1st gear or reverse (**R**) gear with your foot on the brake pedal. If parking on a slope, operate the brake pedal. It is also essential to wait until the gear engaged disappears from the reconfigurable multifunction display before releasing the brake pedal.

IMPORTANT **NEVER** leave your vehicle with the gearbox in neutral (**N**).

GENERAL WARNINGS

- ☐ With the vehicle at a standstill and a gear engaged, keep the brake pedal pressed until you decide to set off. Then release the brake and accelerate gradually;
- ☐ when parked for long periods with the engine running, it is advisable to keep the gearbox in (**N**);
- ☐ to safeguard clutch efficiency, do not use the accelerator to keep the vehicle at a standstill (e.g.: parking on a hill); the clutch could be damaged by overheating. Use the brake pedal instead and operate the accelerator only when you are ready to set off;
- ☐ use second gear only when you need more control of take-off during manoeuvres on surfaces with low grip;
- ☐ if, with reverse (**R**) engaged, you need to engage first speed or vice versa, only change gear when the vehicle has come to a stop and the brake pedal is pressed;;

- ☐ although very inadvisable, if the vehicle is unexpectedly allowed to roll downhill with the gearbox in neutral (**N**) the system will automatically engage the gear best suited to vehicle speed when a gear shift is requested to allow drive to be correctly transmitted to the wheels;
- ☐ If necessary, with the engine off, it is possible to engage 1st, **R** or **N** with the key in **MAR** position and the brake pressed. In this case, gear shifts must be made allowing at least 5 minutes to elapse between one gear shift and the next to safeguard the operation of the hydraulic system and the pump in particular;
- ☐ during hill starts, accelerate gradually but fully immediately after releasing the handbrake or brake pedal to allow the engine to increase its rpm to a greater extent and overcome higher gradients with more torque.

WARNING LIGHTS AND MESSAGES



“COMFORT-MATIC” GEARBOX FAULT (red)

When the ignition key is turned to **MAR**, the warning light turns on and should go off after a few seconds.

The warning light on the dial comes on either steady or blinking (together with a message on the reconfigurable multifunction display and a buzzer) to indicate that the gearbox is faulty.



If a fault is present, contact a Fiat Dealership as soon as possible to check the system.

REDUCE GEAR CHANGES

The message appears on the display to indicate that the driver is using the gearbox incorrectly.

Incorrect use (by the driver) could automatically activate a procedure for protecting the system.



Contact a Fiat Dealership if the message remains on the display.

MANUAL MODE NOT AVAILABLE

The message appears on the reconfigurable multifunction display when it is not possible to select **MANUAL** mode with the engine running.



Contact a Fiat Dealership if the message remains on the reconfigurable multifunction display.

AUTOMATIC MODE NOT AVAILABLE

The message appears on the reconfigurable multifunction display when it is not possible to select **AUTO** mode with the engine running.



Contact a Fiat Dealership if the message remains on the reconfigurable multifunction display.

CLUTCH OVERHEATING

The message appears on the reconfigurable multifunction display together with a buzzer when the clutch overheats.

In this situation, limit take-off and gear shifts or if necessary park (turning off the engine) until conditions are optimum.



If the message still appears on the reconfigurable multifunction display, contact a Fiat Dealership.



To safeguard clutch efficiency, do not use the accelerator to keep the vehicle at a standstill (e.g.: parking on a hill); the clutch could be damaged by overheating. Use the brake pedal instead and operate the accelerator only when you are ready to set off;

PRESS BRAKE PEDAL - DELAYED START-UP

The reconfigurable multifunction display shows these messages alternately and in sequence together with a warning buzzer when the system does not recognise the brake pedal to be operational during a starting attempt.

In this situation, keep the key on **AVV** for at least 7 seconds with the brake pressed: the engine start. The system will be in recovery mode (maximum speed permitted: 3rd).

IMPORTANT Messages are displayed only if start-up takes place in a gear other than neutral (**N**).



Contact a Fiat Dealership if the messages remain on the reconfigurable multifunction display.

GEAR NOT AVAILABLE

This message appears on the reconfigurable multifunction display together with a warning buzzer in the following cases:

- ☐ when it is not possible to change gear due to a fault in the system;

or

- ☐ when, due a fault in the system, is only possible to engage 1st (1), 2nd (2), 3rd (3) or reverse (R).



Contact a Fiat Dealership if the message remains on the reconfigurable multifunction display.

MANOEUVRE NOT PERMITTED

The message appears on the reconfigurable multifunction display together with a warning buzzer when the system will not accept a gear change via the control lever because certain conditions required for acceptance of the gear change are missing.

PRESS BRAKE PEDAL AND REPEAT MANOEUVRE

The message appears on the reconfigurable multifunction display accompanied, in some cases, by a warning buzzer for safety reasons if you attempt to change gear with the vehicle parked without previously pressing the brake pedal.



Contact a Fiat Dealership if the message remains on the reconfigurable multifunction display.

PLACE GEAR LEVER IN N (neutral)

This message appears on the reconfigurable multifunction display together with a warning buzzer when the system asks the driver to perform the manoeuvre.

When the gearbox is shifted to (N) the message on the display should go off.



Contact a Fiat Dealership if the message remains on the reconfigurable multifunction display.

TOWING THE VEHICLE

Ensure the gearbox is in neutral (**N**) (by checking that the vehicle moves when pushed) and tow in the same way as a normal vehicle with a manual gearbox (see instructions in Owner Handbook).

If it is not possible to put the gearbox in neutral, do not tow the vehicle and contact a **Fiat Dealership**.

IF A FUSE BLOWS

For the location of fuses, see the illustrations in the paragraph “if a fuse blows” in the “In an emergency” section of the Owner Handbook.

	FUSE	AMPS
COMFORT-MATIC gear control system and gear selector lever (power supply + ignition)	F24	7.5
COMFORT-MATIC gearbox pump	F26	30
COMFORT-MATIC gearbox control unit (power supply + battery)	F27	10

SCHEDULED SERVICING PLAN

Check gearbox oil level	every 45,000 km
Check fluid in hydraulic clutch operation system	every 45,000 km
Check fluid in hydraulic clutch operation system	every 90,000 km (or every 2 years)

CHECKING FLUID LEVELS

COMFORT-MATIC GEARBOX HYDRAULIC OPERATING SYSTEM FLUID

To check the gear oil and check/replace the hydraulic clutch operating system fluid, contact only a **Fiat dealership**.



WARNING

according to the law.

Used gear oil contains substances that are hazardous for the environment. It is advisable to have oil changed by a Fiat Dealership where used oil will be disposed of

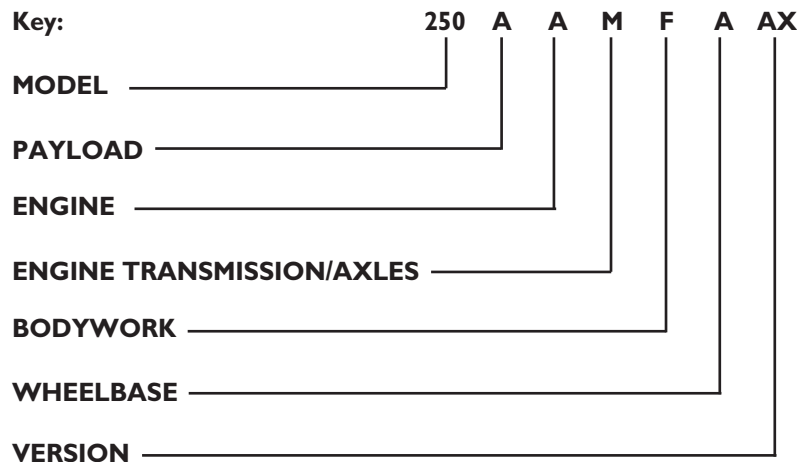
AIR CLEANER

Have the air cleaner replaced by a **Fiat Dealership**.

ENGINE CODES - BODYWORK VERSIONS

Version	Engine code
I00 Multijet	4HV
I20 Multijet	SOFIM FIAE048ID
I30 Multijet	SOFIM FIAE048IN
I60 Multijet	SOFIM FICE048ID

The following body version code and key is an example that may be applied to all body version codes :



PAYLOAD

- A** 3000 kg
- B** 3300 kg
- C** 3500 kg LIGHT
- D** 3500 kg HEAVY
- E** 4005 kg

ENGINES

- A** I00 Multijet
- C** I20 Multijet
- D** I60 Multijet
- E** I30 Multijet

TRANSMISSION

- M** Manual gearbox
- A** Automatic gearbox

BODYWORK

- A** Chassis cab
- B** Chassis without cab
- C** Low loader with cab
- D** Box
- E** Primary school bus
- L** Middle school bus
- F** Van

WHEELBASE

- A** Short wheelbase
- B** Medium wheelbase
- C** Long wheelbase
- D** Medium-long wheelbase
- G** Box with long cab
- H** Chassis with long cab
- M** Minibus
- P** Panorama
- R** 6/9 seater crew cab
- U** Chassis without low loader drive cab

PERFORMANCE

For top speeds, see “Performance” in the “Technical Data” section of the Owner Handbook.

TRASMISSION

Gearbox	Six speeds plus reverse with electronically-controlled hydraulic system
Clutch	Single dry plate with hydraulic engagement
Drive	Front

CAPACITIES

	litres	kg	Specified fuels Recommended products
COMFORT-MATIC gearbox hydraulic operating system	0.7	0.59	TUTELA CAR CS SPEED - Specific fluid with "ATF DEXRON III" additive
Clutch hydraulic operating system	0.050	—	TUTELA TOP4 Synthetic fluid FMVSS n° 116 DOT 4, ISO 4925 SAE J1704, CUNA NC 956-01

FUEL CONSUMPTION AND CO₂ EMISSIONS

Fuel consumption according to Directive 1999/100/EC (litres x 100 km)

CO₂ emissions according to 1999/100/CE Directive (g/km).

Combi versions (*)

Payload	Fuel consumption			CO ₂ emissions
	Urban	Extraurban	Combined	Combined
Short wheelbase Ducato	9.2	6.9	7.7	204
Medium wheelbase Ducato	9.6	7.2	8.1	213
Ducato MAXI	10.0	7.6	8.5	224

Panorama versions (*)

Payload	Fuel consumption			CO ₂ emissions
	Urban	Extraurban	Combined	Combined
Ducato all types	10.0	7.6	8.5	224

Goods transport versions (*)

Payload	Fuel consumption			CO ₂ emissions
	Urban	Extraurban	Combined	Combined
Ducato: Van CHI-MHI/Truck CHI MHI-MLHI-LHI – Chassis cabs and without drive cabs(**)	10.3	7.7	8.7	229
Ducato: Van MH2-LH2-LH3/ Truck XLHI-Crew cab MHI-LHI Chassis cabs and without drive cab (**)	10.6	8.0	9.0	237
Ducato MAXI: Truck MHI – Chassis chassis cabs and without drive cab (**)	10.5	7.9	8.9	233
Ducato MAXI: Van MHI-MH2 LH2-LH3/Truck MLHI-LHI-XLHI Crew cab MHI-LHI – Chassis cabs and without drive cabs (**)	10.9	8.2	9.2	242
Ducato MAXI: Van XLH2-XLH3/ Crew cab truck XLHI – Chassis cabs and without drive cabs (**)	10.9	8.2	9.2	242

(*) Fuel consumption figures recorded in AUTO mode

(**) Fuel consumption figures apply to pre-conversion vehicles

Fiat Group Automobiles S.p.A. - Customer Services - Technical Services - Service Engineering
Largo Senatore G. Agnelli, 5 - 10040 Volvera - Torino (Italia)
Print n. 604.39.084 - 04/2008 - 1st edition

The data contained in this publication is intended merely as a guide. FIAT reserves the right to modify the models and versions described in this booklet at any time for technical and commercial reasons.

If you have any further questions please consult your FIAT dealer.

Printed in recycled paper without chlorine.