ALFA TCT Transmission

MTO

This supplement describes all the main characteristics of the Alfa TCT 6-speed twin dry clutch automatic transmission fitted on the car.

In order to be able to use the gearbox correctly, this Supplement must be read completely in order to understand the correct, permitted operations from the outset.

For all other information, comply with the instructions in the Owner Handbook.

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USING THE TRANSMISSION

The car is equipped with an electronically managed Alfa TCT 6-speed automatic transmission where gearshifting takes place automatically according to the instantaneous car usage parameters (car speed, road gradient and accelerator pedal position).

The new transmission is completely innovative, as it matches the Start&Stop system with the most recent alternative to traditional automatic transmissions with built-in torque converter.

There is also the choice of changing gear manually by using the gear lever in sequential mode position.

SELECTOR LEVER

The lever fig. 1 (left hand drive versions) or fig. 2 (right hand drive versions), can be placed in the following positions:

❒ **P** = Park;

❒ **R** = Reverse;

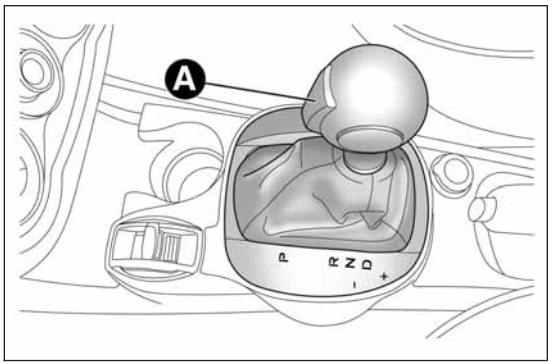

fig. 1 - Left hand drive versions A0J0360

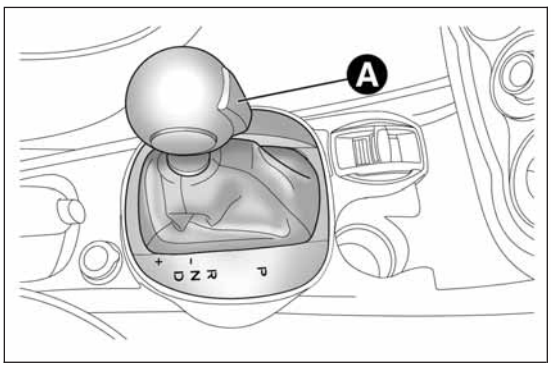

fig. 2 - Right hand drive versions A0J0367

❒ **N** = Neutral;

❒ **D** = Drive, (automatic forward speed);

❒ **+** = Sequential upshifting;

❒ **–** = Sequential downshifting.

If the lever is used in sequential mode, moving the latter from D to the left, the positions towards + or – are unstable.

The lever has a button A, which must be pressed to move the lever to P or R.

DISPLAY

The display can show the following:

❒ **in automatic driving mode**, the gear selected (P, R, N, D) fig. 3;

❒ **in sequential driving mode**, the manual engagement of a (higher or lower) gear, with the relevant number fig. 4;

fig. 3 A0J0361

fig. 4 A0J0362

POSITIONS OF THE LEVER

PARKING (P)

Position P corresponds to the neutral position of the transmission and locks drive wheels mechanically.

It should only be engaged with the vehicle stationary and the handbrake should be applied, if necessary.

With the ignition key in MAR or with engine running, or when the engine switches off, if the gear lever is not correctly positioned in P, the gear lever trim starts flashing next to letter P.

In this case, position the lever correctly in P.

If the car is on a gradient, always pull the handbrake BEFORE placing the gearbox lever in P.

The ignition key can be removed only when the lever is in position P. Moving the lever from P to D must be performed only when the car is stationary and the engine at idling speed.

Shifting from P to any other position of the selector lever, with ignition key in MAR position, must be made pressing the brake pedal and using the button on the gear lever (see paragraph "Selector lever").

If the battery is flat, to release the lever you need to remove the gaiter and operate the lever A fig. 5.

IMPORTANT NEVER leave the car before having positioned the selector lever in P.

REVERSE (R)

The engine cannot be started with the lever in position R.

Shifting from R to N or D is free, while shifting from R to P can be made by the button on the gear lever, with engine at idling speed.

Engage reverse only with the car stationary, engine at idling speed and accelerator fully released.

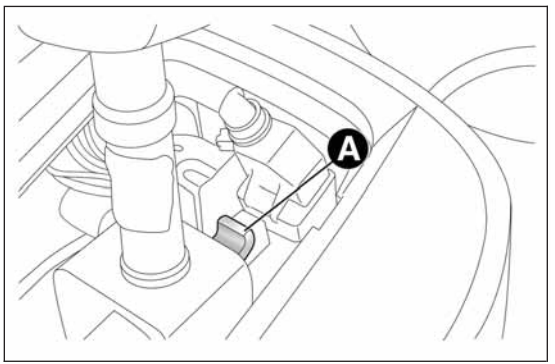

fig. 5 A0J0363

NEUTRAL (N)

It corresponds to neutral for a standard, manual gearbox. The engine can be started with the lever in position N.

Engage N in case of prolonged stops.

To move the lever from position N, release the accelerator and make sure the engine is stable at idling speed.

Shifting from N to D is free, while shifting from N to R or P can only be made by the button on the gear lever.

DRIVE (D - automatic forward speed)

It is the lever position in standard running conditions.

Shifting from D to N is free, while shifting from D to R or P can only be made by the button on the gear lever.

SEQUENTIAL MODE (+/-)

Shifting the lever from position D, on side in stable position, the transmission is used in sequential mode.

Shifting the lever in unstable position + or – gears are changed.

IMPORTANT

All movements of the gear lever must be performed with car stationary and engine idling only.

The drive wheels are mechanically locked in position P.

Shifting from P to R is possible with brake pedal pressed and button on gear lever pressed.

Shifting from R to N and from N to D is free.

Shifting from D to sequential mode is free.

Shifting from Sequential mode to D is free.

Shifting from D to N is free.

Shifting from N to R is possible with button on gear lever pressed.

Shifting from R to P is possible with button on gear lever pressed.

STARTING THE ENGINE

The car is fitted with an electronic engine lock device. If the vehicle fails to start, refer to the "Alfa Romeo CODE system" paragraph, in the "Knowing your car" chapter, in the Owner Handbook.

Starting is only permitted with gear lever in position P or N (with or without brake pedal pressed).

On starting, the system is at N or P (the latter means neutral, but with the car's wheels locked mechanically).

START&STOP SYSTEM

With the car stationary and the Start&Stop system activated (see the Owner Handbook), the engine stops if the gear lever is in a position other than R.

The Start&Stop system does not operate when the gear lever is in R, in order to make parking manoeuvres easier.

When stopped facing uphill, switching off the engine is deactivated to make the "HILL HOLDER" function available (active only with engine running, as described in the "Knowing your car" chapter in the Owner Manual).

The engine restarts automatically if:

❒ the brake pedal is released and the lever is not at N or P;

❒ the lever is shifted to an unstable position: +, – or R;

❒ the lever is moved from D to the left in sequential mode;

❒ by the + or – levers on the steering wheel (for versions/markets, where provided)

During the car switching off and on sequence, the system passes through the automatic engagement of neutral and the display shows N.

IMPORTANT In some conditions (for example with small gradients and brake pedal not fully depressed), engine switching off is not deactivated. In this case, fully depress the brake pedal to make the "HILL HOLDER" function available and restart the engine, using the gear lever or the levers on the steering wheel (for versions/markets, where provided) as described previously.

STOPPING THE ENGINE

Engine can be switched off in any position of the gear lever.

VERSIONS WITH START&STOP

To switch the engine off, you need to stop the car by pressing the brake pedal firmly; if the pressure is insufficient, the engine will not be stopped.

This feature can be exploited so that the engine does not switch off in particular traffic conditions.

REMOVING THE IGNITION KEY

The ignition key can be removed only if the gear lever is in position P:

- ❒ if the engine is switched off with the gear lever in position P the ignition key can be removed within 30 seconds;
- ❒ if the engine is switched off with the gear lever in a position other than P, the P letter on the instrument panel display and on the gear lever trim flashes for 5 seconds. At the same time there is also a sound signal. Move the lever to P within 5 seconds; then it will be possible to remove the ignition key for 30 seconds.

In both cases, if the described conditions and times are not respected, the ignition key will be automatically locked.

To remove the key, turn it to MAR and then to STOP.

If the battery is flat and the ignition key is engaged, the latter is locked in position. To remove the key manually, pull up the handbrake and insert the screwdriver supplied in the hole under the dashboard A fig. 6 pressing slightly, until the ignition key is removed.

MOVING THE CAR

To move the car, from P press the brake pedal and, using the button on the gear lever, move the lever to the desired position (D, R or sequential).

The display shows the gear engaged.

When the brake pedal is released, the car starts moving forwards or backwards, as soon as the manoeuvre is activated ("creeping" effect). The accelerator does not need to be pressed.

IMPORTANT The inconsistency between the speed actually engaged, shown on the display of the control panel, and the position of the gear lever is indicated by the letter corresponding to the position of the lever flashing on the trim, accompanied by an acoustic signal.

This condition should not be interpreted as an operational fault, but simply as a request by the system to repeat the manoeuvre.

IMPORTANT With engine running and car stationary, in sequential mode, the request for engaging 2nd gear is not accepted by the system (whether the brake pedal is pressed or not).

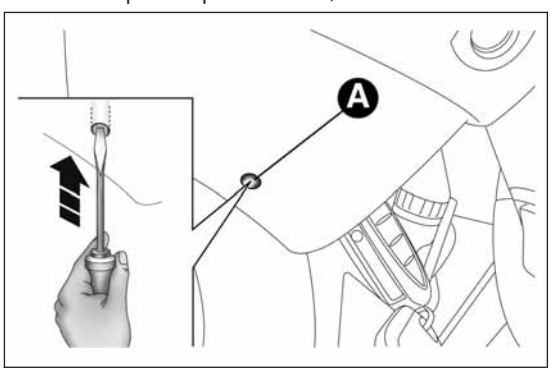

fig. 6 A0J0364

If, with 1st gear or reverse (R) engaged, the following conditions occur:

- ❒ road slope of more than 5%;
- ❒ clutch overheated;
- ❒ engine torque constant for a given period (e.g. if the car hits the pavement or is parked downhill/uphill);

car movement is achieved by pressing the accelerator pedal.

IMPORTANT With handbrake released and brake pedal released, engine at idling speed and gear lever in position D, R or sequential, pay the utmost care because the car can move even without the operation of the accelerator pedal.

This condition can be used with the car on a level surface during tight parking manoeuvres using the brake pedal only.

AUTOMATIC DRIVING MODE

D can be selected from sequential operation in any driving conditions.

In automatic driving mode, the best ratio is selected by the electronic transmission control unit according to speed, engine load (accelerator pedal position) and gradient of the road.

To resume speed quickly, when the accelerator pedal is pressed fully, the transmission control system downshifts (kick-down function).

IMPORTANT When driving on roads with poor grip conditions (snow, ice, etc.) avoid activating the kick-down device.

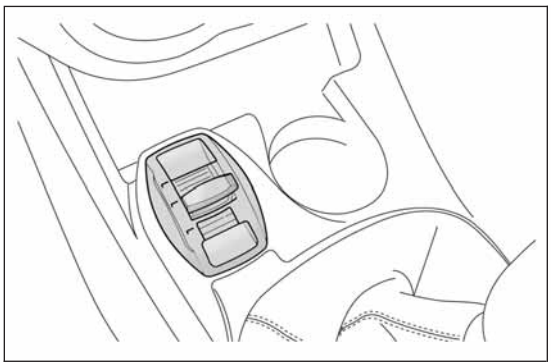

fig. 7 A0J0366

INTEGRATION WITH "Alfa DNA" SYSTEM

Operating the "Alfa DNA" system fig. 7, three different driving modes can be selected:

❒ "Natural": gearshifting at low engine speeds, enhancing comfort and reducing consumption;

❒ "Dynamic": gearshifting at higher engine speeds, enhancing sporty driving;

❒ "All Weather": driving programme on roads with poor grip (example snow, ice, mud, etc.).

GEARSHIFTING SUGGESTION

With the transmission in automatic mode (selector lever in position D), when gearshifting is required by the levers on the steering wheel (for versions/markets, where provided), the system shifts to fully manual mode, with relevant displaying of the gear engaged, for about 5 second.

When this time has elapsed, if the levers are not operated anymore, the system goes back to the automatic mode (D), with following displaying.

SEQUENTIAL DRIVING MODE

In sequential driving mode, the transmission operates like a manual gearbox.

GEAR CHANGE VIA GEAR LEVER

Move the lever sideways (to the left) manually from position D to the sequential position:

❒ lever towards +: engage higher gear;

❒ lever towards –: engage lower gear.

The lever correct position in sequential mode is signalled when the symbols + and – come on and the symbol D comes off.

The gear engaged is displayed.

GEAR CHANGE VIA STEERING WHEEL LEVERS

(for versions/markets, where provided)

On some versions, the steering wheel controls can be used to change gear fig. 8.

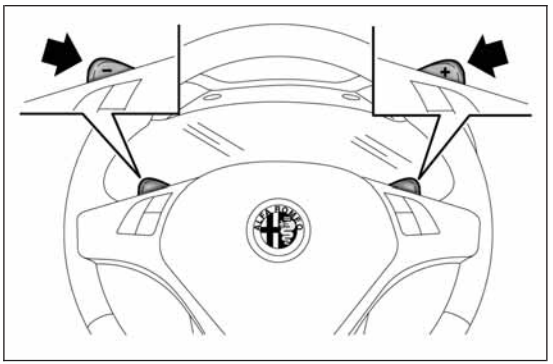

fig. 8 A0J0365

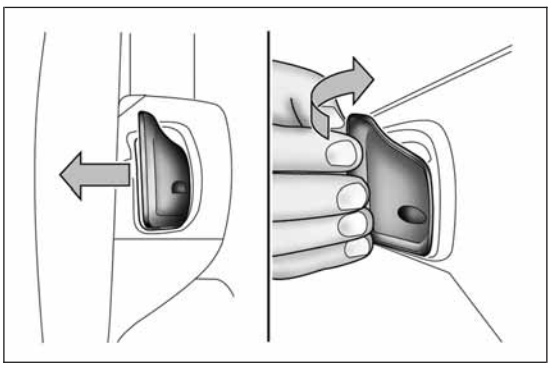

fig. 9 A0J0375

To use the controls on the steering wheel, the gear lever must be in sequential position or in D position:

- ❒ steering wheel lever + (pulling lever towards driver fig. 9): engage higher gear;
- ❒ steering wheel lever – (pulling lever towards driver fig. 9): engage lower gear.

Using the levers incorrectly (levers pushed towards the dashboard, see fig. 10) could break them.

The engagement of a lower or higher gear is only accepted if the engine speed allows it.

If the car is stopped with a higher gear than 1st engaged, the transmission will automatically engage 1st gear.

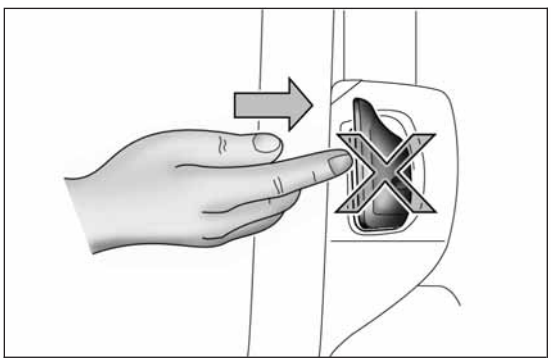

fig. 10 A0J0376

ACOUSTIC SIGNAL

For safety reasons, an acoustic signal is heard when:

❒ the driver's side door is opened with engine running and the gear lever is in a position other than P;

❒ if engine is switched off with gear lever in a position other than P.

With the car stationary, the engine started and (1), (D) or (R) engaged, the system activates the acoustic signal and automatically places the transmission in neutral (N) when:

❒ the accelerator/brake pedals are not pressed for at least 3 minutes with creeping deactivated (for example with handbrake engaged);

❒ the brake pedal is pressed for longer than 10 minutes;

❒ the driver's door is opened with creeping deactivated (for example with handbrake engaged) without pressing brake and/or accelerator pedals;

❒ a fault has been detected in the gearbox.

IMPORTANT Shifting to neutral (N) - operated by the system - involves a situation of inconsistency between gear lever position and speed engaged. The manoeuvre is accompanied by an acoustic inconsistency signal. The acoustic signal continues until the gear lever is placed in P or N, to restore the correct usage condition.

PARKING THE CAR

To park safely, with the brake pedal pressed, P must be engaged and, in case of parking uphills/downhills, the handbrake must be engaged.

Before releasing the brake pedal, wait until P appears on the display.

IMPORTANT NEVER leave the car before having positioned the lever in P.

TOWING THE CAR

Make sure that the transmission is in neutral (N), checking that the car moves off and proceed in the same way as for towing a normal car with a manual gearbox (see description in Owner Handbook).

IMPORTANT If the gearbox cannot be put in neutral (N), do not tow the car and contact Alfa Romeo Authorized Services. Should the lever be in P, see the release procedure described in paragraph "Positions of the lever" before towing it.

GENERAL WARNINGS

With the car stationary and a gear engaged, always keep the brake pedal pressed until you decide to set off, then release the brake and accelerate slowly.

During prolonged stops with the engine running, it is advisable to keep the gearbox in neutral (N).

To protect the clutch, never use the accelerator to keep the car stationary (for example when stopped uphills): clutch overheating could damage it. Use the brake pedal instead or the handbrake and only press the accelerator pedal when you wish to set off.

If reverse (R) is engaged, only engage the 1st gear or vice versa when the car is completely stopped.

Although it is strongly unadvisable, if you are driving downhill and, for unexpected reasons, you let the car move forward with the transmission in neutral (N), when there is a request to engage a speed, depending on the actual speed of the car, the system will automatically engage the best speed for the correct transmission of drive torque to the wheels.

Never leave children unattended in the car. Always remove the ignition key when leaving the car and take the key with you.

WARNING LIGHTS AND MESSAGES

Automatic transmission failure (red)

When the key is turned to MAR-ON, the warning light (for versions/markets, where provided) switches on, but it should switch off after a few seconds.

The warning light on the panel begins to flash (on some versions, together with the symbol ⚙ and a message in the display) to indicate an automatic transmission failure.

If the automatic transmission is faulty, contact an Alfa Romeo Dealership as soon as possible to have the system checked.

The messages that can be shown on the display together with the warning light are:

Check transmission message

Gear not available message

Manual mode not available message

In this case sequential driving mode is not available and the transmission switches to automatic operating mode.

Automatic mode not available message

In this case it is necessary to move the control lever to sequential driving mode and continue to drive by engaging the gears manually.

Incompatible manoeuvre requested message

The message is displayed when a manoeuvre not compatible with correct system operation is carried out (e.g. attempt to engage reverse with car moving).

The message on the display is accompanied by an acoustic signal.

Clutch overheating message

The ⚠ warning light (or the symbol on the display) switches on to indicate clutch overheating.

In this case it is necessary to limit the gear changes and/or change the condition of use, until normal operating conditions are restored.

If the driver continues, the ⚠ warning light (or symbol on the display) will switch off and the ⚙ warning light (or symbol on the display) will switch on, together with a message on the display, to indicate an automatic transmission failure.

In this case, stop immediately, operate the handbrake, stop the engine and wait 5 minutes: after this, normal transmission operation conditions will be restored.

Should transmission failure conditions persist, contact Alfa Romeo Authorized Services.

REPLACING FUSES

The automatic transmission components are protected by specific fuses. Contact Alfa Romeo Authorized Services to have them replaced.

For all other fuses, refer to the Owner Handbook.

SERVICING AND CARE

SCHEDULED SERVICING PLAN

In addition to all the operations described above (see the Owner Handbook, chapter "Care and Maintenance"), the Scheduled Servicing Plan also includes the check and, if necessary, top-up of the electro-hydraulic actuator oil level every 120,000 km.

CHECKING LEVELS

ALFA TCT ACTIVATION SYSTEM OIL

To check the transmission control oil level, contact exclusively Alfa Romeo Authorized Services.

Used transmission fluid contains substances that are harmful to the environment. We advise contacting Alfa Romeo Authorized Services to change the oil as they are equipped to dispose of the used oil in accordance with legislation and without harming the environment.

ENGINE CODE - BODYWORK VERSIONS

Versions	Engine code	Bodywork versions
1.4 Turbo MultiAir 135 HP TCT	955A7000	940AXR11 12 (*)
		940AXR11 12B (**)

(*)4-seater version
(**)5-seater version

TRANSMISSION

Versions	Transmission	Drive
1.4 Turbo MultiAir 135 HP TCT	Automatic, dual clutch with 6 speeds	Front

ENGINE

GENERAL INFORMATION	1.4 Turbo MultiAir 135 HP TCT	
Type code	955A7000	
Cycle	Otto	
Number and arrangement of cylinders	4 in line	
Piston bore and stroke (mm)	72.0 x 84.0	
Total displacement (cm^3)	1368	
Compression ratio	9,8	
Maximum power (EEC) (kW)	99	
Maximum power (EEC) (HP)	135	
corresponding engine speed (rpm)	5000	
	NORMAL	DYNAMIC
Max torque (EEC) (Nm)	190	230
Maximum torque (EEC) (kgm)	19,3	23,4
corresponding engine speed (rpm)	4250	1750
Spark plugs	NGK IKR9F8	
Fuel	Unleaded petrol 95 RON or 98 RON (EN 228 specification)	

PERFORMANCE

Versions	Top speed (km/h)	Acceleration from 0-100 km/h (secs)
1.4 Turbo MultiAir 135 HP TCT	207	8.2

WEIGHTS

Versions	1.4 Turbo Petrol 135 HP TCT	
	4-seater	5 seats
Unladen weight (with all fluids, fuel tank filled to 90% and without optional equipment) (kg):	1170	1170
Payload including the driver (kg): (*)	480	560
Maximum permitted loads (kg) (**)		
– front axle:	950	950
– rear axle:	850	850
– total:	1650	1730
Towable loads (kg)		
– braked trailer:	500	500
– non-braked trailer:	400	400
Maximum load on roof:	40	40
Maximum load on the ball (braked trailer) (kg):	60	60

(*) If special equipment is fitted (sunroof, tow hitch, etc.) the unladen car weight increases, thus reducing the specified payload with respect to the maximum permitted load.

(**) Loads not to be exceeded. The user is responsible for arranging goods in the luggage compartment and/or load platform within the maximum permitted loads.

FLUIDS AND LUBRICANTS

Your car is equipped with an engine oil that has been thoroughly developed and tested in order to meet the requirements of the Scheduled Servicing Plan. Constant use of the prescribed lubricants guarantees the fuel consumption and emission specifications. Lubricant quality is crucial for engine operation and duration.

PRODUCT SPECIFICATIONS

Use	Fluid and lubricant features for a correct use of the car	Genuine fluids and lubricants	Replacement interval
Automatic transmission lubricant	SAE 75W-85 grade synthetic base lubricant FIAT classification 9.55550-MZ6	**TUTELA TRANSMISSION GEARFORCE** Contractual Technical Reference No. F002.F10	According to Scheduled Servicing Plan
Lubricant for electro-hydraulic actuator	Fully synthetic oil with dedicated additive FIAT classification 9.55550-SA1	**TUTELA CS SPEED** Contractual Technical Reference No. F005.F98	According to Scheduled Servicing Plan

In case of emergency, if lubricants with the prescribed specifications are not available, products with the minimum indicated ACEA performance can be used for topping up; in this case optimal performance of the engine is not guaranteed.

For MultiAir system engines only use lubricants with **indicated SAE grade** and specifications.

The use of products with different specifications than those indicated above could cause damage to the engine that are not covered by the warranty.

FUEL CONSUMPTION

FUEL CONSUMPTION ACCORDING TO THE CURRENT EUROPEAN DIRECTIVE (litres/100 km)

Versions	Urban	Extra-urban	Combined
1.4 Turbo MultiAir 135 HP TCT	7.1	4.5	5.5

CO_2 EMISSIONS

The CO_2 emission figures refer to combined consumption.

CO_2 EMISSIONS ACCORDING TO THE CURRENT EUROPEAN DIRECTIVE

1.4 Turbo MultiAir 135 HP TCT: 126 g/km

NOTES

PARTS&SERVICES
TECHNICAL SERVICES - SERVICE ENGINEERING
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Fiat Group Automobiles S.p.A.
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ENGLISH

Alfa Services